Form OGC-1a

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

**STATE OF UTAH**
**DEPARTMENT OF NATURAL RESOURCES**
**DIVISION OF OIL, GAS, AND MINING**

5. Lease Designation and Serial No.: Fee

# APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

6. If Indian, Allottee or Tribe Name:

1a. Type of Work: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

7. Unit Agreement Name:

b. Type of Well: Oil Well [ ] Gas Well [X] Other — Single Zone [ ] Multiple Zone [ ]

8. Farm or Lease Name: Champlin 458 Amoco E WIU

2. Name of Operator: Amoco Production Company

9. Well No.: #2

3. Address of Operator: P.O. Box 17675, Salt Lake City, UT 84117

10. Field and Pool, or Wildcat: Undesignated ~~Anschutz Ranch East~~

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface: NW/4 NW/4 Section 31, 731' FWL & 187' FNL

11. Sec., T., R., M., or Blk. and Survey or Area

At proposed prod. zone: BHL: 500' FWL & 500' FNL (NW NW) - irregular section

Section 31, T4N-R8E

14. Distance in miles and direction from nearest town or post office*: Approximately 6 miles southeast of Castle Rock, Utah

12. County or Parrish: Summit 13. State: Utah

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. line, if any): 187'

16. No. of acres in lease: -

17. No. of acres assigned to this well: -

18. Distance from proposed location* to nearest well, drilling, completed, or applied for, on this lease, ft.:

19. Proposed depth: 14,400'

20. Rotary or cable tools: Rotary

21. Elevations (Show whether DF, RT, GR, etc.): 7900' GL

22. Approx. date work will start*: When approved

23. PROPOSED CASING AND CEMENTING PROGRAM

| Size of Hole | Size of Casing | Weight per Foot | Setting Depth | Quantity of Cement |
|---|---|---|---|---|
| 17-1/2" | 13-3/8" | 61,68# | 2000' | Circ |
| 12-1/4" | 9-5/8" | 40,43.5,47,53.5,62.8# | 10,900' | * |
| 8-1/2" | 7" | 23,29,32# | 14,400' | * |

* Determine from logs

PROPOSE TO DEVELOP NUGGET RESERVES

Subject well will be drilled in accordance with the Order issued in Cause #183-2

APPROVED BY THE DIVISION
OF OIL, GAS, AND MINING
DATE: 2-26-81
BY:

See Attachments

RECEIVED
FEB 13 1981
DIVISION OF
OIL, GAS & MINING

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

Signed: [signature] Title: Administrative Supervisor Date: 2/12/81

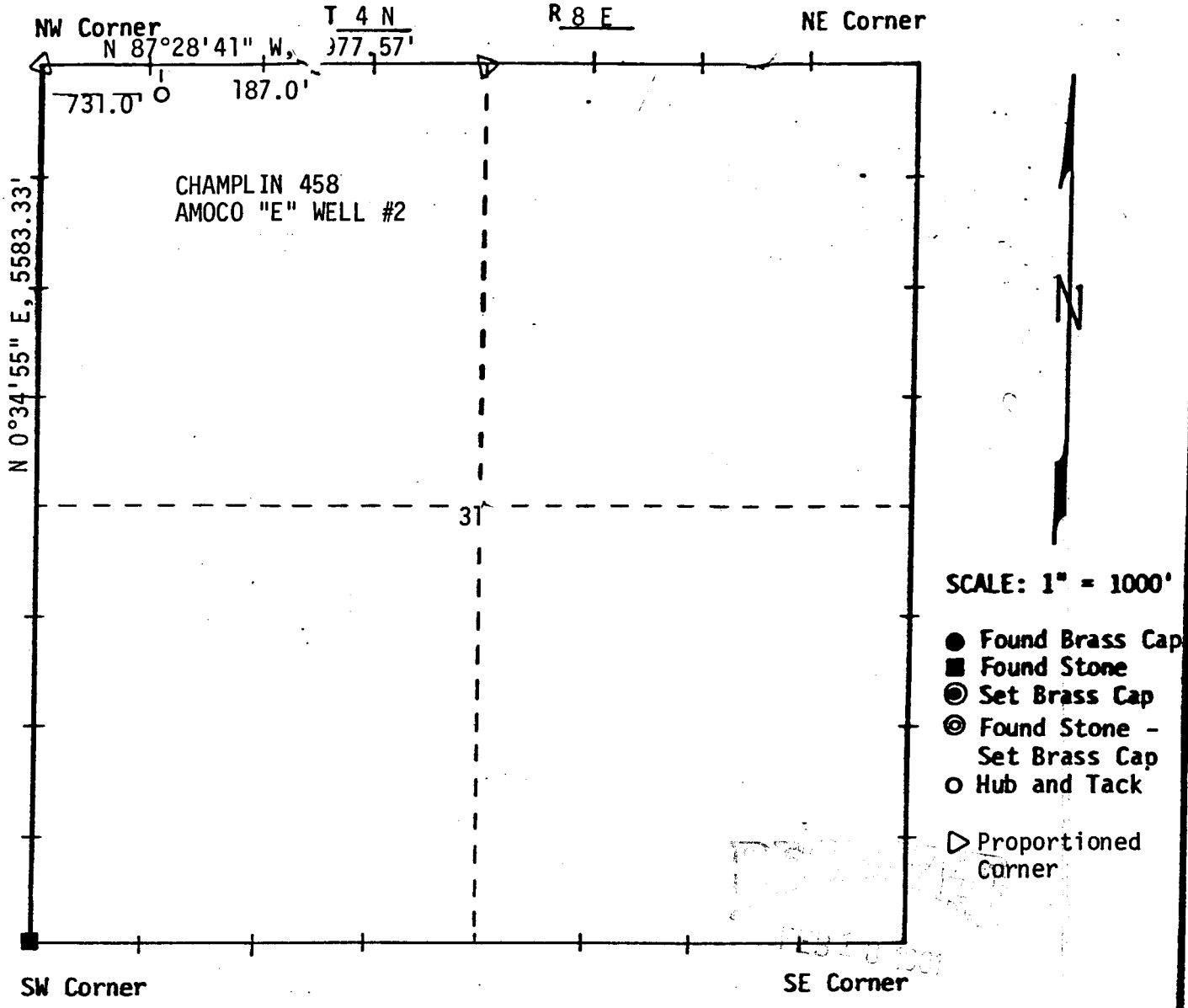
(This space for Federal or State office use)

Permit No. ..... Approval Date .....

Approved by ..... Title ..... Date .....

Conditions of approval, if any:

*See Instructions On Reverse Side




I, John A. Proffit of Evanston, Wyoming certify that in accordance with a request from Reed Smith of Evanston, Wyoming for Amoco Production Co. I made a survey on the 3rd day of February, 19 81 for Location and Elevation of the Champlin 458 Amoco "E" Well #2 as shown on the above map, the wellsite is in the NW¼NW¼ of Section 31, Township 4N, Range 8E of the Salt Lake Base & Meridian, Summit County, State of Utah. Elevation is 7907 Feet Top of Hub Datum U.S.G.S. Quadrangle - Porcupine Ridge, Utah/Wyoming BM 15 EAM 1965 Elevation 7122'

| | | | |
|---|---|---|---|
| Reference point | EAST 300' | TOP OF REBAR | ELEVATION 7858.6' |
| Reference point | EAST 400' | TOP OF REBAR | ELEVATION 7844.0' |
| Reference point | SOUTH 250' | TOP OF REBAR | ELEVATION 7880.50' |
| Reference point | SOUTH 325' | TOP OF REBAR | ELEVATION 7875.6' |

John A. Proffit 2/6/81

JOHN A. PROFFIT UTAH R.L.S. NO. 2860

DATE: February 5, 1981
JOB NO.: 80-10-81

UINTA ENGINEERING & SURVEYING, INC.
808 MAIN STREET, EVANSTON, WYOMING

Attachment To Form OGC-1a

Champlin 458 Amoco "E" #2

1) Geologic name of the surface formation: Tertiary

2) Estimated tops of geological markers:

| Marker | Depth |
|---|---|
| Frontier | 3945' |
| Gannet | 6695' |
| Preuss | 9295' |
| Twin Creek | 10,750' |
| Nugget | 12,250' |

3) Estimated depths anticipated to encounter water, oil, gas or other mineral bearing formations:

See Item #2, above

4) Casing Program:

See Form OGC-1a Item #23

5) Operators minimum specifications for pressure control equipment are explained on attached schematic diagram. Testing of such is to be performed daily and noted on the IADC Daily Drilling Report. After running surface casing and prior to drilling out, BOP and other pressure equipment will be tested to the full working pressure rating as shown on the attached diagram. Thereafter, the BOP will be checked daily for mechanical operations only and will be noted on the IADC Daily Drilling Report.

6) Mud Program:

| App. Interval | Type Mud | Wt. #/Gal | Viscosity | W.L. CC/30M | Other Spec's |
|---|---|---|---|---|---|
| 0 -2000' | Native | 8.3-8.5 | As required | NC | |
| 2000'-10,900' | LSND | 8.7-10.5 | Greater than 40 | Less than 20 | Modified salt mud |
| 10,900'-14,400' | LSND | 8.7-9.5 | 32-38 | Less than 20 | |

7) Auxiliary Equipment:

Kelly cock: floor sub with a full opening valve.
3" choke manifold with remote control choke

8) Testing Program:

| | |
|---|---|
| Two-man mudlogger | SFC-TD |
| DST | As appropriate |

GAS

Logging Program:

| Type | Depth Interval |
|---|---|
| DIL-GR * | Surf-TD |
| DLL-MSFL ** | Surf-TD |
| FDC-CNL w/GR caliper | Surf-TD |
| FIL-Dipmeter | Surf-TD |
| BHC Sonic w/GR caliper | Surf-TD |

* If mud is fresh
** If mud is salty

Coring Program:

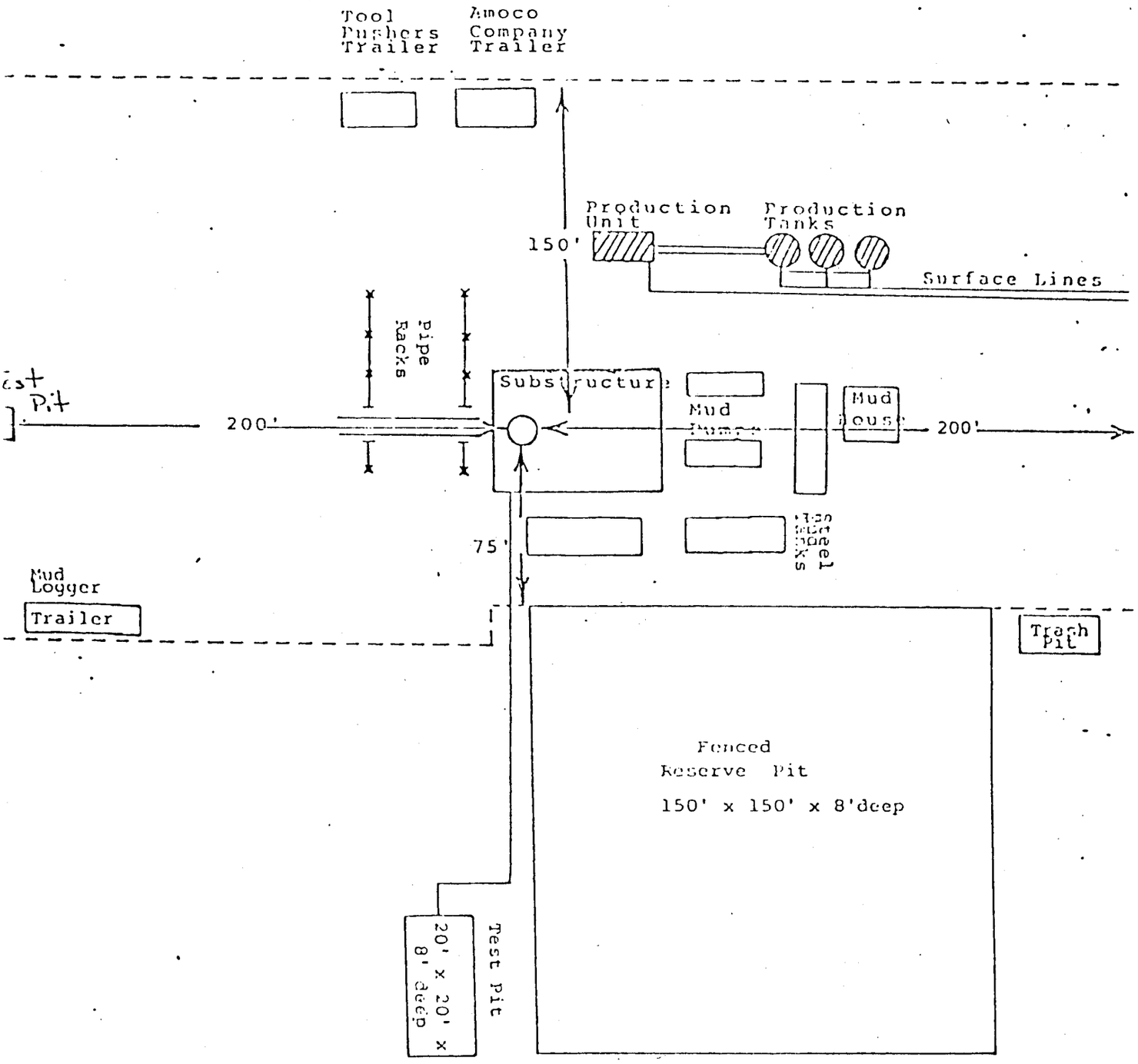
No cores are scheduled

Stimulation Program:

Nugget - perforate with 4 JSPF and acidize with 50 to 100 gallons of 15% HCl per foot of perforation.

9) No abnormal temperatures, pressures or $H_2S$ are anticipated.

10) Anticipated starting date will be when approved and the duration of the operations will be approximately 180 days.




= Shows permanent production equipment to be installed after drilling rig has moved out.

= Dotted lines indicated perimeter of leveled location.

The fenced pit used for production will be covered if any fluid is present. The drilli and production pads will be constructed with doxers and graders using native material.

TYPICAL LOCATION LAYOUT

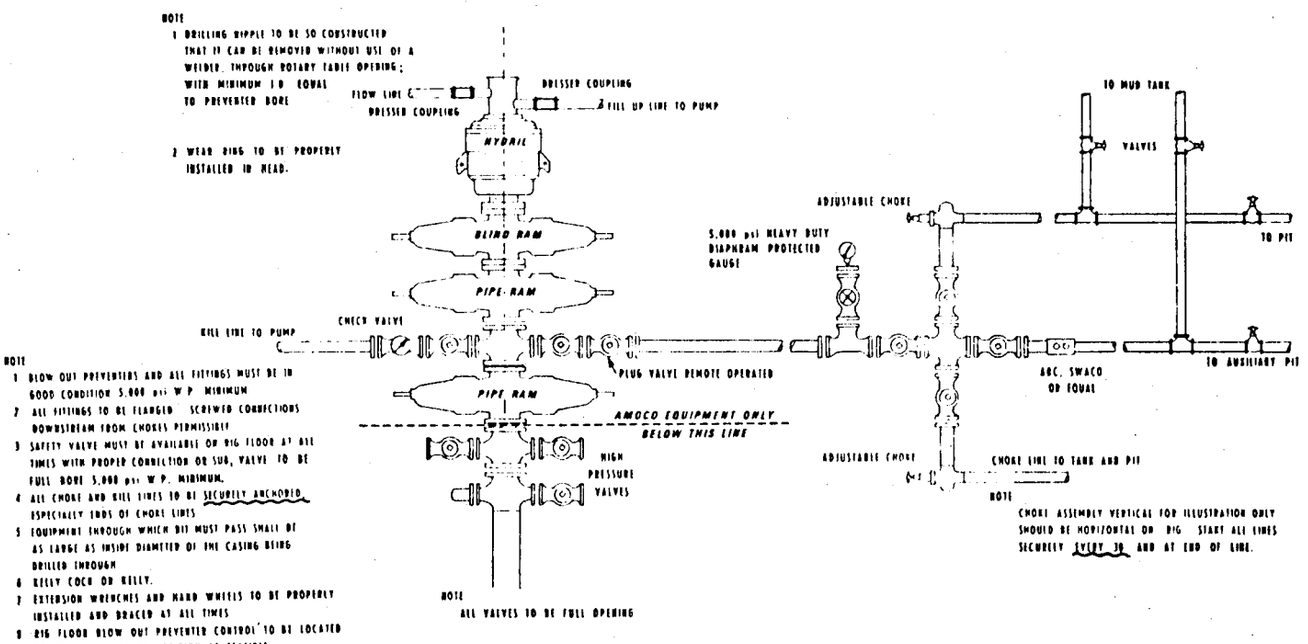
AMOCO PRODUCTION COMPANY
P. O. Box 17675
Salt Lake City, Utal 84117

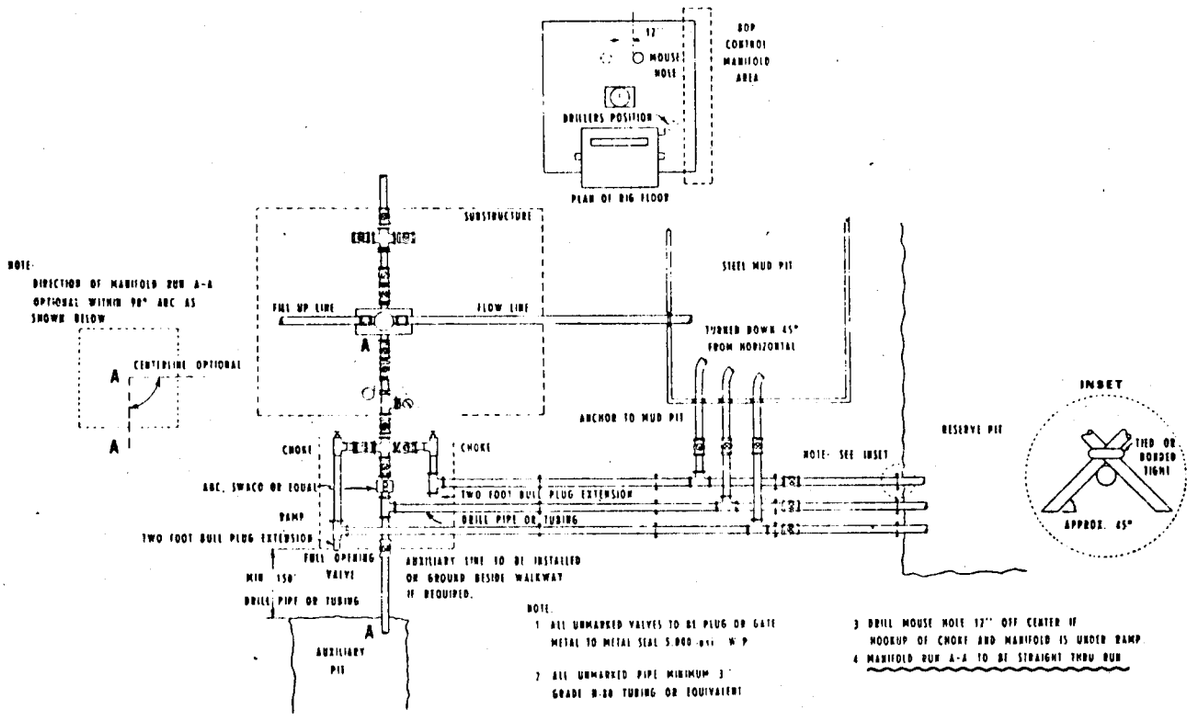
EXHIBIT "D"

**EXHIBIT BOP-5000**

**MINIMUM BLOW-OUT PREVENTER REQUIRMENTS**

**5,000 psi W.P.**




Amoco Production Company

STANDARD ASSEMBLY FOR FLUID

OPERATED TRIPLE BLOW OUT PREVENTER

5,000 psi W.P.

1-31-75

** FILE NOTATIONS **

DATE: Feb. 23, 1981

OPERATOR: Amoco Production Company

WELL NO: Champlin 458 Amoco E WIU #2

Location: Sec. 31 T. 4N R. 8E County: Summit

File Prepared: ☐ Entered on N.I.D: ☐

Card Indexed: ☐ Completion Sheet: ☐

API Number: 43-043-30165

CHECKED BY:

Petroleum Engineer: M. J. Minder 2-26-81

Director:

Administrative Aide: Order # below - ok as per order for bottom hole location

APPROVAL LETTER:

Bond Required: ☐ Survey Plat Required: ☐

Order No. 183-2, 4/10/80 O.K. Rule C-3 ☐

Rule C-3(c), Topographic Exception - company owns or controls acreage within a 660' radius of proposed site

Lease Designation Fee Plotted on Map ☐

Approval Letter Written ✓

Hot Line ✓ P.I. ✓

February 27, 1981

Amoco Production Company
P. O. Box 17675
Salt Lake City, Utah 84117

Re: Well No. Champlin 458-Amoco E WIU #2
Sec. 31, T. 4N, R. 8E, NW NW
Summit County, Utah

Insofar as this office is concerned, approval to drill the above referred to Gas well is hereby granted in accordance with the Order issued in Cause No. 183-2, dated April,10, 1980.

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:

MICHAEL T. MINDER - Petroleum Engineer
Office: 533-5771
Home: 876-3001

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (acquifers) are encountered during drilling. Your cooperation in completing this form will be appreciated.

Further, it is requested that this Division be notified within 24 hours after drilling operations commence, and that the drilling contractor and rig number be identified.

The API number assigned to this well is 43-043-30165.

Sincerely,

DIVISION OF OIL, GAS, AND MINING

Michael T. Minder
Petroleum Engineer

MTM/ko
cc:

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

December 15, 1981

Amoco Production Company
P. O. Box 17675
Salt Lake City, Utah 84078

Re: See Attached

Gentlemen:

In reference to the above mentioned wells, considerable time has gone by since approval was obtained from this office.

This office has not received any notification of spudding. If you do not intend to drill these wells, please notify this Division. If spudding or any other activity has taken place, please send necessary forms. If you plan to drill this location at a later date, please notify as such.

Your prompt attention to the above will be greatly appreciated.

Very truly yours,

DIVISION OF OIL, GAS AND MINING

Cari Furse

CARI FURSE
CLERK TYPIST

Board/Charles R. Henderson, Chairman • John L. Bell • E. Steele McIntyre • Edward T. Beck
Robert R. Norman • Margaret R. Bird • Herm Olsen

an equal opportunity employer • please recycle paper

WELL # Louisiana Land & Exploration Federal 1-34
Sec. 34, T. 8N, R. 6E, NE SE
Rich County, Utah

Well # Champlin 55-1 Amoco "B" #1
Sec. 33, T. 3N, R. 4E
Summit County, Utah

Well No. State of Utah "S" #1
Sec. 30, T. 3N, R. 7E, NW SW
Summit County, Utah

Well No. Howell Livestock "B" #1
Sec. 6, T. 3N, R. 8E
Summit County, Utah

Well No. Island Ranching "D" #1
Sec 14, T. 4N, R. 7E
Summit County, Utah

Well No. Island Ranching"E " #1
Sec 36, T. 4N, R. 7E
Summit County, Utah

Well No. Champlin 458 Amoco "D" #4
Sec 29, T. 4N, R. 8E
Summit County, Utah

Well No. Champlin 458 "E" WIU # 1
Sec, 31, T. 4N, R. 8E
Summit County, Utah

Well No. Champlin 458 "E" WIU #2
Sec. 31, T. 4N, R. 8E
Summit County, Utah

Well No. Island Ranching "E" #2
Sec. 36, T. 4N, R. 7E
Summit County, Utah

Well No. Champlin 846- Amoco "B" 1
Sec. 19, T. 5N, R. 8E
Summit County, Utah

Well No. M.A. SMith #2
Sec. 16, T. 3S, R. 10W
Wasatch County

Well No. Island Ranching #C 1
Sec. 26, T. 4N, R. 7E
Summit County

Well No. Thousand Peaks Ranching WIU #1
Sec. 32, T. 4N, R. 8E
Summit Cou-nty, Utah

DIVISION OF OIL, GAS AND MINING

## SPUDDING INFORMATION

NAME OF COMPANY: AMOCO Production

WELL NAME: Chaplin 458 WIU E#2

SECTION NWNW 31 TOWNSHIP 4N RANGE 8E COUNTY Summit

DRILLING CONTRACTOR Vierson Cockran

RIG # 11

SPUDDED: DATE 1-16-82

TIME 4:00 PM

HOW Rotary

DRILLING WILL COMMENCE _____

REPORTED BY Tom Hufford

TELEPHONE # 307-789-2591

DATE January 18, 1982 SIGNED AS

Form OGC-1b

SUBMIT IN DUPLICATE*
(Other instructions on reverse side)

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

# SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR: AMOCO PRODUCTION COMPANY

3. ADDRESS OF OPERATOR: P.O. Box 17675 Salt Lake City, Utah 84117

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 187' FNL & 731' FWL NW/4 NW/4

5. LEASE DESIGNATION AND SERIAL NO.: Fee

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Champlin 458 Amoco "E"

9. WELL NO.: #2

10. FIELD AND POOL, OR WILDCAT: Anschutz Ranch East

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 31, T4N, R8E

14. PERMIT NO.: 43-043-30165

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 7900' GR

12. COUNTY OR PARISH: Summit

13. STATE: Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

| NOTICE OF INTENTION TO: | | | | SUBSEQUENT REPORT OF: | | | |
|---|---|---|---|---|---|---|---|
| TEST WATER SHUT-OFF | ☐ | PULL OR ALTER CASING | ☐ | WATER SHUT-OFF | ☐ | REPAIRING WELL | ☐ |
| FRACTURE TREAT | ☐ | MULTIPLE COMPLETE | ☐ | FRACTURE TREATMENT | ☐ | ALTERING CASING | ☐ |
| SHOOT OR ACIDIZE | ☐ | ABANDON* | ☐ | SHOOTING OR ACIDIZING | ☐ | ABANDONMENT* | ☐ |
| REPAIR WELL | ☐ | CHANGE PLANS | ☐ | (Other) REPORT OF OPERATIONS | | | XX |
| (Other) | | | ☐ | (NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.) | | | |

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Amoco Production Company advises that the following work has been performed on the subject well:

SPUD DATE: 1-15-82
Drilling Contractor: Vierson-Cochran, Rig #11

Casing: 20" conductor set at 80'

Current Status: Drilling Ahead at 324'

RECEIVED
JAN 20 1982
DIVISION OF
OIL, GAS & MINING

18. I hereby certify that the foregoing is true and correct

SIGNED [signature] TITLE Administrative Supervisor DATE 1-18-82

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form OGCC-3

STATE OF UTAH

OIL & GAS CONSERVATION COMMISSION

SUBMIT IN DUPLICATE* (See other instructions on reverse side)

PRELIMINARY REPORT

# WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other

b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other

2. NAME OF OPERATOR: AMOCO PRODUCTION COMPANY

3. ADDRESS OF OPERATOR: P.O. Box 17675 Salt Lake City, Utah 84117

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements*)*
At surface: 187' FNL & 731' FWL NW NW
At top prod. interval reported below
At total depth
BHL: 758' FNL & 1253' FWL

5. LEASE DESIGNATION AND SERIAL NO.: Fee

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Champlin 458 ~~Amoco~~ "E"

9. WELL NO.: well #2 #31-04

10. FIELD AND POOL, OR WILDCAT: UNDESIGNATED ~~Anschutz Ranch East~~

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 31, T4N, R8E

12. COUNTY OR PARISH: Summit

13. STATE: Utah

14. PERMIT NO.: 43-043-30165 DATE ISSUED: 2-27-81

| 15. DATE SPUDDED | 16. DATE T.D. REACHED | 17. DATE COMPL. (*Ready to prod.*) | 18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* | 19. ELEV. CASINGHEAD |
|---|---|---|---|---|
| 1/16/82 | 5/3/82 | 7-15-82 (final comp) | 7894' GR | |

| 20. TOTAL DEPTH, MD & TVD | 21. PLUG, BACK T.D., MD & TVD | 22. IF MULTIPLE COMPL., HOW MANY* | 23. INTERVALS DRILLED BY | ROTARY TOOLS | CABLE TOOLS |
|---|---|---|---|---|---|
| 14,208' | 14,182' | | → | Surf. to TD | |

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*: 13,010' - 14,030' Nugget

25. WAS DIRECTIONAL SURVEY MADE: Yes

26. TYPE ELECTRIC AND OTHER LOGS RUN: DIL, CNL-FDC, GR, BHC, HDT, RFT, EPT, Directional, Micro-Seismogram

27. WAS WELL CORED: No

28. CASING RECORD (*Report all strings set in well*)

| CASING SIZE | WEIGHT, LB./FT. | DEPTH SET (MD) | HOLE SIZE | CEMENTING RECORD | AMOUNT PULLED |
|---|---|---|---|---|---|
| 13 3/8" | 61#-54.5# | 2673' | 17 1/2" | 2336 sx | |
| 9 5/8" | 40# | 11,695' | 12 1/4" | 2200 sx | |
| 7" | 23#-26# | 14,205' | 8 1/2" | 700 sx | |

29. LINER RECORD

| SIZE | TOP (MD) | BOTTOM (MD) | SACKS CEMENT* | SCREEN (MD) |
|---|---|---|---|---|
| None | | | | |

30. TUBING RECORD

| SIZE | DEPTH SET (MD) | PACKER SET (MD) |
|---|---|---|
| 3 1/2" | 13,010' | 13,010' |

31. PERFORATION RECORD (*Interval, size and number*): 13,010' - 14,030' w/4 JSPF

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

| DEPTH INTERVAL (MD) | AMOUNT AND KIND OF MATERIAL USED |
|---|---|
| | |

33.* PRODUCTION

| DATE FIRST PRODUCTION | PRODUCTION METHOD (*Flowing, gas lift, pumping—size and type of pump*) | WELL STATUS (*Producing or shut-in*) |
|---|---|---|
| | Flowing | Shut-In |

| DATE OF TEST | HOURS TESTED | CHOKE SIZE | PROD'N. FOR TEST PERIOD → | OIL—BBL. | GAS—MCF. | WATER—BBL. | GAS-OIL RATIO |
|---|---|---|---|---|---|---|---|
| Test Data | not yet available - | | | to be supplied on final report | | | |

| FLOW. TUBING PRESS. | CASING PRESSURE | CALCULATED 24-HOUR RATE → | OIL—BBL. | GAS—MCF. | WATER—BBL. | OIL GRAVITY-API (CORR.) |
|---|---|---|---|---|---|---|
| | | | 640 | 3,200 | 31 | |

34. DISPOSITION OF GAS (*Sold, used for fuel, vented, etc.*): to be sold when well placed on production

TEST WITNESSED BY:

35. LIST OF ATTACHMENTS: None

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED [signature] TITLE Administrative Supervisor DATE 5-13-82

*(See Instructions and Spaces for Additional Data on Reverse Side)

# INSTRUCTIONS

**General:** This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

**Item 4:** If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

**Item 18:** Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

**Items 22 and 24:** If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

**Item 29:** *"Sacks Cement":* Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

**Item 33:** Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

| 37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES | | | | 38. GEOLOGIC MARKERS | | |
|---|---|---|---|---|---|---|
| FORMATION | TOP | BOTTOM | DESCRIPTION, CONTENTS, ETC. | NAME | TOP MEAS. DEPTH | TOP TRUE VERT. DEPTH |
| No cores or DST's | | | | Nugget | 13,010' | |
| | | | | *Specific Formation Tops to be Supplied on Final Report | | |

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

May 20, 1982

Amoco Production Company
P. O. Box 17675
Salt Lake City, Utah 84117

Re: See attached

Gentlemen:

Our records indicate that you have not filed the monthly drilling reports for the months indicated above on the subject wells.

Rule C-22, General Rules and Regulations and Rules of Practice and Procedure, requires that said reports be filed on or before the sixteenth (16) day of the succeeding month. This report may be filed on Form OGC-1B, (U. S. Geological Survey Form 9-331) "Sundry Notices and Reports on Wells", or on company forms containing substantially the same information. We are enclosing forms for your convenience.

Your prompt attention to the above will be greatly appreciated.

Very truly yours.

DIVISION OF OIL, GAS AND MINING

Cari Furse

Cari Furse
Clerk Typist

Board/Charles R. Henderson, Chairman • John L. Bell • E. Steele McIntyre • Edward T. Beck
Robert R. Norman • Margaret R. Bird • Herm Olsen

an equal opportunity employer • please recycle paper

Well No. Louisiana Land & Exploration Fed. #1-34
Sec. 34, T. 8N, R. 6E.
Rich County, Utah
(February- April 1982)

Well No. State of Utah "S" #1
Sec. 30, T. 3N, R. 7E.
Summit County, Utah
(February - April 1982)

Well No. Champlin 458 "E" WIU #1
Sec. 31, T. 4N, R. 8E.
Summit County, Utah
(February- April 1982)

Well No. Champlin 458 "E" WIU #2
Sec. 31, T. 4N, R. 8E.
Summit County, Utah
(February- April 1982)

Well No. Thousand Peaks Ranches WIU #1
Sec. 32, T. 4N, R. 8E.
Summit County, Utah
(February - April 1982)

Well No. M. A. Smith #2
Sec. 16, T. 3S, R. 10W.
Wasatch County, Utah
(February- April 1982)

[illegible]ATE OF UTAH
[illegible]TURAL RESOURCES [illegible]ENERGY
[illegible] & Mining

[illegible] Building • Salt Lake [illegible] • 801-533-5771

Scott M. Matheson, [illegible]
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

August 14, 1982

Production Company
Box 17675
[illegible]ake City, Utah 84117

Re: Well No. Champlin 458 "E" #2
Sec. 31, T. 4N, R. 8E.
Summit County, Utah

[illegible]en:

[illegible]rding to our records [illegible] "Well Completion Report" filed with [illegible] [illegible]ay 13, 1982 from above referred to well, indicates the following [illegible] logs were run: DIL, CNL-FDC, GR, BHC, HDT, RFT, EPT, Directional, [illegible]. As of todays date, this office has not received these logs: [illegible], Directional, Micro-Seismogram.

[illegible] C-5, General Rules and Regulations and Rules of Practice and [illegible], requires that a well log shall be filed with the Commission [illegible]er with a copy of the electric and radioactivity logs.

[illegible]ur prompt attention to the above will be greatly appreciated.

Sincerely,

DIVISION OF OIL, GAS AND MINING

Cari Furse

Cari Furse
Clerk Typist

[illegible] Chairman [illegible] E. Stu[illegible] [illegible] Beck
[illegible] Chairman [illegible] Director

**Amoco Production Company**
Denver Region
Amoco Building
17th & Broadway
Denver, Colorado 80202
303-830-4040

August 24, 1982

Utah Division of Oil, Gas and Mining
4241 State Office Bldg.
Salt Lake City, Utah 84114

Attn: Cari Furse

Dear Ms. Furse:

Enclosed are dipmeters and directional log on the Champlin 458 Amoco E #2, dated May 6 and June 26, 1982. We do not have films, prints or sepias of the EPT and RFT on this well; so far as I know, these logs were not run.

You requested microseismograms on the above well and on the Champlin 458 Amoco D #2 and 458 E #1. So far as I have been able to determine, these were not run.

If I can be of further assistance, please call on me.

Yours truly,

Nancy Camp

Nancy Camp
Staff Exploration Technologist
303-830-5184

RECEIVED
AUG 26 1982
DIVISION OF
OIL, GAS & MINING

Form OGCC-3

COMP.

STATE OF UTAH

OIL & GAS CONSERVATION COMMISSION

SUBMIT IN DUPLICATE* (See other instructions on reverse side)

(2)

# WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other

b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other

2. NAME OF OPERATOR: AMOCO PRODUCTION COMPANY

3. ADDRESS OF OPERATOR: P.O. Box 17675 Salt Lake City, Utah 84117

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements*)*
At surface: 187' FNL & 731' FWL
At top prod. interval reported below
At total depth

5. LEASE DESIGNATION AND SERIAL NO.: Fee

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME: Anschutz Ranch East

8. FARM OR LEASE NAME: Champlin 458 Amoco "E"

9. WELL NO.: #2

10. FIELD AND POOL, OR WILDCAT: Anschutz Ranch East

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 31, T4N, R8E

14. PERMIT NO.: 43-043-30165 | DATE ISSUED:

12. COUNTY OR PARISH: Summit | 13. STATE: Utah

| 15. DATE SPUDDED | 16. DATE T.D. REACHED | 17. DATE COMPL. (*Ready to prod.*) | 18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* | 19. ELEV. CASINGHEAD |
|---|---|---|---|---|
| 1/16/82 | 6/30/82 | 12/1/82 | 7894' GR | |

| 20. TOTAL DEPTH, MD & TVD | 21. PLUG, BACK T.D., MD & TVD | 22. IF MULTIPLE COMPL., HOW MANY* | 23. INTERVALS DRILLED BY | ROTARY TOOLS | CABLE TOOLS |
|---|---|---|---|---|---|
| 14,271' | 14,240' | - | → | Surf. to TD | |

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*: 13,022' - 14,250' Nugget

25. WAS DIRECTIONAL SURVEY MADE: Yes

26. TYPE ELECTRIC AND OTHER LOGS RUN: CNL-FDC, TDT, DIL, Gyro, CBL, DET, RFT, EPT, BHC

27. WAS WELL CORED: No

28. CASING RECORD (*Report all strings set in well*)

| CASING SIZE | WEIGHT, LB./FT. | DEPTH SET (MD) | HOLE SIZE | CEMENTING RECORD | AMOUNT PULLED |
|---|---|---|---|---|---|
| 13 3/8" | 61# | 2675' | 17 1/2" | 2336 sx | |
| 9 5/8" | 53.5# | 11,700' | 12 1/4" | 2200 sx | |
| 7" | 32# | 14,250' | 8 1/2" | 325 sx | |

29. LINER RECORD

| SIZE | TOP (MD) | BOTTOM (MD) | SACKS CEMENT* | SCREEN (MD) |
|---|---|---|---|---|
| None | | | | |

30. TUBING RECORD

| SIZE | DEPTH SET (MD) | PACKER SET (MD) |
|---|---|---|
| 3 1/2" | 13,199' | 13,199' |

31. PERFORATION RECORD (*Interval, size and number*)
13,290' - 356'; 13,376' - 450'; 13,588' -630'; 13,660' -760'; 14,030' - 070'; 14,100' - 140'; all w/4 JSPF

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

| DEPTH INTERVAL (MD) | AMOUNT AND KIND OF MATERIAL USED |
|---|---|
| 14,030' -140' | acidized w/8000 gal 7 1/2% HCL |

33.* PRODUCTION

| DATE FIRST PRODUCTION | PRODUCTION METHOD (*Flowing, gas lift, pumping—size and type of pump*) | WELL STATUS (*Producing or shut-in*) |
|---|---|---|
| 12/1/82 | Flowing | Producing |

| DATE OF TEST | HOURS TESTED | CHOKE SIZE | PROD'N. FOR TEST PERIOD → | OIL—BBL. | GAS—MCF. | WATER—BBL. | GAS-OIL RATIO |
|---|---|---|---|---|---|---|---|
| 11/24/82 | 24 | 22/64 | | 503 | 2500 | 88 | 5000 |

| FLOW. TUBING PRESS. | CASING PRESSURE | CALCULATED 24-HOUR RATE → | OIL—BBL. | GAS—MCF. | WATER—BBL. | OIL GRAVITY-API (CORR.) |
|---|---|---|---|---|---|---|
| 1250 | 780 | | 503 | 2500 | 88 | |

34. DISPOSITION OF GAS (*Sold, used for fuel, vented, etc.*): Sold

TEST WITNESSED BY:

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED [signature] TITLE Administrative Supervisor DATE 1/10/83

*(See Instructions and Spaces for Additional Data on Reverse Side)

# INSTRUCTIONS

**General:** This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

**Item 4:** If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

**Item 18:** Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

**Items 22 and 24:** If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

**Item 29:** *"Sacks Cement":* Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

**Item 33:** Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES:
SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

| FORMATION | TOP | BOTTOM | DESCRIPTION, CONTENTS, ETC. |
|---|---|---|---|
| | | | |

38. GEOLOGIC MARKERS

| NAME | TOP | |
|---|---|---|
| | MEAS. DEPTH | TRUE VERT. DEPTH |
| Nugget | 13,022' | |
| Ankareh | 14,271' | |

**Amoco Production Company**
Post Office Box 17675
Salt Lake City, Utah 84117
801-272-9253

T. G. Doss
District Superintendent

February 9, 1983

DIVISION OF
GAS & MINING

State of Utah
Division of Oil, Gas, and Mining
4241 State Office Building
Salt Lake City, Utah 84114

File: DSD-251-031.190

Anschutz Ranch East Unit Operations - Summit County, Utah

Amoco Production Company herewith advises that the following wells within the subject unit have been renamed as noted:

| Old Well Name: | New Well Name/Location: |
|---|---|
| Anschutz U2-30 | Anschutz Ranch East Unit W30-02<br>Sec. 30, T4N, R8E |
| Anschutz U6-20 | Anschutz Ranch East Unit W20-06<br>Sec. 20, T4N, R8E |
| Anschutz U30-06 | Anschutz Ranch East Unit W30-06<br>Sec. 30, T4N, R8E |
| Anschutz U8-20 | Anschutz Ranch East Unit W20-08<br>Sec. 20, T4N, R8E |
| Anschutz U8-30 | Anschutz Ranch East Unit W30-08<br>Sec. 30, T4N, R8E |
| Anschutz U10-20 | Anschutz Ranch East Unit W20-10<br>Sec. 20, T4N, R8E |
| Anschutz U10-30 | Anschutz Ranch East Unit W30-10<br>Sec. 30, T4N, R8E |
| Anschutz U12-20 | Anschutz Ranch East Unit W20-12<br>Sec. 20, T4N, R8E |

| Old Well Name: | New Well Name/Location: |
|---|---|
| Anschutz U14-20 | Anschutz Ranch East Unit W20-14<br>Sec. 20, T4N, R8E |
| Anschutz U14-30 | Anschutz Ranch East Unit W30-14<br>Sec. 30, T4N, R8E |
| Anschutz U16-20 | Anschutz Ranch East Unit W20-16<br>Sec. 20, T4N, R8E |
| Anschutz U16-30 | Anschutz Ranch East Unit W30-16<br>Sec. 30, T4N, R8E |
| Bountiful Livestock #1 | Anschutz Ranch East Unit W16-14<br>Sec. 16, T4N, R8E |
| Bountiful Livestock "A" #1 | Anschutz Ranch East Unit W16-06<br>Sec. 16, T4N, R8E |
| Champlin 458 Amoco "D" #1 | Anschutz Ranch East Unit W29-04<br>Sec. 29, T4N, R8E |
| Champlin 458 Amoco "D" #2 | Anschutz Ranch East Unit W29-02<br>Sec. 29, T4N, R8E |
| Champlin 458 Amoco "D" #3 | Anschutz Ranch East Unit W29-12<br>Sec. 29, T4N, R8E |
| ✓Champlin 458 Amoco "D" #5 | Anschutz Ranch East Unit W29-14<br>Sec. 29, T4N, R8E |
| Champlin 458 Amoco "D" #6 | Anschutz Ranch East Unit W29-06<br>Sec. 29, T4N, R8E |
| Champlin 458 Amoco "E" #1 | Anschutz Ranch East Unit W31-08<br>Sec. 31, T4N, R8E |
| Champlin 458 Amoco "E" #2 | Anschutz Ranch East Unit W31-04<br>Sec. 31, T4N, R8E |
| ✓Champlin 458 Amoco "E" #5 | Anschutz Ranch East Unit W31-02<br>Sec. 31, T4N, R8E |
| Champlin 458 Amoco "E" #6 | Anschutz Ranch East Unit W31-06<br>Sec. 31, T4N, R8E |
| Champlin 458 Amoco "F" #1 | Anschutz Ranch East Unit W21-04<br>Sec. 21, T4N, R8E |
| Champlin 458 Amoco "F" #2 | Anschutz Ranch East Unit E21-14<br>Sec. 21, T4N, R8E |
| Island Ranching "E" #2 | Anschutz Ranch East Unit W36-08<br>Sec. 36, T3N, R7E |
| Thousand Peaks Ranches #1 | Anschutz Ranch East Unit W32-04<br>Sec. 32, T4N, R8E |

**Amoco Production Company**
Northern Division
1700 Lincoln
Post Office Box 800
Denver, Colorado 80201
303-830-4040

Steve W. Souders
Division Production Manager

September 12, 1984

Utah Division of Oil, Gas, and Mining
4241 State Office Building
Salt Lake City, UT 84114

RECEIVED
SEP 17 1984
DIVISION OF OIL
GAS & MINING

Attention: Claudia Jones

File: DFK-940-416

Reclassifying Anschutz Ranch East Unit Wells from Gas to Oil

In the past, Amoco Production Company has classified all of its producing wells in the Anschutz Ranch East Unit as gas wells on the State completion reports. The classification was made in accordance with the State of Utah definition of a gas well wherein condensate production was considered the product of a gas well. Under 40-6-2 of the Utah Conservation Senate Bill No. 157, the definition was changed as follows:

> (6) "oil" means crude oil or condensate or any mixture thereof defined as follows:
> (b) "condensate" means those hydrocarbons, regardless of gravity, that occur naturally in the gaseous phase in the reservoir that are separated from the natural gas as liquids through the process of condensation either in the reservoir, in the wellbore or at the surface in field separators.

In consideration of the above definition, we hereby reclassify all wells (as shown on Attachment No. 1) from

gas to oil. Would you please note these changes in your well files.

Sincerely yours,

SDE/jwu

Attachment

LTR119

For your information the letter preceding the well number (W-E) refers to the West/East Nugget structure within the Anschutz Ranch East Unit. Should you have questions concerning the well name changes, please contact Scheree Wilcox at this office, 801-264-2200.

T.G. Doss
District Superintendent

SW/

cc: State of Wyoming
Oil and Gas Conservation Commission
P.O. Box 2640
Casper, Wyoming 82601

# Mobil Oil Corporation

P.O. BOX 5444
DENVER, COLORADO 80217

RECEIVED

SEP 19 1984

DIVISION OF OIL
GAS & MINING

Denver E&P Division
September 13, 1984

State of Utah
Department of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, Utah 84114

Attention: Diane Nielson

CLASSIFICATION OF WELLS:
ANSCHUTZ RANCH EAST UNIT
EAST PARTICIPATING AREA

Gentlemen:

There has been some question as to whether wells located in the captioned area are classified as oil or gas wells.

Please be so kind as to clarify the position of the Utah Department of Oil, Gas and Mining regarding this matter.

Yours very truly,

J. L. Douglass
Regulatory Compliance Manager

SEHunt:270:slr

cc: RJ Firth
J R Baza

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

September 24, 1984

COPY

Mr. Steve Souders
Amoco Production Company
P.O. Box 800
Denver, Colorado 80201

Dear Mr. Souders:

Re: Reclassification of Anschutz Ranch East Unit Wells from Gas to Oil.

In reference to your recent letter requesting reclassification of gas wells to oil wells, it is the opinion of Division staff that such action cannot be allowed by either regulation or statute. Therefore, the requested changes to the well records will not be made unless the Board of Oil, Gas and Mining determines otherwise.

We concur with the definition stated in your letter which considers crude oil, condensate or any mixture thereof as an "oil". However, the classification of a well as oil or gas depends on the predominant fluid produced from the well. Based on recent production reports received from your company, wells in the Anschutz Ranch East Unit produce predominantly gas with associated condensate or oil. Additionally, the Anschutz Ranch East Nugget reservoir has been described as a retrograde gas reservoir in various reports and hearings before the Board of Oil, Gas and Mining. Because the formation of condensate in such a reservoir is damaging, it seems illogical to describe this reservoir as an oil reservoir or to classify wells producing from this reservoir as oil wells.

The Division is currently revising the state rules and regulations for oil and gas operations based on the passage of SB 157 in 1983. The revision will included definitions of oil and gas wells which will probably be based on producing GOR. The guideline which is currently used for classifying oil and gas wells is that any well producing at a GOR greater than 10000:1 should be designated as a gas producing well. Using this guideline, the wells in the Anschutz Ranch East Unit are considered gas wells.

If the producing conditions change in any of the referenced wells and the change qualifies them for reclassification, the Division would be happy to make that determination. Please let us know if we can be of further assistance.

Sincerely,

Original Signed by John R. Baza

John R. Baza
Petroleum Engineer

cc: Mobil Oil Corp. Attn: J.L. Douglass
D.R. Nielson
R.J. Firth

Form OGCC-1 b

STATE OF UTAH

OIL & GAS CONSERVATION COMMISSION

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

# SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

RECEIVED
SEP 30 1985
DIVISION OF OIL GAS & MINING

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR: AMOCO PRODUCTION COMPANY

3. ADDRESS OF OPERATOR: P. O. BOX 829, EVANSTON, WYOMING 82930

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface: 87' FNL & 731' FWL

5. LEASE DESIGNATION AND SERIAL NO.: Fee

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME: Anschutz Ranch East

8. FARM OR LEASE NAME: W31-04

9. WELL NO.: W31-04

10. FIELD AND POOL, OR WILDCAT: Anschutz Ranch East

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 31, T4N, R8E

14. PERMIT NO.: 43-043-30165

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 7926' KB 7894' GR

12. COUNTY OR PARISH: Summit

13. STATE: Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

| NOTICE OF INTENTION TO: | | | | SUBSEQUENT REPORT OF: | | | |
|---|---|---|---|---|---|---|---|
| TEST WATER SHUT-OFF | ☐ | PULL OR ALTER CASING | ☐ | WATER SHUT-OFF | ☐ | REPAIRING WELL | ☐ |
| FRACTURE TREAT | ☐ | MULTIPLE COMPLETE | ☐ | FRACTURE TREATMENT | ☐ | ALTERING CASING | ☐ |
| SHOOT OR ACIDIZE | ☐ | ABANDON* | ☐ | SHOOTING OR ACIDIZING | ☐ | ABANDONMENT* | ☐ |
| REPAIR WELL | ☒ | CHANGE PLANS | ☐ | (Other) | | | |
| (Other) | | | | (NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.) | | | |

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

To Improve Sweep:

Perforate:

13,055' - 13,096'
13,111' - 13,128'
13,138' - 13, 187'
13,200' - 13,232'

Estimated start date is October 28, 1985

18. I hereby certify that the foregoing is true and correct

SIGNED Norm E. Prater TITLE District Engineer DATE 9/27/85

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

| Well Name (Anschutz Ranch East Unit #) | Formerly | Location (Summit County, Utah) | API# |
|---|---|---|---|
| W 16-06 | Bountiful Livestock #1A | NE/4 Sec. 16 T4N R8E | 43-043-30138 |
| W 16-12 | --- | SW/4 Sec. 16 T4N R8E | 43-043-30231 |
| W 17-16 | Champlin 458 G #1 | SE/4 Sec. 17 T4N R8E | 43-043-30176 |
| W 19-16 | Champlin 458 H #1 | SE/4 Sec. 19 T4N R8E | 43-043-30215 |
| W 20-02 | --- | NE/4 Sec. 20 T4N R8E | 43-043-30228 |
| W 21-04 | Champlin 458 F #1 | NW/4 Sec. 21 T4N R8E | 43-043-30135 |
| E 21-14 | Champlin 458 F #2 | SW/4 Sec. 21 T4N R8E | 43-043-30130 |
| W 29-04 | Champlin 458 Amoco D #1 | NW/4 Sec. 29 T4N R8E | 43-043-30129 |
| W 29-06A | --- | NW/4 Sec. 29 T4N R8E | 43-043-30219 |
| W 29-14A | --- | SW/4 SEc. 29 T4N R8E | 43-043-30251 |
| W 30-10 | --- | SE/4 Sec. 30 T4N R8E | 43-043-30215 |
| **W 31-04** | **Champlin 458 E #2** | **NW/4 Sec. 31 T4N R8E** | **43-043-30165** |
| W 31-06 | Champlin 458 E #6 | NW/4 Sec. 31 T4N R8E | 43-043-30217 |
| W 31-08 | Champlin 458 E #1 | NE/4 Sec. 31 T4N R8E | 43-043-30164 |
| W 31-12 | Champlin 458 E #3 | SW/4 Sec. 31 T4N R8E | 43-043-30190 |
| W 32-04 | --- | NW/4 Sec. 32 T4N R8E | 43-043-30162 |
| W 36-10 | --- | SE/4 Sec. 36 T4N R8E | 43-043-30227 |
| W 36-16 | Island Ranching E #1 | SE/4 Sec. 36 T4N R8E | 43-043-30157 |

Amoco Production Company

May 16, 1986

RECEIVED
MAY 21 1986
DIVISION OF
OIL, GAS & MINING

Utah Division of Oil, Gas & Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180

Re: **Name change on wells being brought into the Anschutz Ranch East Unit**

Attn: Claudia Jones

Dear Claudia:

The following is a list of all wells, East & West Lobe (production and Injection) at Anschtuz Ranch East referenced by well name, API No. and legal description, that should be rolled over from Amoco Production Company to Amoco Rockmount Company upon completion and being brought into the Unit.

**Production wells**

| Well Name | API No. | Legal Description |
|---|---|---|
| W01-04 | 43-043-30270 | NWNW, Sec 1, T3N, R7E |
| W01-06 | 43-043-30188 | SENW, Sec 1, T3N, R7E |
| W01-12 | 43-043-30271 | NWSW, Sec 1, T3N, R7E |
| W20-04 | 43-043-30238 | NWNW, Sec 20, T4N, R8E |
| W16-~~60~~ 06 | 43-043-30138 | NENE, Sec 16, T4N, R8E |
| W16-12 | 43-043-30231 | SWNW, Sec 16, T4N, R8E |
| W17-~~12~~16? | 43-043-30176 | NWSE, Sec 17, T4N, R8E |
| W19-16 | 43-043-95008 ? 30104 | SWSE, Sec 19, T4N, R8E |
| W20-02 | 43-043-30228 | NWNE, Sec 20, T4N, R8E |
| W20-06 | 43-043-30159 | NWNW, Sec 20, T4N, R8E |
| W20-10 | 43-043-30229 | SENW, Sec 20, T4N, R8E |
| W20-12 | 43-043-30220 | NWSW, Sec 20, T4N, R8E |
| W20-16 | 43-043-30148 | SWSE, Sec 20, T4N, R8E |
| W21-04 | 43-043-30135 | NWNW, Sec 21, T4N, R8E |
| W29-04 | 43-043-30129 | NWNW, Sec 29, T4N, R8E |
| W29-06A | 43-043-30250 | SENW, Sec 29, T4N, R8E |
| W29-14A | 43-043-30251 | NWSW, Sec 29, T4N, R8E |
| W30-06 | 43-043-30273 | NESW, Sec 30, T4N, R8E |
| W30-08 | 43-043-30183 | SENE, Sec 30, T4N, R8E |
| W30-10 | 43-043-30215 | NWSE, Sec 30, T4N, R8E |
| W30-14 | 43-043-30185 | SESW, Sec 30, T4N, R8E |
| W30-16 | 43-043-30156 | NESE, SEc 30, T4N, R8E |

## Production wells (cont.)

| Well Name | API NO. | Legal Description |
|---|---|---|
| W31-04 | 43-043-30165 | NWNW, Sec 31, T4N, R8E |
| W31-06 | 43-043-30217 | SENW, Sec 31, T4N, R8E |
| W31-08 | 43-043-30164 | NWNE, Sec 31, T4N, R8E |
| W31-12 | 43-043-30190 | SWNW, Sec 31, T4N, R8E |
| W32-04 | 43-043-30162 | NWNW, Sec 32, T4N, R8E |
| W36-10 | 43-043-30227 | NESW, Sec 36, T4N, R7E |
| W36-16 | 43-043-30157 | SESE, Sec 36, T4N, R7E |

## Injection wells

| | | |
|---|---|---|
| W01-02 | 43-043-30209 | ? NWNE, Sec 1, T3N, R7E |
| W02-10 | 43-043-30265 | NWSE, Sec 2, T3N, R7E |
| W16-14 | 43-043-30096 | NWSW, Sec 16, T4N, R8E |
| W19-08 | 43-043-30272 | SENE, Sec 19, T4N, R8E |
| W20-08 | 43-043-30212 ? 30123 | SWNW, Sec 20, T4N, R8E |
| W20-14 | 43-043-30145 | NWSW, Sec 20, T4N, R8E |
| W29-02 | 43-043-30220 ? 30136 | NWNE, Sec 29, T4N, R8E |
| W29-12 | 43-043-30154 | NWSW, Sec 29, T4N, R8E |
| W30-02 | 43-043-95014 ? 30218 | NWNE, Sec 30, T4N, R8E |
| W30-12A | 43-043-30248 ? 30230 | NWSW, Sec 30, T4N, R8E |
| W30-15 | 43-043-95012 ? 30216 | ? NWNE, Sec 30, T4N, R8E |
| W36-08 | 43-043-30167 | SENE, Sec 36, T4N, R7E |
| W36-14 | 43-043-30255 | SESW. Sec 36, T4N, R7E |

This should help to clarify your files and if any changes are necessary we will notify you of such.

If further information is needed please contact Louis F. Lozzie of this office at 307-789-1700 ext. 2226.

Thank you,

R. M. Ramsey
District Admn. Supervisor

/kg

cc: Pam Collier - Amoco Denver

Form OGC-1b

SUBMIT IN TRIPLICATE* (See instructions on reverse side)

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

4 POW

## SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

| | |
|---|---|
| 5. LEASE DESIGNATION AND SERIAL NO. | Fee |
| 6. IF INDIAN, ALLOTTEE OR TRIBE NAME | 100707 |
| 7. UNIT AGREEMENT NAME | Anschutz Ranch East |
| 8. FARM OR LEASE NAME | W31-04 |
| 9. WELL NO. | W31-04 |
| 10. FIELD AND POOL, OR WILDCAT | Nugget |
| 11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA | Sec. 31, T4N, R8E |
| 12. COUNTY OR PARISH | |
| 13. STATE | |

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR: AMOCO PRODUCTION COMPANY

3. ADDRESS OF OPERATOR: P. O. BOX, 829, EVANSTON, WYOMING 82930

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 87' FNL & 731' FWL

14. PERMIT NO.: 43-043-30165

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 7924' KB

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

| NOTICE OF INTENTION TO: | | | | SUBSEQUENT REPORT OF: | | | |
|---|---|---|---|---|---|---|---|
| TEST WATER SHUT-OFF | ☐ | PULL OR ALTER CASING | ☐ | WATER SHUT-OFF | ☐ | REPAIRING WELL | ☐ |
| FRACTURE TREAT | ☐ | MULTIPLE COMPLETE | ☐ | FRACTURE TREATMENT | ☐ | ALTERING CASING | ☐ |
| SHOOT OR ACIDIZE | ☐ | ABANDON* | ☐ | SHOOTING OR ACIDIZING | ☐ | ABANDONMENT* | ☐ |
| REPAIR WELL | ☐ | CHANGE PLANS | ☐ | | | | |
| (Other) | | | X | (Other) | | | |

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Zone 1 will be "packed-off" and zones 2 & 3 will be produced in order to locate lower GOR gas in the well. Two packers will be run and set: the top packer will be set at 12,900' and the bottom packer will be set at 13,275'. The well will be produced indefinitely and work will commence within the next two weeks.

This work was discussed between John Baza UTO&G and Bruce Leggett AMOCO on 9/18/87 at 1:15 pm.

18. I hereby certify that the foregoing is true and correct

SIGNED Bruce L. Leggett TITLE Administrative Supervisor DATE 9-28-87

(This space for Federal or State office use)

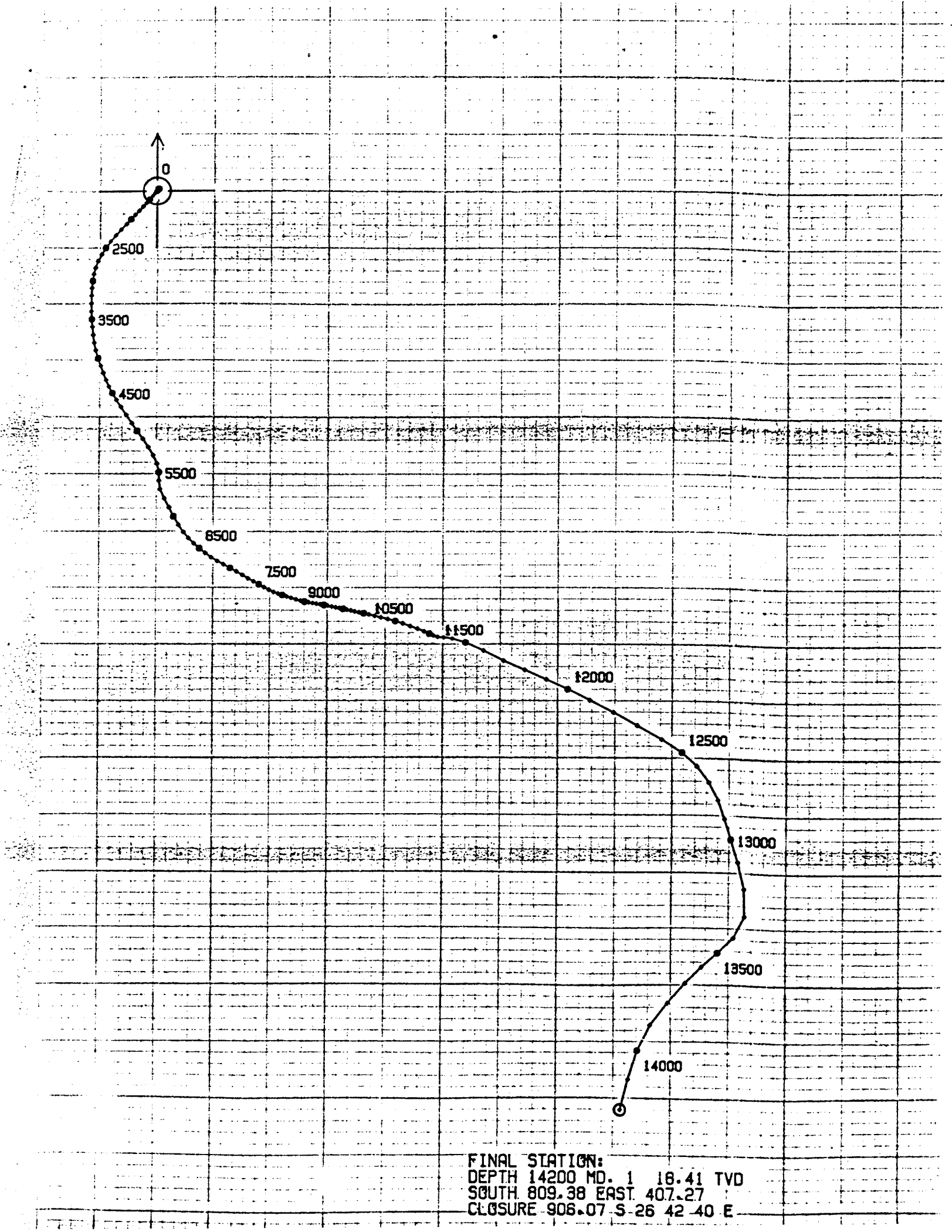
APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 10-6-87
BY: John R. Baza

*See Instructions on Reverse Side

OCT 1 1987




FINAL STATION:
DEPTH 14200 MD. 1 16.41 TVD
SOUTH 809.38 EAST 407.27
CLOSURE 906.07 S 26 42 40 E

STATE OF UTAH

DIVISION OF OIL, GAS AND MINING

| | |
|---|---|
| | 5. Lease Designation and Serial Number: FEE |
| **SUNDRY NOTICES AND REPORTS ON WELLS** | 6. If Indian, Allottee or Tribe Name: |
| Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals. | 7. Unit Agreement Name: Anschutz Ranch East |
| Type of Well: OIL ☐ GAS ☒ OTHER: | 8. Well Name and Number: #31-04 |
| Name of Operator: Amoco Production Company | 9. API Well Number: 43-043-30165 |
| Address and Telephone Number: P.O. Box 800, Denver, CO 80202 | 10. Field and Pool, or Wildcat: Nugget |
| Location of Well Footages: 187' FNL & 731' FWL | County: Summit |
| QQ, Sec., T., R., M.: Sec 31 T4N R8E | State: Utah |

## CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| NOTICE OF INTENT (Submit in Duplicate) | | SUBSEQUENT REPORT (Submit Original Form Only) | |
|---|---|---|---|
| Abandonment | ☐ New Construction | ☐ Abandonment * | ☐ New Construction |
| Casing Repair | ☐ Pull or Alter Casing | ☐ Casing Repair | ☐ Pull or Alter Casing |
| Change of Plans | ☐ Recompletion | ☐ Change of Plans | ☐ Shoot or Acidize |
| Conversion to Injection | ☐ Shoot or Acidize | ☐ Conversion to Injection | ☐ Vent or Flare |
| Fracture Treat | ☐ Vent or Flare | ☐ Fracture Treat | ☐ Water Shut-Off |
| Multiple Completion | ☐ Water Shut-Off | ☒ Other Perf | |
| Other _____ | | | |
| Approximate date work will start _____ | | Date of work completion 7/25/96 | |

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION AND LOG form.

* Must be accompanied by a cement verification report.

DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Wireline perforate the following intervals:

13,014-034', 13,350'-370', 13,458'-478' and 13,510'-530'.
This was done with 4 shots per footand at 90 deg. phasing.
RTP 7/26/76.

Name & Signature: Gigi Martinez Title: Permitting Agent Date: 9/9/97

(Space for State use only)

WO tax credit - 10/97

(See Instructions on Reverse Side)

RECEIVED
SEP 12 1997
DIV. OF OIL, GAS & MINING

FORM 10

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING
1594 West North Temple, Suite 1210, PO Box 145801, Salt Lake City, UT 84114-5801



# MONTHLY OIL AND GAS PRODUCTION REPORT

OPERATOR NAME AND ADDRESS:

DEMETRIA MARTINEZ
AMOCO ROCMOUNT COMPANY
PO BOX 800
DENVER CO 80201

UTAH ACCOUNT NUMBER: N1390

REPORT PERIOD (MONTH/YEAR): 12 / 97

AMENDED REPORT ☐ **(Highlight Changes)**

| Well Name / API Number / Entity / Location | Producing Zone | Well Status | Days Oper | Production Volumes OIL(BBL) | GAS(MCF) | WATER(BBL) |
|---|---|---|---|---|---|---|
| ANSCHUTZ RANCH EAST W20-08<br>4304330123 04540 04N 08E 20 | NGSD | | | Fee | Anschutz Ranch | East Unit |
| ANSCHUTZ RANCH EAST 29-04ST1<br>4304330129 04540 04N 08E 29 | NGSD | | | " | | |
| ANSCHUTZ RANCH EAST E21-14<br>4304330130 04540 04N 08E 21 | TWNCR | | | " | | |
| ANSCHUTZ RANCH EAST W21-04<br>4304330135 04540 04N 08E 21 | NGSD | | | " | | |
| ANSCHUTZ RANCH EAST W29-02<br>4304330136 04540 04N 08E 29 | NGSD | | | " | | |
| ANSCHUTZ RANCH EAST W16-06<br>4304330138 04540 04N 08E 16 | NGSD | | | " | | |
| ANSCHUTZ RANCH EAST W20-16<br>4304330148 04540 04N 08E 20 | NGSD | | | " | | |
| ANSCHUTZ RANCH EAST W30-16<br>4304330156 04540 04N 08E 30 | NGSD | | | " | | |
| ANSCHUTZ RANCH EAST W36-16<br>4304330157 04540 04N 07E 36 | NGSD | | | " | | |
| ANSCHUTZ RANCH EAST W20-06<br>4304330159 04540 04N 08E 20 | NGSD | | | " | | |
| ANSCHUTZ RANCH EAST W32-04<br>4304330162 04540 04N 08E 32 | NGSD | | | " | | |
| ANSCHUTZ RANCH EAST W31-08<br>4304330164 04540 04N 08E 31 | NGSD | | | " | | |
| ANSCHUTZ RANCH EAST W31-04<br>4304330165 04540 04N 08E 31 | NGSD | | | " | | |
| | | | TOTALS | | | |

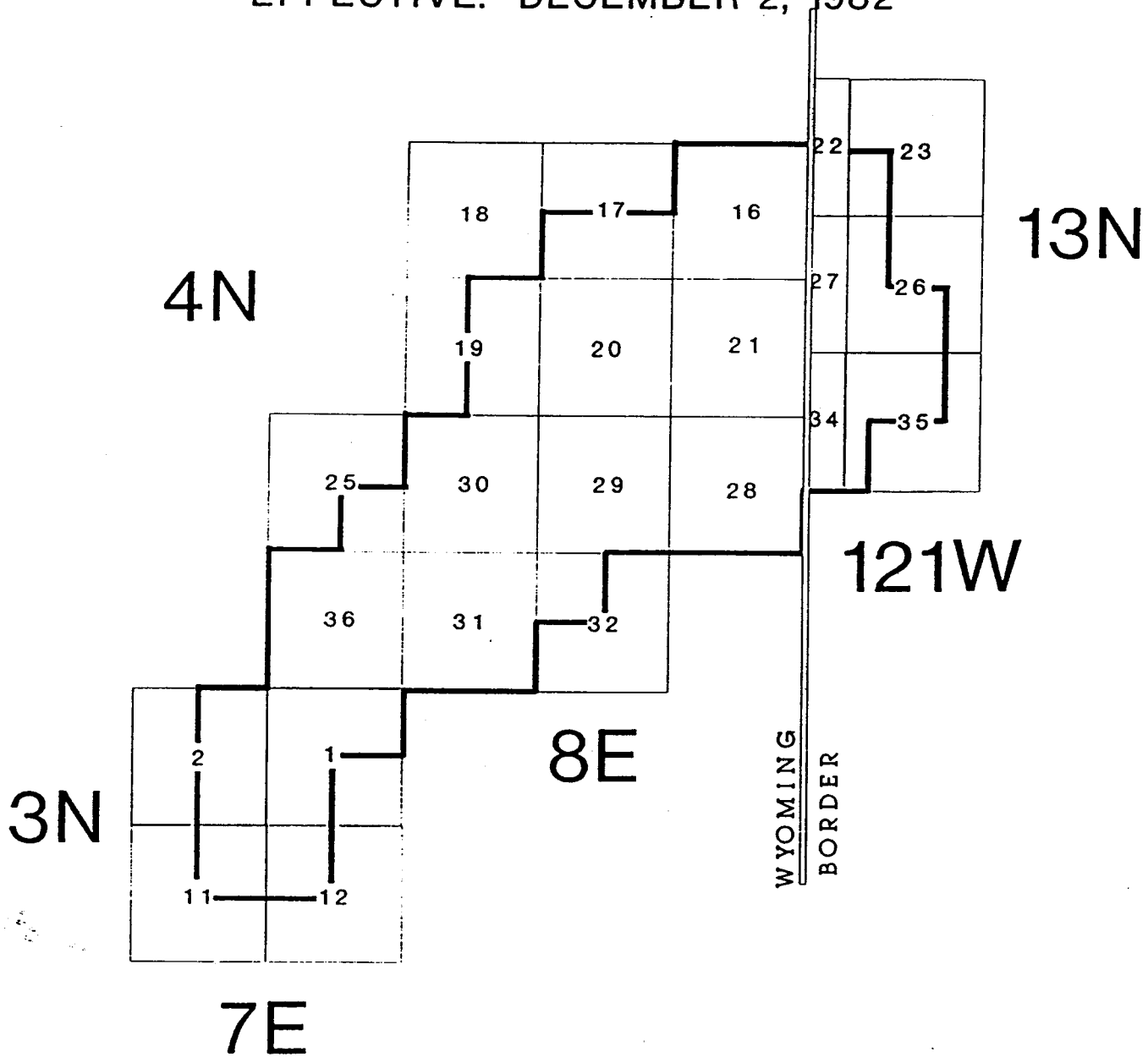
COMMENTS: _____

I hereby certify that this report is true and complete to the best of my knowledge. Date: _____

Name and Signature: _____ Telephone Number: _____

# ANSCHUTZ RANCH EAST UNIT
## Summit County, Utah

EFFECTIVE: DECEMBER 2, 1982




UNIT OUTLINE (UTU67938X)

AS CONTRACTED DECEMBER 1, 1992

22,158.00 ACRES

FORM 9

STATE OF UTAH

DIVISION OF OIL, GAS AND MINING

5. Lease Designation and Serial Number:

# SUNDRY NOTICES AND REPORTS ON WELLS

6. If Indian, Allottee or Tribe Name: Anschutz Ranch East

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

7. Unit Agreement Name: ARE W31-04

1. Type of Well: OIL ☐ GAS ☒ OTHER:

8. Well Name and Number:

2. Name of Operator: Amoco Production Company

9. API Well Number: ~~43-043-30165~~

3. Address and Telephone Number: P.O. Box 800, Rm 812B, Denver, CO 80201 (303) 830-4781

10. Field and Pool, or Wildcat: Nugget

4. Location of Well

Footages: 187' FNL, 731' FWL

County: Summit

QQ, Sec., T., R., M.: Sec 31, T4N, R8E

State: Utah

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| NOTICE OF INTENT (Submit in Duplicate) | | SUBSEQUENT REPORT (Submit Original Form Only) | |
|---|---|---|---|
| ☐ Abandonment | ☐ New Construction | ☐ Abandonment * | ☐ New Construction |
| ☐ Casing Repair | ☐ Pull or Alter Casing | ☐ Casing Repair | ☐ Pull or Alter Casing |
| ☐ Change of Plans | ☐ Recompletion | ☐ Change of Plans | ☐ Shoot or Acidize |
| ☐ Conversion to Injection | ☐ Shoot or Acidize | ☐ Conversion to Injection | ☐ Vent or Flare |
| ☐ Fracture Treat | ☐ Vent or Flare | ☐ Fracture Treat | ☐ Water Shut-Off |
| ☐ Multiple Completion | ☐ Water Shut-Off | ☐ Other _____ | |
| ☐ Other _____ | | | |
| Approximate date work will start _____ | | Date of work completion _____ | |

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Amoco Production Company is now the operator of the above mentioned well. We will be operating under Utah Bond # 831094. This is effective 1/31/95.

If you require additional information, please contact Gigi Martinez @ (303) 830-4781.

RECEIVED

13.

Name & Signature: G. G. Martinez Title: Permit Agent Date: 2/5/98

(This space for State use only)

(3/89) (See Instructions on Reverse Side)

*State of Delaware*

# *Office of the Secretary of State*

I, EDWARD J. FREEL, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF DISSOLUTION OF "AMOCO ROCMOUNT COMPANY", FILED IN THIS OFFICE ON THE THIRTY-FIRST DAY OF JANUARY, A.D. 1995, AT 10 O'CLOCK A.M.

A CERTIFIED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS FOR RECORDING.

Change of operator. Amoco Rocmount to Amoco Production Co Effective 1/31/95

Edward J. Freel, Secretary of State

0934277 8100

950022938

AUTHENTICATION: 7391913

DATE: 01-31-95

ATTN: Usha Cordova
801-359-3904

4 pages

Ed Hadlock
Amoco Prod. Co
303-830-4993

CERTIFICATE OF DISSOLUTION

OF

AMOCO ROCMOUNT COMPANY

AMOCO ROCMOUNT COMPANY, a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware,

DOES HEREBY CERTIFY:

FIRST: That dissolution was authorized on January 19, 1995.

SECOND: That dissolution has been authorized by the unanimous written consent of all of the stockholders of the corporation entitled to vote on a dissolution in accordance with the provisions of subsection (c) of section 275 of the General Corporation Law of the State of Delaware.

THIRD: That the names and addresses of the directors and officers of AMOCO ROCMOUNT COMPANY are as follows:

DIRECTORS

| NAMES | ADDRESSES |
|---|---|
| J. M. Brown | 501 WestLake Park Boulevard<br>Houston, TX 77079 |
| J. M. Gross | 501 WestLake Park Boulevard<br>Houston, TX 77079 |
| D. H. Welch | 200 East Randolph Drive<br>Chicago, IL 60601 |

OFFICERS

| NAMES | OFFICES | ADDRESS |
|---|---|---|
| J. M. Brown | President | 501 WestLake Park Blvd.<br>Houston, TX 77079 |
| M. R. Gile | Vice President | 1670 Broadway<br>Denver, CO 80202 |
| J. N. Jaggers | Vice President | 1670 Broadway<br>Denver, CO 80202 |

| NAMES | OFFICES | ADDRESS |
|---|---|---|
| D. H. Welch | Vice President | 200 East Randolph Drive<br>Chicago, IL 60601 |
| J. M. Gross | Secretary | 501 WestLake Park Blvd.<br>Houston, TX 77079 |
| R. B. Wilson | Assistant Secretary | 1670 Broadway<br>Denver, CO 80202 |
| Rebecca Gormezano | Assistant Secretary | 200 East Randolph Drive<br>Chicago, IL 60601 |
| C. F. Helm | Assistant Secretary | 519 S. Boston<br>Tulsa, OK 74103 |
| A. L. Haws | Assistant Secretary | 501 WestLake Park Blvd.<br>Houston, TX 77079 |
| Daniel B. Pinkert | Assistant Secretary | 200 East Randolph Drive<br>Chicago, IL 60601 |
| G. L. Paulson | Assistant Secretary | 1670 Broadway<br>Denver, CO 80202 |
| J. E. Rutter | Assistant Secretary | 501 WestLake Park Blvd.<br>Houston, TX 77079 |
| J. L. Siddall | Assistant Secretary | 200 East Randolph Drive<br>Chicago, IL 60601 |
| M. J. Stonecipher | Assistant Secretary | 519 S. Boston<br>Tulsa, OK 74103 |
| Rebecca S. McGee | Assistant Secretary | 1670 Broadway<br>Denver, CO 80202 |
| Gerald M. Wilson | Assistant Secretary | 200 East Randolph Drive<br>Chicago, IL 60601 |
| Marsha Williams | Treasurer | 200 East Randolph Drive<br>Chicago, IL 60601 |

IN WITNESS WHEREOF, said AMOCO ROCMOUNT COMPANY has caused this certificate to be signed by M. R. Gile, its Vice President, and attested by Rebecca S. McGee, its Assistant Secretary, this 26th day of January, 1995.

AMOCO ROCMOUNT COMPANY

ATTEST:

By _____
M. R. Gile, Vice President

By _____
Assistant Secretary

STATE OF COLORADO )
) ss.
CITY OF DENVER )

I, Sheryl A. White, a Notary Public, do hereby certify that M. R. GILE and Robert S. McGee of the above named AMOCO ROCMOUNT COMPANY, personally known to me to be the same persons whose names are subscribed to the foregoing instrument as Vice President and Assistant Secretary, respectively, appeared before me this day in person, and acknowledged that they signed, sealed and delivered the said instrument as the free and voluntary act of said AMOCO ROCMOUNT COMPANY, and as their own free and voluntary act as Vice President and Assistant Secretary, respectively, for the uses and purposes therein set forth.

GIVEN under my hand and official seal this 26th day of January, 1995.

Sheryl A. White
Notary Public

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
Lowell P. Braxton
Division Director

# State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

February 26, 1998

G. G. Martinez
Amoco Production Company
P. O. Box 800, Room 812B
Denver, Colorado 80201

Re: Notification of Sale or Transfer of Fee Lease Interest

The Division has received notification of a change of operator from Amoco Rocmount Company to Amoco Production Company for the following wells which are located on fee leases:

| Well Name | Sec.-T.-R. | API Number |
|---|---|---|
| (Anschutz Ranch East "ARE") | | |
| ARE W20-08 | 20-04N-08E | 43-043-30123 |
| ARE 29-04ST1 | 29-04N-08E | 43-043-30129 |
| ARE E21-14 | 21-04N-08E | 43-043-30130 |
| ARE W21-04 | 21-04N-08E | 43-043-30135 |
| ARE W29-02 | 29-04N-08E | 43-043-30136 |
| ARE W16-06 | 16-04N-08E | 43-043-30138 |
| ARE W20-16 | 20-04N-08E | 43-043-30148 |
| ARE W30-16 | 30-04N-08E | 43-043-30156 |
| ARE W36-16 | 36-04N-07E | 43-043-30157 |
| ARE W20-06 | 20-04N-08E | 43-043-30159 |
| ARE W32-04 | 32-04N-08E | 43-043-30162 |
| ARE W31-08 | 31-04N-08E | 43-043-30164 |
| ARE W31-04 | 31-04N-08E | 43-043-30165 |
| ARE W17-16 | 17-04N-08E | 43-043-30176 |
| ARE W30-08 | 30-04N-08E | 43-043-30183 |
| ARE W30-14 | 30-04N-08E | 43-043-30185 |
| ARE W01-06 | 01-03N-07E | 43-043-30188 |
| ARE W31-12 | 31-04N-08E | 43-043-30190 |
| ARE W19-16 | 19-04N-08E | 43-043-30204 |
| ARE W30-10 | 30-04N-08E | 43-043-30215 |
| ARE W31-06 | 31-04N-08E | 43-043-30217 |

| | | |
|---|---|---|
| ARE W20-12 | 20-04N-08E | 43-043-30220 |
| ARE E28-06 | 28-04N-08E | 43-043-30226 |
| ARE W36-10 | 36-04N-07E | 43-043-30227 |
| ARE W20-02 | 20-04N-08E | 43-043-30228 |
| ARE W20-10 | 20-04N-08E | 43-043-30229 |
| ARE W16-12 | 16-04N-08E | 43-043-30231 |
| ARE W20-04 | 20-04N-08E | 43-043-30238 |
| ARE W29-06A | 29-04N-08E | 43-043-30250 |
| ARE W29-14A | 29-04N-08E | 43-043-30251 |
| ARE E28-12 | 28-04N-08E | 43-043-30257 |
| ARE W01-04 | 01-03N-07E | 43-043-30270 |
| ARE W01-12 | 01-03N-07E | 43-043-30271 |
| ARE W30-06 | 30-04N-08E | 43-043-30273 |
| ARE W11-1 | 11-03N-07E | 43-043-30277 |
| ARE W30-13 | 25-04N-07E | 43-043-30279 |
| ARE W12-04 | 02-03N-07E | 43-043-30283 |
| ARE W20-09 | 20-04N-08E | 43-043-30286 |
| ARE W20-03 | 20-04N-08E | 43-043-30291 |

Utah Administrative Rule R649-2-10 states; the owner of a lease shall provide notification to any person with an interest in such lease, when all or part of that interest in the lease is sold or transferred.

This letter is written to advise Amoco Production Company of its responsibility to notify all individuals with an interest in these leases (royalty interest and working interest) of the change of operator. Please provide written documentation of this notification to:

Utah Royalty Owners Association
Box 1292
Roosevelt, Utah 84066

Your assistance in this matter is appreciated.

Sincerely,

Lisha Cordova

Lisha Cordova
Admin. Analyst, Oil & Gas

cc: Amoco Rocmount Company, Ed Hadlock
Utah Royalty Owners Association, Stephen Evans
John R. Baza, Associate Director
Operator File(s)

Division of Oil, Gas and Mining

# OPERATOR CHANGE WORKSHEET

| Routing: | |
|---|---|
| 1-LEC ✓ | 6-LEC ✓ |
| 2-GLH ✓ | 7-KAS ✓ |
| 3-DPS ~~✓~~ | 8-SJ ✓ |
| 4-VLD ✓ | 9-FILE ✓ |
| 5-JRB ✓ | |

Attach all documentation received by the division regarding this change.
Initial each listed item when completed. Write N/A if item is not applicable.

XX Change of Operator (~~well sold~~)
☐ Designation of Operator
☐ Designation of Agent
☐ Operator Name Change Only

The operator of the well(s) listed below has changed, **effective:** 1-31-95

| | | | |
|---|---|---|---|
| **TO:** (new operator) | AMOCO PRODUCTION COMPANY | **FROM:** (old operator) | AMOCO ROCMOUNT COMPANY |
| (address) | PO BOX 800 | (address) | PO BOX 800 |
| | DENVER CO 80201 | | DENVER CO 80201 |
| | | | ED HADLOCK |
| | Phone: (303)830-5340 | | Phone: (303)830-5340 |
| | Account no. N0050 | | Account no. N1390 |

**WELL(S)** attach additional page if needed: ***ANSCHUTZ RANCH EAST UNIT**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Name: | **SEE ATTACHED** | API: | 43-043-30165 | Entity: | | S | | T | | R | Lease: |
| Name: | | API: | | Entity: | | S | | T | | R | Lease: |
| Name: | | API: | | Entity: | | S | | T | | R | Lease: |
| Name: | | API: | | Entity: | | S | | T | | R | Lease: |
| Name: | | API: | | Entity: | | S | | T | | R | Lease: |
| Name: | | API: | | Entity: | | S | | T | | R | Lease: |
| Name: | | API: | | Entity: | | S | | T | | R | Lease: |

## OPERATOR CHANGE DOCUMENTATION

LEC 1. (r649-8-10) Sundry or other legal documentation has been received from the **FORMER** operator (attach to this form). (Req. 2-19-98) (Rec'd 2-26-98)

LEC 2. (r649-8-10) Sundry or other legal documentation has been received from the **NEW** operator (Attach to this form). (Rec'd 2-11-98)

N/A 3. The **Department of Commerce** has been contacted if the new operator above is not currently operating any wells in Utah. Is the company **registered with the state?** (yes/no) _____ If yes, show company file number: _____.

N/A 4. **FOR INDIAN AND FEDERAL WELLS ONLY.** The BLM has been contacted regarding this change. Make note of BLM status in comments section of this form. BLM approval of **Federal** and **Indian** well operator changes should ordinarily take place prior to the division's approval, and before the completion of **steps 5 through 9** below.

LEC 5. Changes have been entered in the **Oil and Gas Information System** (3270) for each well listed above. (2-26-98) *QuattroPro/UIC "No Chg.", DBASE/UIC "No Chg." (See comments)

LEC 6. **Cardex** file has been updated for each well listed above. (2-26-98)

LEC 7. Well **file labels** have been updated for each well listed above. (2-26-98)

LEC 8. Changes have been included on the monthly "Operator, Address, and Account Changes" **memo** for distribution to Trust Lands, Sovereign Lands, UGS, Tax Commission, etc. (2-26-98)

LEC 9. A folder has been set up for the **Operator Change file**, and a copy of this page has been placed there for reference during routing and processing of the original documents.

c:\dons\wpdocs\forms\operchng

**- OVER -**

**OPERATOR CHANGE WORKSHEET (continued)** - Initial each item when completed. Write N/A if item is not applicable.

## ENTITY REVIEW

Lec 1. (r649-8-7) **Entity assignments have been reviewed** for all wells listed above. Were entity changes made? (yes/no) ____ If entity assignments were changed, attach copies of Form 6, Entity Action Form.
4540 "Unit Entity"

N/A 2. Trust Lands, Sovereign Lands, Tax Commission, etc., have been **notified** through normal procedures of entity changes.

## BOND VERIFICATION - (FEE WELLS ONLY)

Surety No. 831094 ($80,000) issued by Seaboard Surety Co. in behalf of Amoco Prod. Co. and Amoco Rocmount Co.

Lec 1. (r649-3-1) The **NEW** operator of any fee lease well listed above has furnished a proper bond.

Lec 2. A **copy of this form** has been placed in the new and former operator's bond files.

Lec 3. The **FORMER** operator has requested a release of liability from their bond (yes/no) ____, as of today's date 2-19-98. If yes, division response was made to this request by letter dated ____.

## LEASE INTEREST OWNER NOTIFICATION OF RESPONSIBILITY

N/A/Lec 1. Copies of documents have been sent on ____ to ____ at Trust Lands for changes involving State leases, in order to remind that agency of their responsibility to review for proper bonding.

Lec 2. (r649-2-10) The former operator of any fee lease wells listed above has been contacted and informed by letter dated Feb. 26, 1998, of their responsibility to notify all interest owners of this change.

## FILMING

VS 1. All attachments to this form have been **microfilmed**. Today's date: 3.20.98.

## FILING

CHD 1. **Copies** of all attachments to this form have been filed in each **well file**.

__ 2. The **original of this form**, and the **original attachments** are now being filed in the Operator Change file.

## COMMENTS

980219 Recognized oper. for Anschutz Ranch East Unit (State Unit) already Amoco Production Co.

* UIC Wells (Disposal & Gas Injection) were never changed to Amoco Rocmount Company, no change necessary! They were changed in 3270 and have now been changed back to Amoco Prod. Co.

FORM 3

STATE OF UTAH

DIVISION OF OIL, GAS AND MINING

5. Lease Designation and Serial Number: Fee

# APPLICATION FOR PERMIT TO DRILL OR DEEPEN

6. If Indian, Allottee or Tribe Name:

1A. Type of Work: DRILL ☐ DEEPEN ☐

7. Unit Agreement Name: Anschutz Ranch East

B. Type of Well: OIL ☐ GAS ☒ OTHER: SINGLE ZONE ☐ MULTIPLE ZONE ☐

8. Farm or Lease Name:

2. Name of Operator: BP Amoco Explorations Co.

9. Well Number: W31-04B

3. Address and Telephone Number: PO Box 829, Evanston, WY 82931-0829

10. Field and Pool, or Wildcat: Nugget

4. Location of Well (Footages)

At Surface: 111' FNL X 737' FWL

At Proposed Producing Zone: See attached survey plat for north and south lateral bottom hole locations

11. Qtr/Qtr, Section, Township, Range, Meridian: NW/4, NW/4, section 31 T4N, R8E

14. Distance in miles and direction from nearest town or post office: 20 miles southwest of Evanston, 3 miles from A.R.E plant

12. County: SUMMIT

13. State: UTAH

15. Distance to nearest property or lease line (feet):

16. Number of acres in lease: Unitized

17. Number of acres assigned to this well:

18. Distance to nearest well, drilling, completed, or applied for, on this lease (feet): Sidetrack existing W31-04

19. Proposed Depth: 16,070' MD (12,660' TVD)

20. Rotary or cable tools: Rotary

21. Elevations (show whether DF, RT, GR, etc.): 7,896' GR

22. Approximate date work will start: Mid July

23. PROPOSED CASING AND CEMENTING PROGRAM

| SIZE OF HOLE | GRADE, SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT |
|---|---|---|---|---|
| 5 7/8" | No casing | | | Open Hole completion-no casing or cement. |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

*See Operator Name Correction

SEE ATTACHED PROPOSED OPERATIONS AND DRILLING PROGRAM.

24. Name & Signature: Margaret Schelling (307) 783-2600 Title: Permitting Agent Date: June 10, 19

(This space for State use only)

API Number Assigned: 430433016502

Approval:

RECEIVED
JUN 14
DIV. OF OIL, GAS & MINING

(1\93)

(See Instructions on Reverse Side)

**Terry P. Miglicco, P.E.**
Operations Engineer
Anschutz Ranch/Painter Team
Western U.S. Gas Business Unit

**BP Amoco Exploration**
501 WestLake Park Boulevard
Houston, Texas 77079
Telephone: (281) 366-2000

**BP** Amoco

June 9, 1999

State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, Utah 84114-5801

Gentleman,

**Subject: Summit County, Anschutz East Field, W31-04 Re-entry Horizontal Well Application For Approval**

BP Amoco requests your approval to re-enter producing well W31-04 in the Anschutz Ranch East Field in Summit County, Utah and drill two horizontal laterals under balanced. These laterals are expected to improve sweep efficiency and enhance recovery from the Nugget Sand formation. The current producing intervals in W31-04 will be squeezed with cement (via Sundry Notice) utilizing a workover rig. A drilling rig will be moved in and a whip stock will be set to cut a window in the top of the Nugget Sand to initiate the horizontal sections in the well. This well is located within the Anschutz Ranch East Unit; therefore, all Working Interest Owners will have approved this operation per the Unit Operating Agreement, prior to commencing.

BP Amoco has the highest level of commitment to the environment and as such have no plans to flare any of the returned or produced gas. However, should upsets or pressure surges from the well occur, flaring would be necessary to minimize any damage to the formation (per R649-3-20.4.2). This limited amount of flaring would occur only until fluid weights have been compensated enough to extinguish the flare. The gas flared would be predominantly nitrogen and would not be expected to exceed 3-5 MMCFD.

Should you have any questions, please do not hesitate to contact Terry Miglicco at 281-646-8370 or Chris Cecil at 281-646-3904. To arrange a site visit contact Stacy Swingle in Evanston, Wyoming at 307-679-3112. Following your evaluation, please fax your approval to 281-366-7937.

Thank You,

Terry Miglicco

TM:bh

RECEIVED
JUN 14 1999
DIV. OF OIL, GAS & MINING

**ANSCHUTZ RANCH EAST UNIT WELL NO. W31-04B**
**Underbalanced Dual Lateral Horizontal Sidetrack**

Proposed Operations*

*Presented @ 6-21-99 meeting w/ DOGM. JRB, RJK, GLH, BH, DJJ, KMH, JLT. in attendance

BP Amoco Exploration Company proposes to re-enter and re-drill the above-captioned well as a directional well. The well is designed to be drilled as a "dual lateral horizontal" type deviated wellbore with a 5-7/8" hole size. After pulling production tubing and packer, the existing Nugget perforations will be adandoned with cement plugs and the casing will be pressure tested. Any residual cement and stringers will then be cleaned out down to 13,030' prior to setting the casing whipstock. A gyro survey will be run to establish the exact wellbore position.

The south lateral will be kicked off at approximately 13,011' and inclination built up to 98.6 degrees at 12.0 degrees/100' in a southeast direction. Angle will be maintained at 98.6 degrees through the Nugget productive interval to a total measured depth of 16,000' (12,970' TVD). Total departure of the well will be approximately 3,545' from the surface location at total depth (see attached well profile proposal from Anadrill). Upon clean out of the south lateral, a drill pipe conveyed GR/CNL/Density log will be attempted.

The north lateral will then be kicked off the low side in open hole at approximately 13,071' and inclination built up to 108.4 degrees at 13.0 degrees/100' in a northeast direction. Angle will be maintained at 108.4 degrees through the Nugget productive interval to a total measured depth of 16,067' (12,658' TVD). Total departure of the well will be approximately 3,143' from the surface location at total depth (see attached well profile proposal from Anadrill). Upon clean out of the north lateral, a drill pipe conveyed GR/CNL/Density log will be attempted.

The Nugget formation in both the south and north laterals will be tested for production via an open hole completion.

# Drilling Program

**Anschutz Ranch East Unit Well No. W31-04B**

**NW/4 Section 31-T4N-R8E**
**Summit County, Utah**

1. **Estimated Formation Tops:** GL: 7896'
KB: 7918'

| Formation | Depth | TVD |
|---|---|---|
| Frontier | 3,945' | 3,940' |
| Aspen | 5,315' | 5,306' |
| Preuss | 10,025' | 10,008' |
| Twin Creek | 11,500' | 11,481' |
| Nugget | 13,004' | 12,953' |
| Total Depth (south lateral) | 16,000' | 12,967' |
| Total Depth (north lateral) | 16,067' | 12,658' |

2. Estimated depths at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered:

| Zone | Depth | Contents |
|---|---|---|
| Nugget | 13,004' | Water & Gas |

No additional casing and cementing will be done to protect potentially productive hydrocarbons, fresh water zones, abnormal pressure zones and prospectively valuable mineral deposits. Plans are to test the north and south horizontal laterals as open hole completions (see attached wellbore diagram).

3. A. The following wellhead equipment is installed on the existing well and will remain in place:

Casinghead 13-3/8" x 13-5/8" x 5,000 psi WP
Casing Spool 13-5/8" x 11" x 5,000 psi WP
Tubinghead 11" x 7-1/16" x 5,000 psi WP

B. Drilling BOP Equipment will be installed to meet requirements as shown on the attached schematic diagrams. After nippling up on the 7" casing and prior to drilling out, blind rams, pipe rams, wing valves, manifold, upper and lower kelly cock and safety valve will be pressure tested to 5,000 psi. The annular preventers will be tested to 2,500 psi. Thereafter, the BOP will be tested every 30 days while drilling. In addition, the

blind rams and pipe rams will be function-tested on trips and the annular preventers will be function-tested once a week.

4. A. **Proposed Casing Program: There are no plans to run additional casing in this well - the sidetrack will occur from the existing 7" production casing listed below(**).**

| Purpose | Interval | Hole Size | Casing Size | Wt/Ft | Grade | Cond | Thread |
|---|---|---|---|---|---|---|---|
| Production | 0 - TD | 8-1/2" | 7" | 26-35# | S-95 | Used | LTC |

Minimum design safety factors: Burst-1.0, Collapse-1.0, Joint Strength-1.6
** Casing was run in original well prior to re-entry proposal.

4. B. **Cementing Program: There are no plans to run additional casing or cement in this well - the sidetrack will occur from the existing 7" production casing listed above(***).**

*** Cement was pumped in original well prior to re-entry proposal.

5. Drilling mud program, type and characteristics, weight, viscosity, fluid loss:

| Interval | Type Mud | Wt, ppg | Viscosity Sec API | Water Loss CC/ 30 Min |
|---|---|---|---|---|
| 13011'-TD | Water/Polymer/ Foam | 3.5-8.4 | * | No Control |

* Foam quality as needed for hole cleaning and stability

6. A. Testing Program: No DST's are anticipated or planned.

B. Logging Program: Plans are to run a gamma ray/neutron/density log on drill pipe immediately following the drilling of both the north and south lateral.

C. Coring Program: None

D. Stimulation Program: None - the horizontal laterals will be tested as an open hole completion.

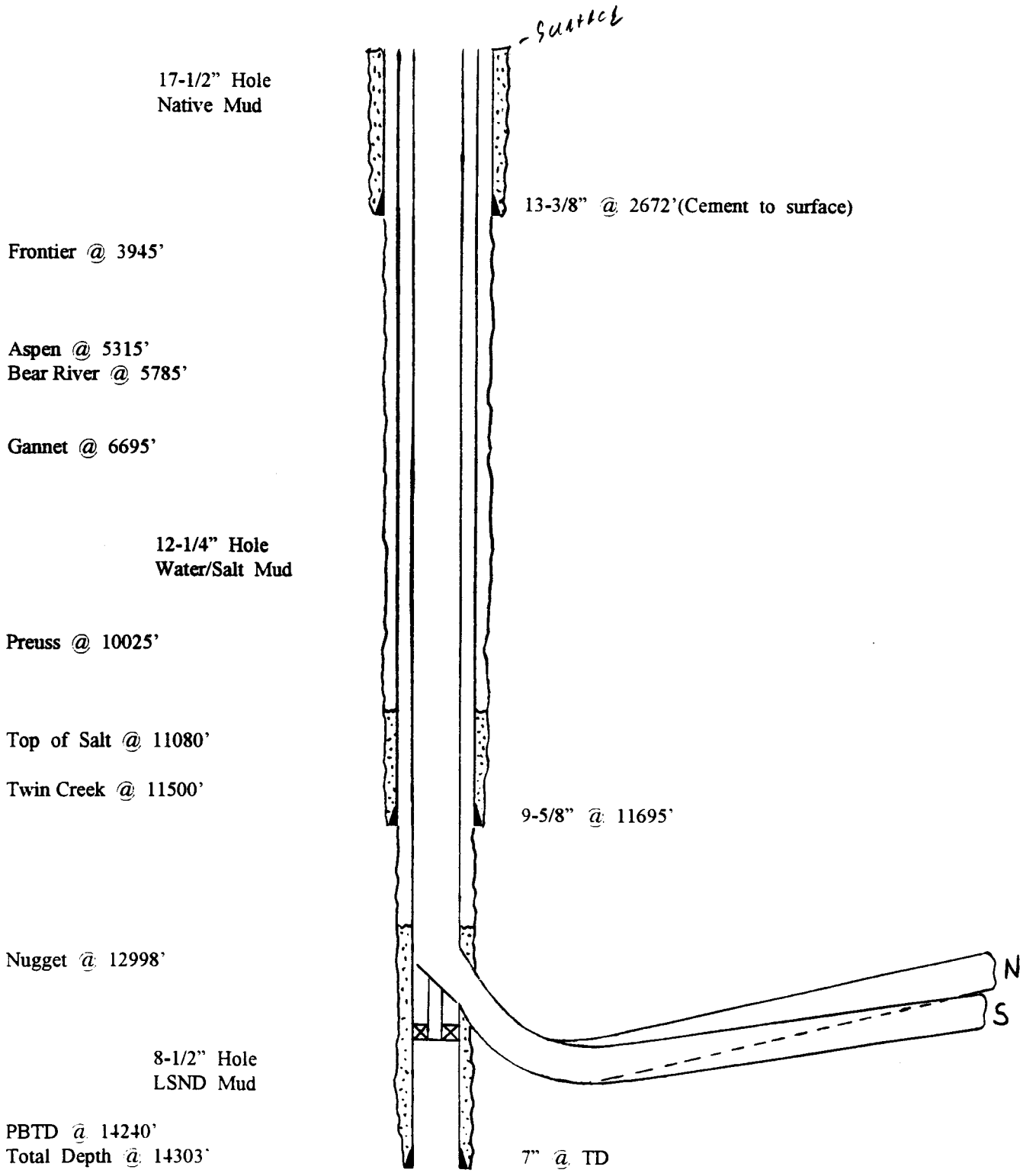
7. No abnormal pressures or temperatures are anticipated. Bottom hole pressure is anticipated to average 3000 psi in the lateral sections of both the north and south horizontal legs. Bottom hole temperature is expected to be 200 degs F.

8. Auxiliary Equipment
   A. Upper and lower Kelly Cock.
   B. Full opening floor safety valve with subs.
   C. 3" rig choke manifold with remote control choke.
   D. Monitor system on pit level, audio and visual
   E. TESCO integrated underbalanced drilling surface control system
   F. Surface compression system to capture and re-inject hydrocarbon production from the well into the production flowline and minimize emissions to the atmosphere

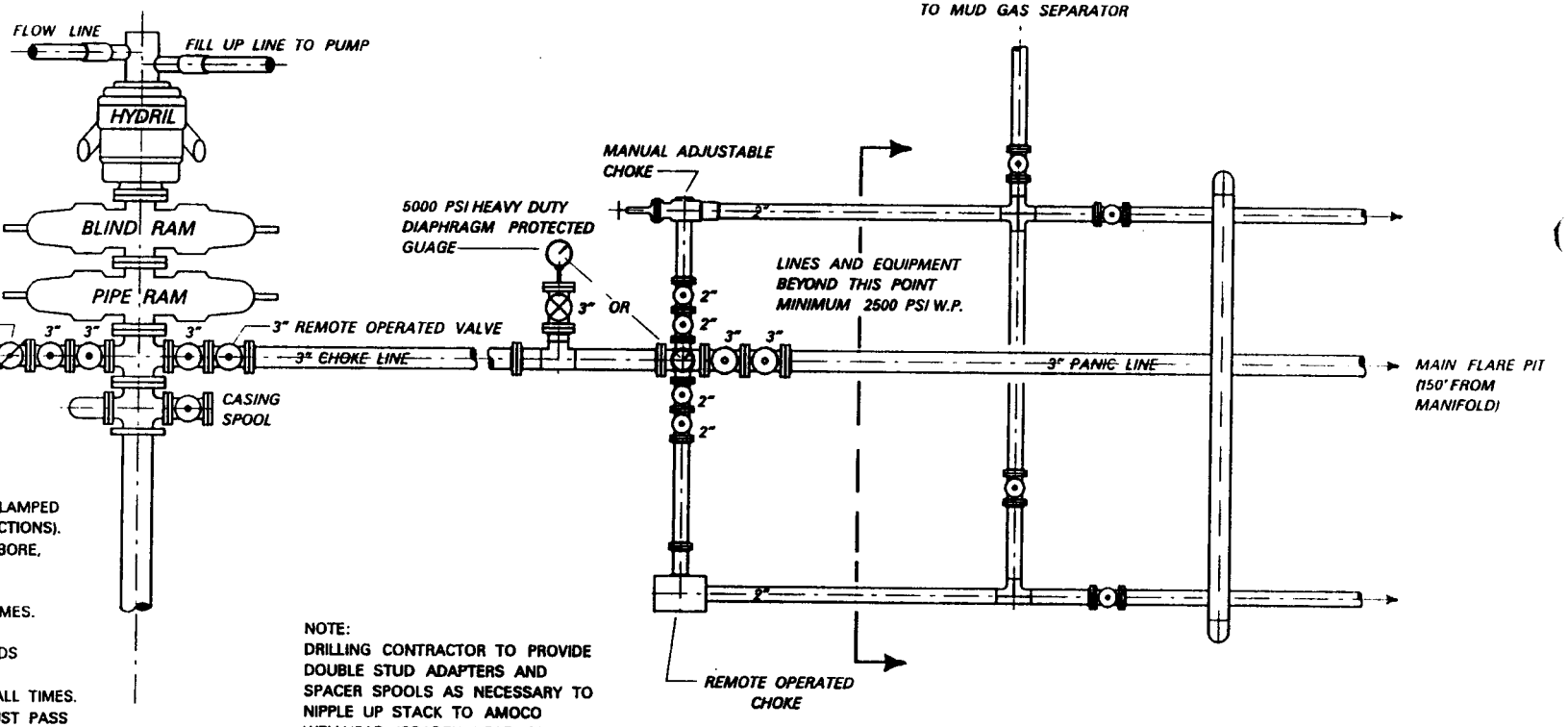
Anticipated starting date based upon approval will be July 15, 1999.
Duration of the drilling operations will be approximately 90 days.

**ANSCHUTZ RANCH EAST WELL No. W 31-04**

**"Planned" Wellbore Diagram**



# MINIMUM BLOW-OUT PREVENTER REQUIREMENTS
## 5,000 PSI W.P.




NOTE:
1. DRILLING NIPPLE TO BE SO CONSTRUCTED THAT IT CAN BE REMOVED WITHOUT USE OF A WELDER, THROUGH ROTARY TABLE OPENING: WITH MINIMUM I.D. EQUAL TO PREVENTER BORE.
2. WEAR RING TO BE PROPERLY INSTALLED IN HEAD AT ALL TIMES WHILE DRILLING.

NOTE:
1. BLOW OUT PREVENTER AND ALL FITTINGS MUST BE IN GOOD CONDITION 5000 PSI W.P. MINIMUM.
2. ALL CONNECTIONS TO BE WELDED, CLAMPED OR FLANGED (NO THREADED CONNECTIONS).
3. A STRING INSIDE BOP AND A FULL BORE, 5000 PSI W.P. SAFETY VALVE WITH PROPER CONNECTIONS MUST BE AVAILABLE ON RIG FLOOR AT ALL TIMES.
4. ALL CHOKE AND KILL LINES TO BE SECURELY ANCHORED, ESPECIALLY ENDS OF CHOKE LINES.
5. KILL LINE MUST BE CONNECTED AT ALL TIMES.
6. EQUIPMENT THROUGH WHICH BIT MUST PASS SHALL BE AS LARGE AS INSIDE DIAMETER OF THE CASING BEING DRILLED THROUGH.
7. MUST HAVE UPPER AND LOWER KELLY COCK ON KELLY.
8. EXTENSION WRENCHES AND HAND WHEELS TO BE PROPERLY INSTALLED AND BRACED AT ALL TIMES.
9. REMOTE BOP CONTROL TO BE LOCATED AS CLOSE TO DRILLER"S POSITION AS FEASIBLE.
10. BLOW-OUT PREVENTER CLOSING EQUIPMENT SHALL HAVE SUFFICIENT CAPACITY TO FULFILL REQUIREMENTS OF CURRENT FEDERAL REGISTER (43 CFR) DATED NOV. 1988.
11. NO COLLECTOR BOTTLES, SURGE TANKS OR BUFFER CHAMBERS DOWNSTREAM OF THE CHOKE MANIFOLD.
12. ALL TURNS TO BE MADE WITH TARGETED TEES (18-24" MIN.). NO BENDS OR SWEEPS IN LINE FROM BOP TO CHOKE MANIFOLD.
13. IF A FLEXIBLE HOSE IS TO BE USED AS A CHOKE LINE, IT MUST BE APPROVED BY AMOCO PRIOR TO RIGGING UP.
14. LOCK TO BE INSTALLED ON BLIND RAM CONTROL.

NOTE:
DRILLING CONTRACTOR TO PROVIDE DOUBLE STUD ADAPTERS AND SPACER SPOOLS AS NECESSARY TO NIPPLE UP STACK TO AMOCO WELLHEAD (BRADEN HEAD OR CASING SPOOL). DRILLING CONTRACTOR ALSO TO PROVIDE HEATED CHOKE HOUSE WITH SUFFICIENT AREA TO CHANGE OUT COMPONENTS EASILY.

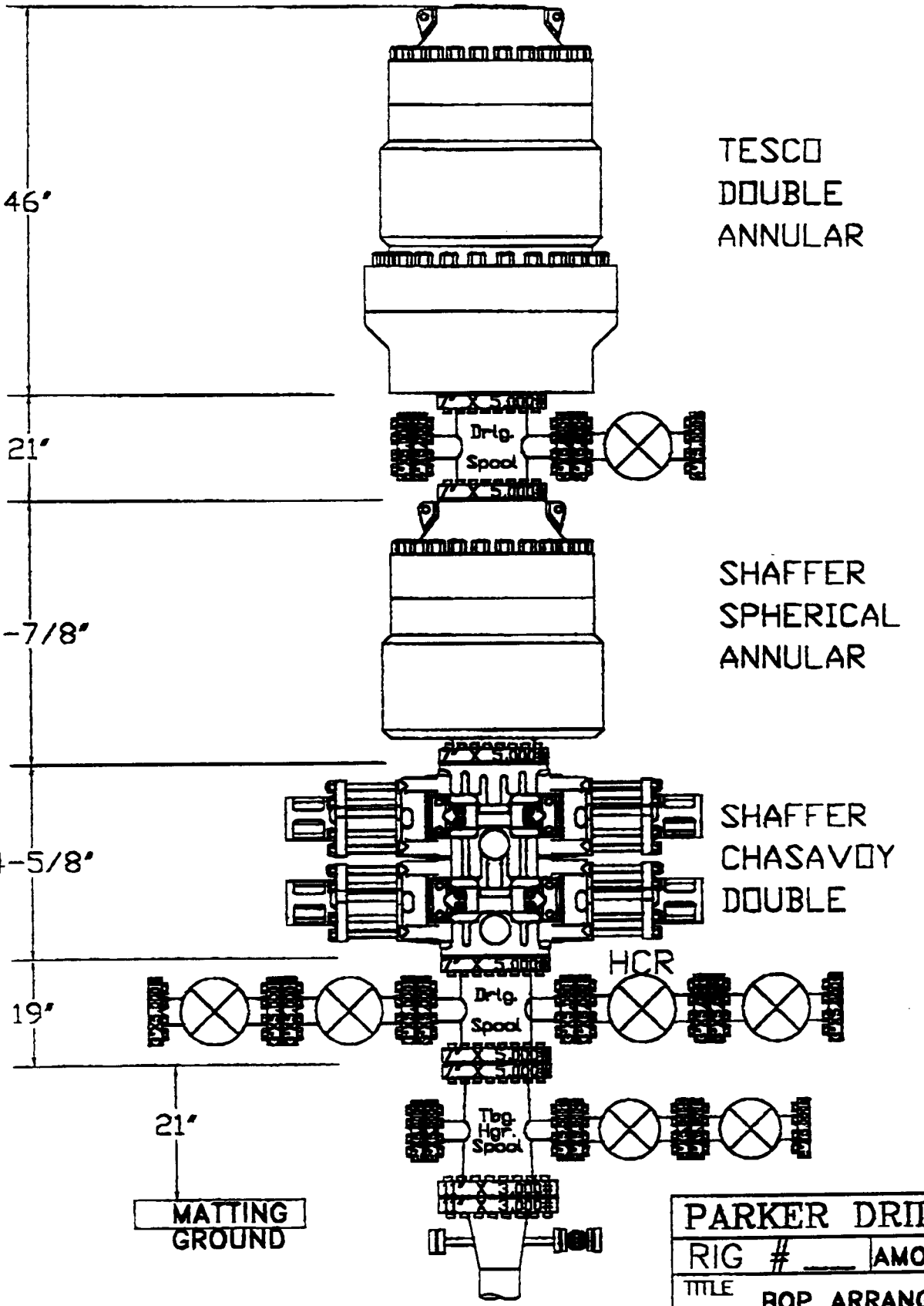
NOTE:
1. ALL UNMARKED VALVES TO BE FULL-OPENING GATE OR PLUG VALVES, METAL TO METAL SEAL, 5000 PSI W.P.

NOTE:
1. CHOKE ASSEMBLY VERTICAL FOR ILLUSTRATION ONLY. SHOULD BE HORIZONTAL ON RIG. ANCHOR ALL LINES SECURELY EVERY 30' AND WITHIN 5' OF END OF LINE.
2. DRILLING CONTRACTOR TO BE RESPONSIBLE FOR PROVIDING ALL LINES AND VALVES.

ROTARY TABLE TO MATTING = 202"

TOTAL B.O.P. HEIGHT INCLUDING RING GASKETS = 165-3/4"

CLEAR HEIGHT TO CHANGE ANNULAR ELEMENT = 36-1/4"




| | |
|---|---|
| PARKER DRILLING | |
| RIG # ___ | AMOCO |
| TITLE | BOP ARRANGEMENT 7" X 5,000# |

DATE: MAY 5, 1999

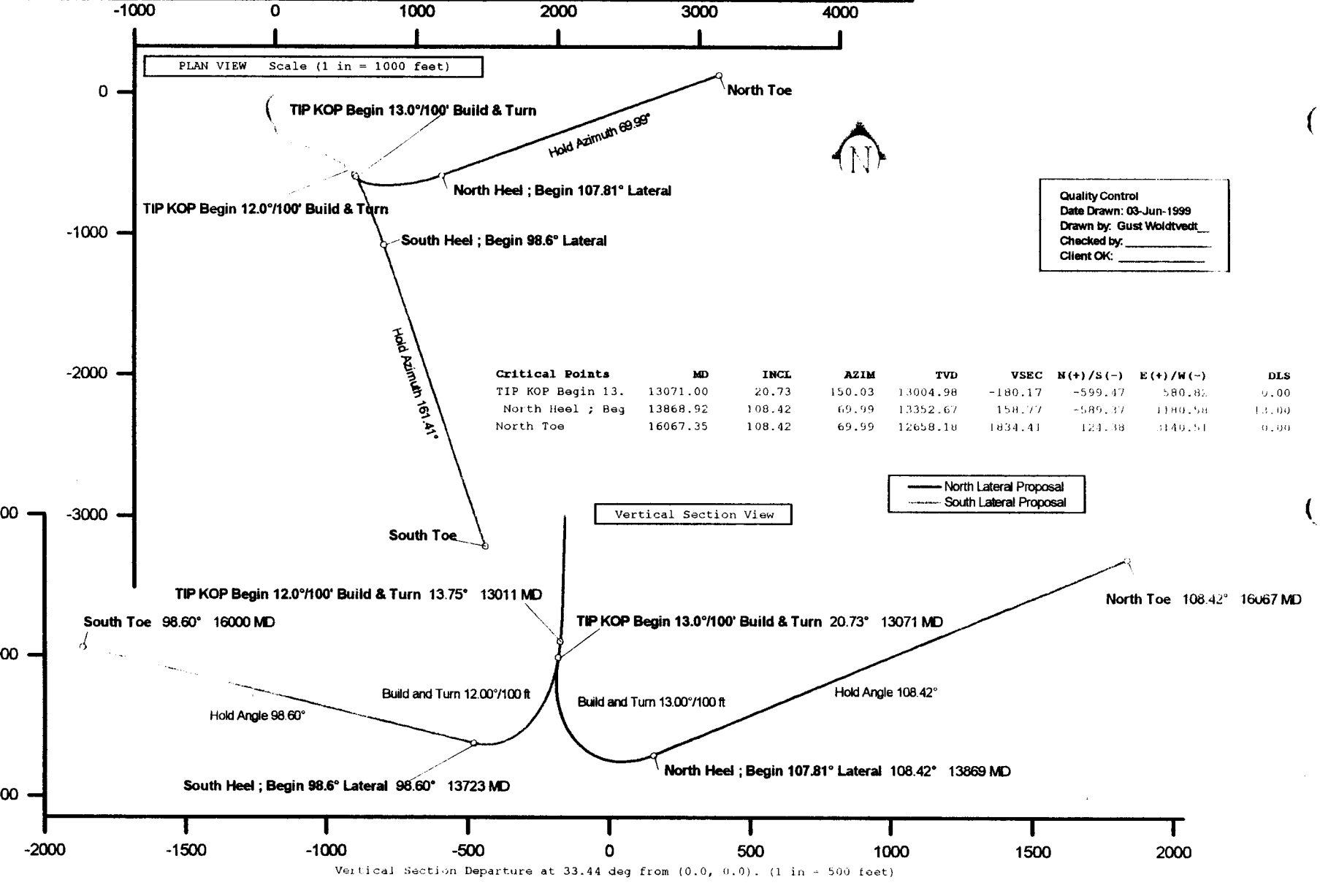
Schlumberger
Anadrill

# Amoco Production Company

BP Amoco

| WELL | FIELD | STRUCTURE |
|---|---|---|
| Sec 31 T4N R8E Well W31-04 | UT Summit County, Utah | Amoco Anschutz Ranch East Field |

| | | |
|---|---|---|
| Magnetic Parameters<br>Model: BGS 1998<br>Dip: 62.617° Mag Dec: 15.012°<br>Date: April 20, 1999 FS: 50870.2 nT | Surface Location<br>Lat: N38 7 11.006 Lon: W118 27 22.609<br>North: 0.00 ftUS East: 0.00 ftUS<br>Grid Conv: -4.4560° Scale Fact:1.0003 | Miscellaneous<br>Slot: W31-04 (Rough Coordinates) Plan# : Rev 8<br>Elev Ref: RKB(7926.00ft above MSL)<br>Date Drawn: 03:47:46PM 03-Jun-1999 |




| Critical Points | MD | INCL | AZIM | TVD | VSEC | N(+)/S(-) | E(+)/W(-) | DLS |
|---|---|---|---|---|---|---|---|---|
| TIP KOP Begin 13. | 13071.00 | 20.73 | 150.03 | 13004.98 | -180.17 | -599.47 | 580.82 | 0.00 |
| North Heel ; Beg | 13868.92 | 108.42 | 69.99 | 13352.67 | 158.77 | -589.37 | 1180.58 | 13.00 |
| North Toe | 16067.35 | 108.42 | 69.99 | 12658.18 | 1834.41 | 124.38 | 3140.51 | 0.00 |

Schlumberger
Anadrill

# Proposed Well Profile

| | | | |
|---|---|---|---|
| **Client:** | Amoco Production Company | **Survey Computation Method:** | Minimum Curvature |
| **Field:** | UT Summit County (1894860) | **DLS Computation Method:** | Lubinski |
| **Structure:** | BP Amoco Anschutz Ranch East Field | **Vertical Section Azimuth:** | 160.760° |
| **Well:** | Sec 31 T4N R8E Well W31-04 | **Vertical Section Origin:** | N 0.000 ft, E 0.000 ft |
| **Borehole:** | South Lateral Rev 8 | **TVD Reference:** | RKB |
| **API #:** | | | 7926.0 ft above MSL |
| **Date:** | June 03, 1999 | **Magnetic Declination:** | |
| **Grid Convergence:** | | **Total Field Strength:** | |
| **Scale Factor:** | | **Dip:** | |
| | | **Declination Date:** | April 21, 1999 |
| **Location:** | | **Magnetic Declination Model:** | BGS 1998 |
| : | | **North Reference:** | Grid North |
| **Coordinate System:** | NAD27 Utah State Planes, Central Zone, US Feet | **Coordinate Reference To:** | Well Head |

| Station ID | MD (ft) | Incl (°) | Azim (°) | TVD (ft) | VSec (ft) | N/-S (ft) | E/-W (ft) | Closure (ft) | at Azim (°) | DLS (°/100ft) | TF (°) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TIP KOP Begin 12.0°/100' Build & Turn | 13011.00 | 13.75 | 144.00 | 12947.71 | 740.09 | -584.48 | 571.31 | 817.31 | 135.65 | 0.00 | 17.3 |
| | 13100.00 | 24.15 | 151.72 | 13031.78 | 768.28 | -609.14 | 586.19 | 845.38 | 136.10 | 12.00 | 9.9 |
| | 13200.00 | 36.03 | 155.22 | 13118.16 | 817.94 | -654.02 | 608.29 | 893.18 | 137.07 | 12.00 | 6.9 |
| | 13300.00 | 47.96 | 157.14 | 13192.35 | 884.52 | -715.17 | 635.15 | 956.49 | 138.39 | 12.00 | 5.4 |
| | 13400.00 | 59.92 | 158.45 | 13251.11 | 965.11 | -789.90 | 665.58 | 1032.92 | 139.88 | 12.00 | 4.7 |
| | 13500.00 | 71.88 | 159.47 | 13291.87 | 1056.18 | -874.95 | 698.26 | 1119.42 | 141.41 | 12.00 | 4.3 |
| | 13600.00 | 83.85 | 160.36 | 13312.86 | 1153.75 | -966.61 | 731.75 | 1212.35 | 142.87 | 12.00 | 4.1 |
| | 13700.00 | 95.82 | 161.21 | 13313.15 | 1253.57 | -1060.86 | 764.61 | 1307.69 | 144.22 | 12.00 | 4.1 |
| South Heel ; Begin 98.6° Lateral | 13723.27 | 98.60 | 161.41 | 13310.23 | 1276.65 | -1082.73 | 772.01 | 1329.78 | 144.51 | 12.00 | 0.0 |
| | 15405.65 | 98.60 | 161.41 | 13058.54 | 2940.00 | -2659.37 | 1302.36 | 2961.15 | 153.91 | 0.00 | 0.0 |
| South Toe | 16000.00 | 98.60 | 161.41 | 12969.63 | 3527.62 | -3216.36 | 1489.72 | 3544.61 | 155.15 | 0.00 | 0.0 |

Schlumberger
Anadrill

# Proposed Well Profile

| | | | |
|---|---|---|---|
| **Client:** | Amoco Production Company | **Survey Computation Method:** | Minimum Curvature |
| **Field:** | UT Summit County (1894860) | **DLS Computation Method:** | Lubinski |
| **Structure:** | BP Amoco Anschutz Ranch East Field | **Vertical Section Azimuth:** | 160.590° |
| **Well:** | Sec 31 T4N R8E Well W31-04 | **Vertical Section Origin:** | N 0.000 ft, E 0.000 ft |
| **Borehole:** | North Lateral | **TVD Reference:** | RKB |
| | Rev 8 Plan 13° DLS & 108.42° Inc | | 7926.0 ft above MSL |
| **Date:** | May 18, 1999 | **Magnetic Declination:** | |
| **Grid Convergence:** | | **Total Field Strength:** | |
| **Scale Factor:** | | **Dip:** | |
| | | **Declination Date:** | |
| **Location:** | | **Magnetic Declination Model:** | BGS 1998 |
| | | **North Reference:** | Grid North |
| **Coordinate System:** | | **Coordinate Reference To:** | Well Head |

| Station ID | MD (ft) | Incl (°) | Azim (°) | TVD (ft) | VSec (ft) | N/-S (ft) | E/-W (ft) | Closure (ft) | at Azim (°) | DLS (°/100ft) | TF (°) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TIP KOP Begin 13.0°/100' Build & Turn | 13071.00 | 20.73 | 150.03 | 13004.98 | 758.41 | -599.47 | 580.82 | 834.69 | 135.91 | 0.00 | -74.2 |
| | 13100.00 | 22.05 | 140.33 | 13031.99 | 768.57 | -608.11 | 586.86 | 845.10 | 136.02 | 13.00 | -65.1 |
| | 13150.00 | 25.44 | 126.50 | 13077.79 | 786.29 | -621.73 | 601.50 | 865.07 | 135.95 | 13.00 | -52.4 |
| | 13200.00 | 29.82 | 116.11 | 13122.10 | 804.07 | -633.61 | 621.32 | 887.41 | 135.56 | 13.00 | -43.2 |
| | 13250.00 | 34.82 | 108.30 | 13164.36 | 821.70 | -643.57 | 646.06 | 911.91 | 134.89 | 13.00 | -36.6 |
| | 13300.00 | 40.20 | 102.30 | 13204.02 | 838.93 | -651.50 | 675.41 | 938.42 | 133.97 | 13.00 | -31.8 |
| | 13350.00 | 45.83 | 97.52 | 13240.58 | 855.55 | -657.29 | 708.99 | 966.80 | 132.83 | 13.00 | -28.3 |
| | 13400.00 | 51.62 | 93.59 | 13273.55 | 871.34 | -660.87 | 746.37 | 996.90 | 131.52 | 13.00 | -25.8 |
| | 13450.00 | 57.52 | 90.25 | 13302.53 | 886.11 | -662.18 | 787.06 | 1028.57 | 130.08 | 13.00 | -23.8 |
| | 13500.00 | 63.50 | 87.32 | 13327.14 | 899.66 | -661.23 | 830.55 | 1061.62 | 128.52 | 13.00 | -22.4 |
| | 13550.00 | 69.54 | 84.68 | 13347.05 | 911.82 | -658.01 | 876.27 | 1095.82 | 126.90 | 13.00 | -21.3 |
| | 13600.00 | 75.61 | 82.25 | 13362.02 | 922.43 | -652.57 | 923.63 | 1130.90 | 125.24 | 13.00 | -20.6 |
| | 13650.00 | 81.70 | 79.94 | 13371.85 | 931.35 | -644.97 | 972.04 | 1166.55 | 123.57 | 13.00 | -20.1 |
| | 13700.00 | 87.81 | 77.71 | 13376.42 | 938.47 | -635.33 | 1020.86 | 1202.41 | 121.90 | 13.00 | -19.9 |
| | 13750.00 | 93.92 | 75.49 | 13375.66 | 943.71 | -623.75 | 1069.47 | 1238.07 | 120.25 | 13.00 | -20.0 |
| | 13800.00 | 100.03 | 73.24 | 13369.59 | 946.98 | -610.39 | 1117.24 | 1273.10 | 118.65 | 13.00 | -20.2 |
| | 13850.00 | 106.12 | 70.91 | 13358.29 | 948.26 | -595.42 | 1163.56 | 1307.05 | 117.10 | 13.00 | -20.8 |
| Heel ST2; Begin 108.42° Lateral | 13868.92 | 108.42 | 69.99 | 13352.67 | 948.21 | -589.37 | 1180.58 | 1319.52 | 116.53 | 13.00 | 0.0 |
| Toe ST2 | 16067.35 | 108.42 | 69.99 | 12658.18 | 926.36 | 124.38 | 3140.51 | 3142.97 | 87.73 | 0.00 | 0.0 |

43-043-30165

FORM 3

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

# APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. Lease Designation and Serial Number: FEE

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name: Anschutz Ranch East

1A. Type of Work: DRILL ☐ DEEPEN ☐

8. Farm or Lease Name:

B. Type of Well: OIL ☐ GAS ☒ OTHER: SINGLE ZONE ☐ MULTIPLE ZONE ☐

9. Well Number: W31-04B

2. Name of Operator: Amoco Production Company

10. Field and Pool, or Wildcat: Nugget

3. Address and Telephone Number: PO Box 829, Evanston WY 82931-0829

11. QtrQtr, Section, Township, Range, Meridian: NW/4, NW/4, Section 31 T4N, R8E

4. Location of Well (Footages)
At Surface: 111' FNL X 737' FWL
At Proposed Producing Zone: See attached survey plat for north and south lateral bottom hole locations

12. County: Summit 13. State: UTAH

14. Distance in miles and direction from nearest town or post office: 20 Mi. SW of Evanston. 3 Mi. from A.R.E. plant

15. Distance to nearest property or lease line (feet):

16. Number of acres in lease: Unitized

17. Number of acres assigned to this well:

18. Distance to nearest well, drilling, completed, or applied for, on this lease (feet): Sidetrack Existing W31-04

19. Proposed Depth: 16,070' MD (12,660' TVD)

20. Rotary or cable tools: Rotary

21. Elevations (show whether DF, RT, GR, etc.): 7,896' GR

22. Approximate date work will start: Mid July

## 23. PROPOSED CASING AND CEMENTING PROGRAM

| SIZE OF HOLE | GRADE, SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT |
|---|---|---|---|---|
| 5 7/8" | No casing | | | Open hole completion- no casing or cerment. |
| | | | | |
| | | | | |
| | | | | |

DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

SEE ATTACHED PROPOSED OPERATIONS AND DRILLING PROGRAM.

RECEIVED
JUN 30 1999
DIV OF OIL, GAS & MINING

24.
Name & Signature: Margaret Schelling (307) 789-2600 Title: Permitting Agent Date: June 29,199

(This space for State use only)

API Number assigned: 430433016502

Approval

Approved by the Utah Division of Oil, Gas and Mining

Date: 7/19/99

By:

(See Instructions on Reverse Side)

(1/93)

FORM 9

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

5. Lease Designation and Serial Number: FEE

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name: ANSCHUTZ RANCH EAST

8. Well Name and Number: A.R.E. W31-04B

9. API Well Number: 4304330165O

10. Field and Pool, or Wildcat: ANSCHUTZ RANCH EAST

# SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

1. Type of Well: OIL ☐ GAS ☑ OTHER:

2. Name of Operator: AMOCO PRODUCTION COMPANY

3. Address and Telephone Number: P.O. BOX 3092, HOUSTON, TEXAS, 77253-3092 PH. 281-366-2036

4. Location of Well
Footages: 111'FNL x 737'FWL County: SUMMIT
QQ, Sec., T., R., M.: SEC. 31 TWP: 4N RGE: 8E State: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| NOTICE OF INTENT (Submit in Duplicate) | | SUBSEQUENT REPORT (Submit Original Form Only) | |
|---|---|---|---|
| ☐ Abandon | ☐ New Construction | ☐ Abandon * | ☐ New Construction |
| ☐ Repair Casing | ☐ Pull or Alter Casing | ☐ Repair Casing | ☐ Pull or Alter Casing |
| ☐ Change of Plans | ☐ Recomplete | ☐ Change of Plans | ☐ Reperforate |
| ☐ Convert to Injection | ☐ Reperforate | ☐ Convert to Injection | ☐ Vent or Flare |
| ☐ Fracture Treat or Acidize | ☐ Vent or Flare | ☐ Fracture Treat or Acidize | ☐ Water Shut-Off |
| ☐ Multiple Completion | ☐ Water Shut-Off | ☐ Other | |
| ☑ Other SQUEEZE PERFORATIONS | | | |
| Approximate date work will start JULY 12, 1999 | | Date of work completion | |

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

THE EXISTING PERFORATIONS ARE TO BE SQUEEZED USING A WORKOVER RIG IN PREPARATION FOR MOVING IN A DRILLING RIG (JULY 19TH) TO BEGIN THE DRILLING OF MULTI-LATERAL HORIZONTAL SECTIONS TO ENHANCE PRODUCTIVITY.

- THIS SUNDRY IS TO REQUEST APPROVAL TO SQUEEZE PERFORATION.

(SEE THE ATTACHED PROCEDURE)

13.
Name & Signature: Jerry Mylard Title: PETROLEUM ENGR. Date: 7/1/99

(This space for State use only)

APPROVED (See Instructions on Reverse Side)
The Utah Division of Oil, Gas and Mining
Robert J. Krueger, PE, Petroleum Engineer

Date: 7-6-99

**To:** Stacy Swingle
Kenton Schoch

**Date:** July 12, 1999

**Subject:** Anschutz Ranch East W31-04 P&A Procedure

Please see the attached procedure for plugging the existing perforations of Anschutz Ranch East well W31-04 in preparation for drilling horizontal laterals to enhance productivity. This well produces approximately 3.7 MMCFD x 29 BCPD x 37 BWPD. All perforations will be squeezed and a casing inspection run to determine casing wear. This well will be left shutin with perforations squeezed and the hole loaded with water. Should you have any questions please contact me in Houston at 281-366-2036.

Terry Miglicco
Operations Engineer

# Squeezing Perforations
## Anschutz Well No. W31-04

Location: Section 31, T4N, R8E County: Summit State: Utah

**Objective:** Squeeze all perforations and run casing inspection log in preparation for drilling multi-lateral horizontal sections at a later date.

**Procedure:**

1.) Shut in well and shutoff chemical injection (if applicable).
2.) MIRU workover rig. Conduct pre-workover safety meeting.
3.) Load the hole with water and POOH with tubing. (Note: 13 chrome tbg. Contact Mike Swick x-2600 to pickup tbg string for refurbishing)
4.) RIH with work string and cement retainer. Set BP at approx. 13,500 ft.
5.) Squeeze lower perforations from 13,588 ft to 14,140 ft md.
6.) Release from bridgeplug and POOH with work string.
7.) RIH with ~~RTTS packer~~ * and set at approximately 12,950 ft md.
8.) Squeeze perforations at 12,998 to 13,450 ft md.
9.) Release ~~RTTS packer~~ from * POOH with packer and work string.
10.) Pressure test casing to 2,000 psi. NOTE: if a leak is detected RIH with RTTS packer, isolate leak and resqueeze as necessary.
11.) RIH and drill out cement to approximately 13,090 ft md. POOH.
12.) RIH with bit and scraper. Scrape casing as necessary from 12,000 ft to top of cement.
13.) Pressure test to 2,000 psi. NOTE: if a leak is detected resqueeze perforations and repeat from line 11.
14.) Rig down workover and rigup Schlumberger electric line. Run USI casing inspection log from TD to surface. Log quality should be discussed with Phil Pattillo (281-366-2133) in Houston prior to rigging down.
15.) Rig down Schlumberger.
16.) Clear all equipment from location.
17.) The well should be left loaded with water and shutin.

* Cement Retainer per Terry McAlicco. 7/6/99

| Contacts: | | |
|---|---|---|
| | Stacy Swingle @307-783-2752 | Workover Foreman |
| | Kenton Schoch @ 307-783-2421 | ARE Process Foreman |
| | Scott Pilch @ 307-789-2638 | Schlumberger |
| | Terry Miglicco @ 281-366-2036 | ARE Operations Engr. (Houston) |

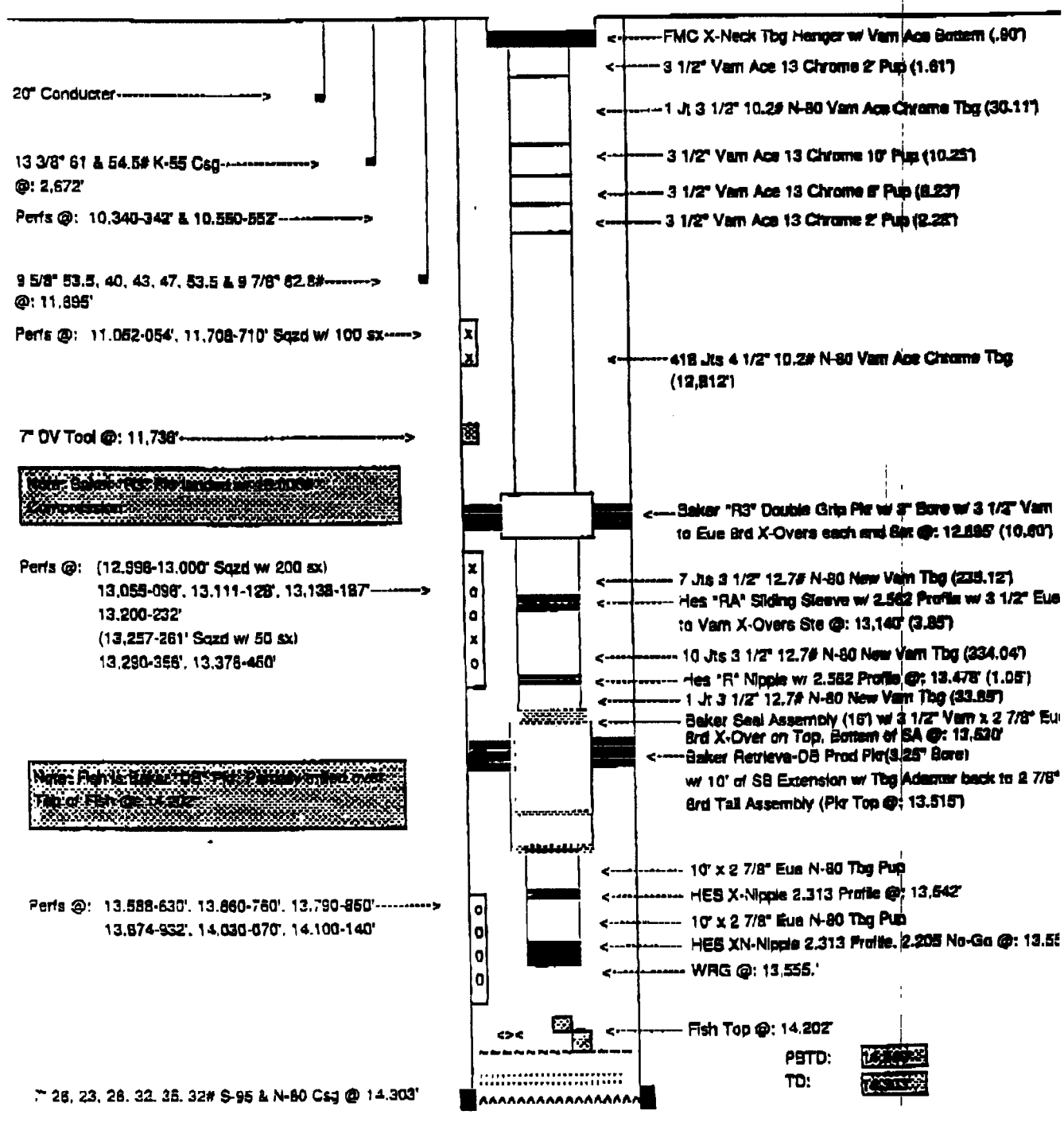
# WELLBORE SCHEMATIC

FIELD: Anschutz Ranch
WELL: ARE W31-04
OPERATOR: Amoco

UPDATED: 12/15/95
BY: Caldwell
KB: 32'

SEC: 31 TWP: 4N RGE: 8E

GRD LVL: 7,894' KB ELE: 7,926'



June 30, 1999

RECEIVED
JUN 30 1999
DIV OF OIL, GAS & MINING

State of Utah
Department of Natural resources
Division of Oil, Gas and Mining

Attention: Lisha Cordova

**Subject: Summit County, Anschutz East Field, W31-04 Re-entry Horizontal Well Application For Approval**

Per our telephone conversation on June 25, 1999 concerning the approval of the APD for W31-04 in our Anschutz Ranch East Unit. Attached is a revised APD with Amoco Production Company as operator. All contracts and agreements concerning the Anschutz Ranch East Unit remain in effect under the name Amoco Production Company. The following are our responses to your other questions.

1. Is there a surface use agreement in place? Yes, a surface use agreement had previously been negotiated with the land owners and remains in effect. The land owner on this particular well has already been contacted and arrangements made to cover damages.

2. Are all lands in the unit fully committed? Yes, all acreage is fully committed.

3. What is the water source to be used for this work program? All water to be used on location will come from the water source well located on the Anschutz Ranch East W21-04 well location. The water will be trucked to the W31-04 location as needed. The permit number for this well is 21-1592.

Should you have any questions please do not hesitate to contact Terry Miglicco at 281-646-2036. Following your evaluation please fax your approval to 281-366-7937.

Thanks You,

Terry Miglicco
BP Amoco
Anschutz Ranch East
Operations Engineer

**BP Amoco**

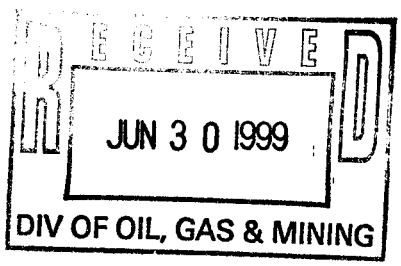
# *FACSIMILE TRANSMISSION*

| To: | From: |
|---|---|
| State Of Utah<br>Department of Natural Resources<br>Division of Oil, Gas and Mining<br><br>Attention: Lisha Cordova<br><br>Fax No.: 801-359-3940 | Terry Miglicco<br>BP Amoco Exploration<br>Western U.S. Gas Business Unit<br>P.O. Box 3092<br>Houston, Texas 77253-3092<br><br>Telephone: 281-366-2036<br>Reply Fax: 281-366-7937 |
| Date: June 30, 1999 | No. of Pages Including Cover: 3 |

Please let me know if you have any questions.

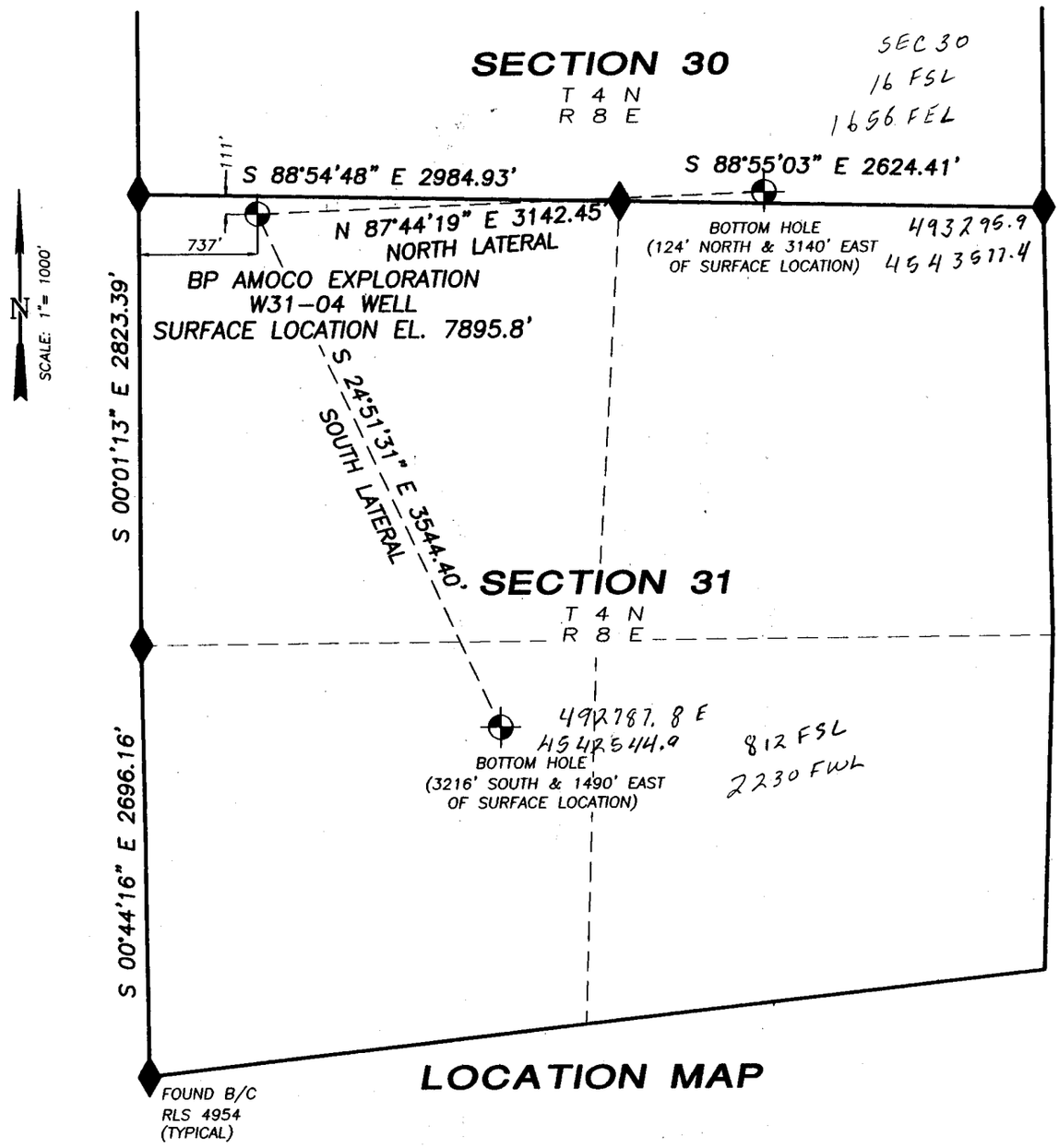
Thank you,

Terry




This communication is intended for the use of the party to which it is addressed and may contain information that is privileged or confidential under applicable law. If you are not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is not permitted. If you have received this communication in error, please notify us immediately and then destroy this communication. Thank you.

*i:\hathaway.doc*




NOTES:

1.) BASIS OF BEARING: UTAH NORTH ZONE GRID AZIMUTH EXPRESSED BY QUADRANT.

2.) BASIS OF ELEVATION: U.S.G.S. QUADRANGLE PORCUPINE RIDGE, UTAH/WYOMING, BM 15 EAM 1965, ELEVATION 7122'.

3.) SURFACE LOCATION IS AN EXISTING WELL HEAD LOCATED AT: LATITUDE 41°02'43.28" N
LONGITUDE 111°05'28.19" W
NAD 1927.

SURVEYED UNDER MY DIRECTION ON
MAY 26, 1999

LICENSED LAND SURVEYOR
6.4.99
No. 278046
STANTON G. TAGGART
STATE OF UTAH

# MAP to ACCOMPANY
## APPLICATION for PERMIT to DRILL
## BP AMOCO EXPLORATION
## W31-04 WELL
## 111' FNL 737' FWL
## SECTION 31, T4N, R8E, SLB&M
## SUMMIT COUNTY, UTAH

UINTA ENGINEERING & SURVEYING, INC.
808 MAIN STREET
EVANSTON, WYOMING 82930
(307) 789-3602

DATE: 06/02/99 JOB #: 99-10-16
DISK #: 500 FILE: 99-10-16
DRAWN BY: Travis Martinez

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 06/14/1999

API NO. ASSIGNED: 43-043-30165

WELL NAME: W31-04B (HORIZ)
OPERATOR: ~~BP AMOCO EXPLORATION CO~~ () AMOCO PRODUCTION COMPANY (N0050)
CONTACT: Margaret Schelling (307) 783-2600

PROPOSED LOCATION:
NWNW 31 - T04N - R08E
SURFACE: 0111-FNL-0737-FWL
Dual Lat. ~~BOTTOM~~: 0812-FSL-2230-FWL (LAT 1) SESW
SUMMIT COUNTY 1656 FSL 1656 FEL (LAT 2) SWSE SEC 30
ANSCHUTZ RANCH EAST FIELD (505)

LEASE TYPE: FEE
LEASE NUMBER:
SURFACE OWNER: Fee

PROPOSED FORMATION: NGSD

| INSPECT LOCATN BY: / / | | |
|---|---|---|
| TECH REVIEW | Initials | Date |
| Engineering | JSK | 6/22/99 |
| Geology | | |
| Surface | | |

RECEIVED AND/OR REVIEWED:

✓ Plat
✓ Bond: Fed[] Ind[] Sta[] Fee[✓]
(No. 831094)
N Potash (Y/N)
N Oil Shale (Y/N) *190-5(B)
✓ Water Permit
(No. 21-1592)
N RDCC Review (Y/N)
(Date: )

Y Fee Surf Agreement (Y/N)

LOCATION AND SITING: 183-11 eff. 11-30-82

___ R649-2-3. Unit* Anschutz Ranch East

___ R649-3-2. General

___ R649-3-3. Exception

✓ Drilling Unit
Board Cause No: 183-11 * AREA Desig.
Date: 11-30-82

___ R649-3-11. Directional Drill

COMMENTS: BP Amoco presented ops. plan to DOGM (JRB, RJK, GCH, BH, DJJ, KMH, JLT) 6/21/99. Need Presite. (Conducted 7-12-99)

STIPULATIONS: ① STATEMENT OF BASIS

Michael O. Leavitt
Governor
Kathleen Clarke
Executive Director
Lowell P. Braxton
Division Director

# State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

July 19, 1999

Amoco Production Company
P.O. Box 829
Evanston, Wyoming 82931-0829

Re: W31-04B Well, 111' FNL, 737' FWL, NW NW, Sec. 31, T. 4 N., R. 8 E., Summit County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. 40-6-1 et seq., Utah Administrative Code R649-3-1 et seq., and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-043-30165.

Sincerely,

John R. Baza
Associate Director

lwp
Enclosures
cc: Summit County Assessor
Bureau of Land Management, State Office

**Operator:** Amoco Production Company tion

**Well Name & Number:** W31-04B

**API Number:** 43-043-30165

**Lease:** Fee **Surface Owner:** Fee

**Location:** NW NW **Sec.** 31 **T.** 4 N. **R.** 8 E.

## Conditions of Approval

1. General

   Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for Permit to Drill.

2. Notification Requirements

   Notify the Division of the following actions during drilling of this well:

   - 24 hours prior to cementing or testing casing
   - 24 hours prior to testing blowout prevention equipment
   - 24 hours prior to spudding the well
   - within 24 hours of any emergency changes made to the approved drilling program
   - prior to commencing operations to plug and abandon the well

   Division contacts (please leave a voice mail message if person is not available to take the call):

   - Dan Jarvis at (801) 538-5338
   - Robert Krueger at (801) 538-5274 (plugging)
   - Carol Daniels at (801) 538-5284 (spud)

3. Reporting Requirements

   All required reports, forms and submittals shall be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

4. Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

# ON-SITE PREDRILL EVALUATION

## Division of Oil, Gas and Mining

OPERATOR: BP Amoco Production Company
WELL NAME & NUMBER: W 31-04B ReDrill
API NUMBER: 43-043-30165
LEASE: Fee (Anschutz Ranch) FIELD/UNIT: Anschutz Ranch East
LOCATION: 1/4,1/4 NWNW Sec: 31 TWP: 4 N RNG: 8 E 111 FNL 737 FWL
LEGAL WELL SITING: 460 F SEC. LINE; 460 F 1/4,1/4 LINE; 920 F ANOTHER WELL.
GPS COORD (UTM): X =492,338E; Y =4,543,517N
SURFACE OWNER: Castle Rock Land & livestock

PARTICIPANTS
Mike Hebertson (DOGM), Kenton Schoch, Fritz Peterson, Stacy Swingle (BP AMOCO) Ken Spoller (Searle Brothers Construction)

REGIONAL/LOCAL SETTING & TOPOGRAPHY
Overthrust Belt dominated by moderately steep hills and moderately incised secondary drainages on the south side of Anschutz Ranch Field the Canyons are more gently sloping on the north facing slopes with steeper more angular sides facing to the south.

SURFACE USE PLAN
CURRENT SURFACE USE: This is an established well pad, located within the confines of an active cattle ranch. Livestock and wildlife use the area extensively.

PROPOSED SURFACE DISTURBANCE: This program will increase the size of the existing pad to 290' X 200'. An already disturbed slope on the Northwest corner of the pad will be cut down and pushed to the South East corner of the pad. No pit will be built, however an existing flare pit will be relocated. The elevation of the existing pad will not change. The well will be drilled with a closed mud system. A secondary escape road will be placed on the Southeast side.

LOCATION OF EXISTING WELLS WITHIN A 1 MILE RADIUS: there are 8 active gas wells within a mile of this site.

LOCATION OF PRODUCTION FACILITIES AND PIPELINES: infrastructure is already in place.

SOURCE OF CONSTRUCTION MATERIAL: Spoil from the expansion of the existing pad will be used to balance out the fill on the southeast corner. A gravel cap will be placed on the pad with material purchased from the Anschutz Ranch Field gravel pit.

ANCILLARY FACILITIES: these facilities are already in place.

WASTE MANAGEMENT PLAN:
All trash garbage and refuse will be placed in wire mesh containers and transported to an approved land fill. All human waste will be

contained in portable septic tank or chemical toilet type facilities. Drill cuttings will be contained in the reserve pit.

ENVIRONMENTAL PARAMETERS:
These have been addressed with the surface owner and an agreement has been reached. No extra impact will occur because of this activity.

AFFECTED FLOODPLAINS AND/OR WETLANDS: None. A secondary drainage lies on the north of the location about 300 yards away.

FLORA/FAUNA: Deer, Elk, Moose, Cougar, Eagles, Hawks, Other indigenous bird species, Aspen, Pine, varieties of grasses, Sage Brush, Rabbit Brush.

SOIL TYPE AND CHARACTERISTICS: Mostly clay with very little sand, lots Of small rocks to larger pit run type gravel and head sized rocks.

SURFACE FORMATION & CHARACTERISTICS: Wasatch Formation Clay with numerous rocks light gray to medium brown in color. Minor sand and Topsoil. Moderate to Poor Permeability.

EROSION/SEDIMENTATION/STABILITY: This location shows little or no erosion since it was constructed 20 years ago and is stable.

PALEONTOLOGICAL POTENTIAL: none required and none observed

RESERVE PIT
CHARACTERISTICS: There will be no reserve pit built. The well will be drilled with a closed mud system. The cuttings will be collected and buried on site. No hazardous cuttings are expected.

LINER REQUIREMENTS (Site Ranking Form attached): the pit will not be lined.

SURFACE RESTORATION/RECLAMATION PLAN
According to the surface use agreement

SURFACE AGREEMENT: an agreement is in place with the surface owner

CULTURAL RESOURCES/ARCHAEOLOGY: None is required and none were observed

OTHER OBSERVATIONS/COMMENTS
When the original location was built a small seasonal spring was encountered in the hill on the west of the pad. A french drain will be installed to drain the water from the new pad surface to the drainage on the north of the location. The well will be drilled in an under balanced state and a closed mud system will be used. Cuttings will be buried on site when the drilling is completed. The surface casing is cemented to the level of the existing pad.

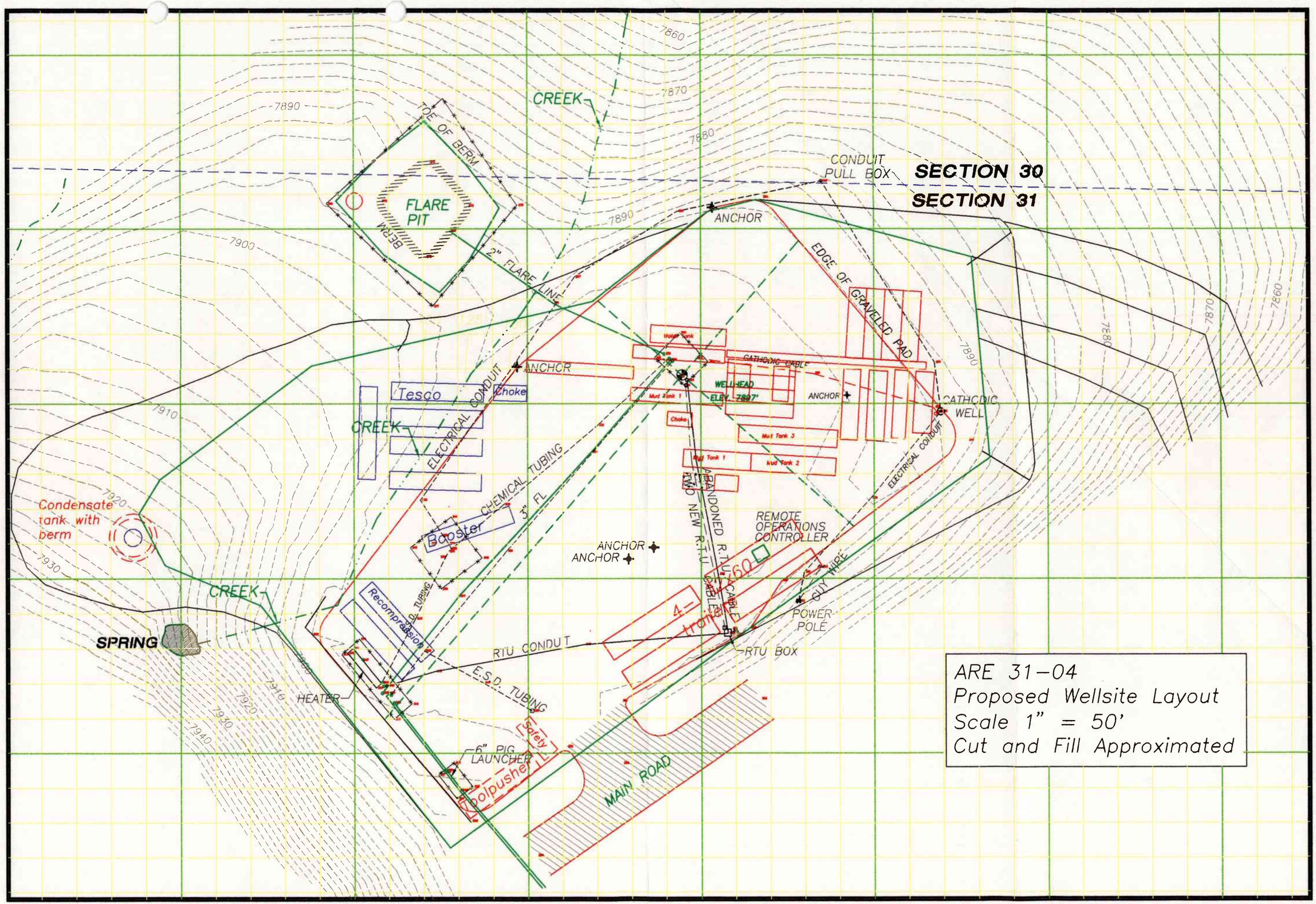
ATTACHMENTS:
Photos were taken of this location and will be placed on file

K. Michael Hebertson — DOGM REPRESENTATIVE
12/July/1999 10:30 AM — DATE/TIME

**Evaluation Ranking Criteria and Ranking Score**
**For Reserve and Onsite Pit Liner Requirements**

| Site-Specific Factors | Ranking | Site Ranking |
|---|---|---|
| Distance to Groundwater (feet) | | |
| >200 | 0 | |
| 100 to 200 | 5 | |
| 75 to 100 | 10 | |
| 25 to 75 | 15 | |
| <25 or recharge area | 20 | 5 |
| Distance to Surf. Water (feet) | | |
| >1000 | 0 | |
| 300 to 1000 | 2 | |
| 200 to 300 | 10 | |
| 100 to 200 | 15 | |
| < 100 | 20 | 0 |
| Distance to Nearest Municipal Well (feet) | | |
| >5280 | 0 | |
| 1320 to 5280 | 5 | |
| 500 to 1320 | 10 | |
| <500 | 20 | 0 |
| Distance to Other Wells (feet) | | |
| >1320 | 0 | |
| 300 to 1320 | 10 | |
| <300 | 20 | 0 |
| Native Soil Type | | |
| Low permeability | 0 | |
| Mod. permeability | 10 | |
| High permeability | 20 | 10 |
| Fluid Type | | |
| Air/mist | 0 | |
| Fresh Water | 5 | |
| TDS >5000 and <10000 | 10 | |
| TDS >10000 or Oil Base Mud Fluid containing significant levels of hazardous constituents | 15<br>20 | 0 |
| Drill Cuttings | | |
| Normal Rock | 0 | |
| Salt or detrimental | 10 | 0 |
| Annual Precipitation (inches) | | |
| <10 | 0 | |
| 10 to 20 | 5 | |
| >20 | 10 | 10 |
| Affected Populations | | |
| <100 | 0 | |
| 10 to 30 | 6 | |
| 30 to 50 | 8 | |
| >50 | 10 | 0 |
| Presence of Nearby Utility Conduits | | |
| Not Present | 0 | |
| Unknown | 10 | |
| Present | 15 | 15 |

**Final Score** 40 (Level III Sensitivity)




ARE 31-04
Proposed Wellsite Layout
Scale 1" = 50'
Cut and Fill Approximated

Form 9

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

# SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

5. Lease Designation and Serial Number: FEE

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name: ANSCHUTZ RANCH EAST

1. Type of Well: OIL ☐ GAS ☑ OTHER:

8. Well Name and Number: A.R.E. W31-04B

2. Name of Operator: AMOCO PRODUCTION COMPANY

9. API Well Number: 43043301650

3. Address and Telephone Number: P.O. BOX 3092, HOUSTON, TEXAS 77253-3092 PH. 281-366-2036

10. Field and Pool, or Wildcat: ANSCHUTZ RANCH EAST

4. Location of Well
Footages: 111'FNL x 737'FWL
QQ, Sec., T., R., M.: SEC. 31 TWP: 4N RGE: 8E

County: SUMMIT
State: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| NOTICE OF INTENT (Submit in Duplicate) | | SUBSEQUENT REPORT (Submit Original Form Only) | |
|---|---|---|---|
| ☐ Abandon | ☐ New Construction | ☐ Abandon * | ☐ New Construction |
| ☐ Repair Casing | ☐ Pull or Alter Casing | ☐ Repair Casing | ☐ Pull or Alter Casing |
| ☑ Change of Plans | ☐ Recomplete | ☐ Change of Plans | ☐ Reperforate |
| ☐ Convert to Injection | ☐ Reperforate | ☐ Convert to Injection | ☐ Vent or Flare |
| ☐ Fracture Treat or Acidize | ☐ Vent or Flare | ☐ Fracture Treat or Acidize | ☐ Water Shut-Off |
| ☐ Multiple Completion | ☐ Water Shut-Off | ☐ Other | |
| ☐ Other | | | |

Approximate date work will start: AUGUST 15TH

Date of work completion:

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

THE PURPOSE OF THIS SUNDRY IS TO REQUEST APPROVAL TO MODIFY THE APD FOR W31-04. THE MODIFICATIONS INCLUDE THE ADDITION OF MILLING STUCK PIPE (SEE ATTACHED) AND REVISIONS TO THE BOP STACK ARRANGEMENT.

13.
Name & Signature: Jerry Mylecraine Title: PETROLEUM ENGR. Date: 7/31/99

(This space for State use only)

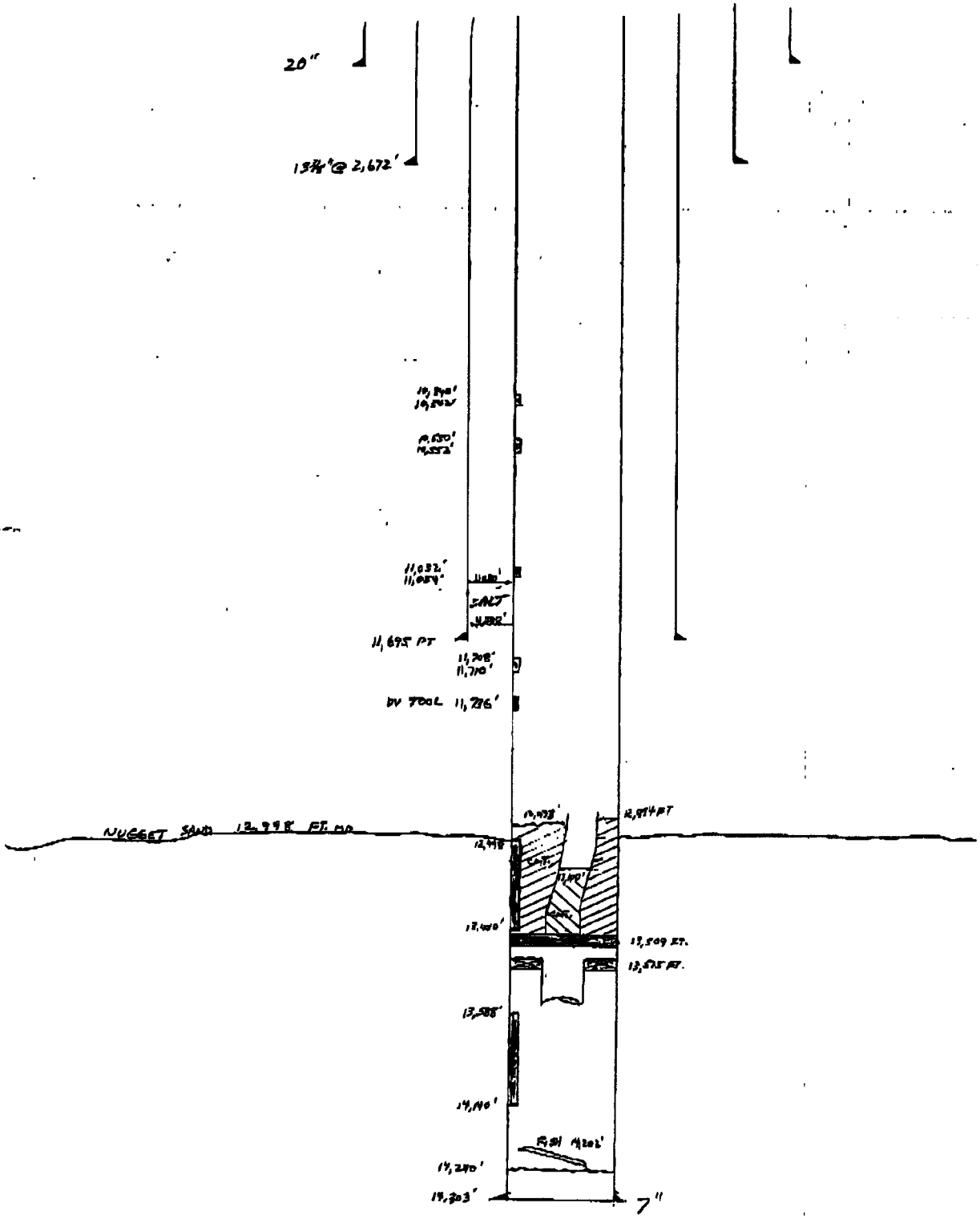
(4/94)

Approved by the Utah Division of Oil, Gas and Mining
Date: 8-2-99
By:

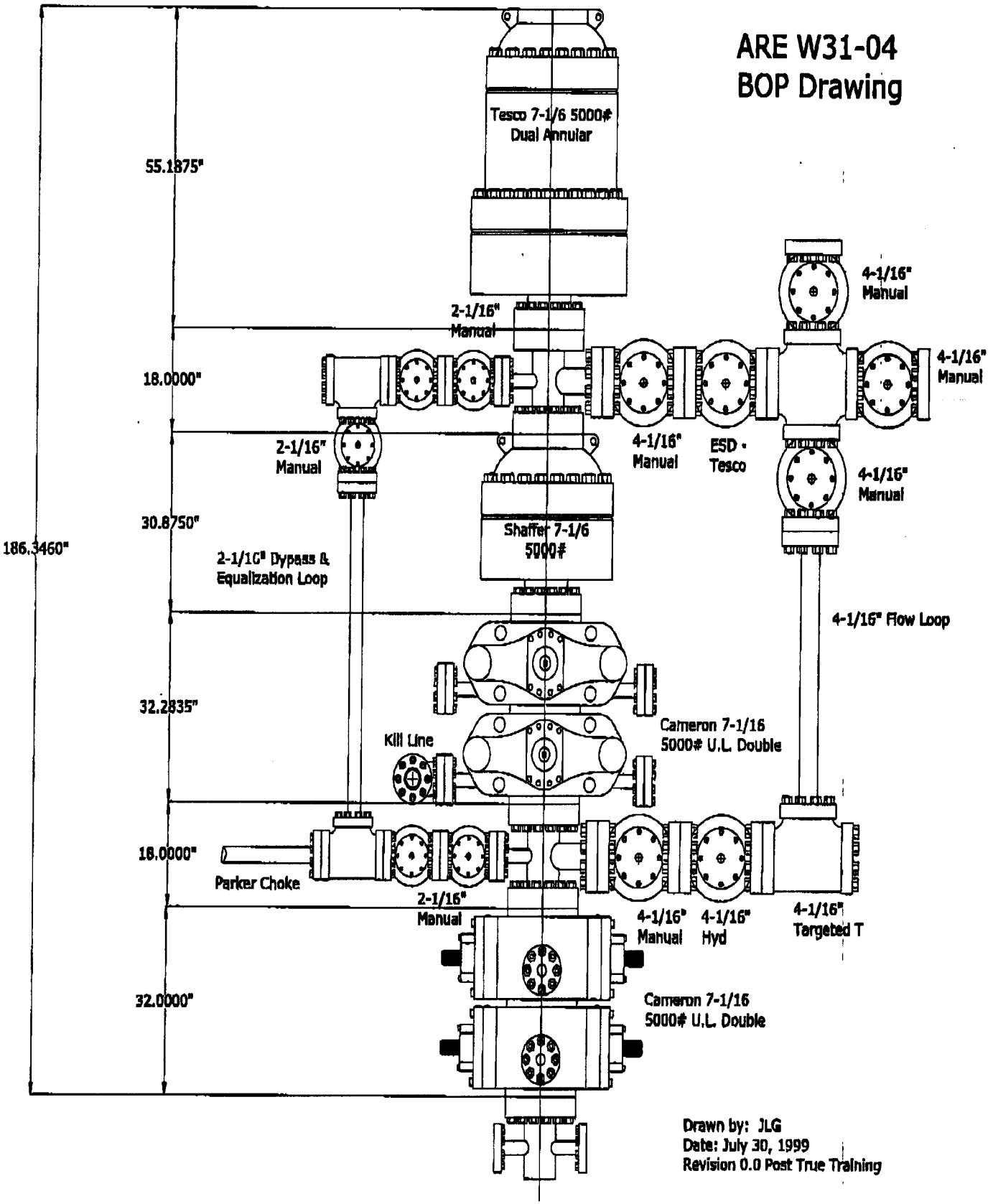
(See Instructions on Reverse Side)

COPY SENT TO OPERATOR
Date: 8-2-99
Initials: CHD

A.R.E. W31-04


20"
13⅜" @ 2,672'
11,695 PT
DV TOOL 11,776'
NUGGET SAND 12,998' PT. MD
12,914 PT
13,509 PT.
13,575 PT.
7"

# ARE W31-04
# BOP Drawing




Drawn by: JLG
Date: July 30, 1999
Revision 0.0 Post True Training

DOUBLE JACK TESTING & SERVICES, INC.
Phone (307) 789-9213

# B.O.P. TEST REPORT

B.O.P. TEST PERFORMED ON (DATE) 8/21/99

OIL COMPANY B.P. Amoco

WELL NAME & NUMBER 31-04 Anchutz Ranch East

SECTION 31 API # 43-043-30165

TOWNSHIP 4 n

RANGE 8 E

COUNTY & STATE Summit Utah

DRILLING CONTRACTOR Parker Rig # 233

OIL COMPANY SITE REPRESENTATIVE Tom Nordeen

RIG TOOL PUSHER Marion Spencer

TESTED OUT OF Evanston Wyo.

NOTIFIED PRIOR TO TEST ⊘

COPIES OF THIS TEST REPORT SENT TO: Utah BLM
Utah oil + gas Commision
Tom Nordeen B.P. Amoco
Marion Spencer Parker 233

ORIGINAL CHART & TEST REPORT ON FILE AT:

DOUBLE JACK TESTING & SERVICES, INC.
P O BOX 2097
EVANSTON, WY 82930

TESTED BY: Ryan Thomas

# Double Jack Testing & Services Inc.

FIELD TICKET
Nº 16348

Accounting Office: P.O. Box 516 Shoshoni, WY 82649 • (307) 876-9390

Field Operations:
Shoshoni, WY (307) 876-2308
Evanston, WY (307) 789-9213
Rock Springs, WY (307) 382-4020
Big Piney, WY (307) 276-5265
Vernal, UT (435) 781-0448

DATE 8/21/99
[X] OPERATOR B.P. Amoco
[ ] CONTRACTOR Parker 233
WELL NAME 31-04

| COUNTY | STATE | SECTION | TOWNSHIP | RANGE |
|---|---|---|---|---|
| Summit | Ut | 31 | 4 N. | 8 E. |

| Items Tested: | LOW TEST PSI | TIME HELD MINUTES | HIGHTEST PSI | TIME HELD MINUTES |
|---|---|---|---|---|
| Top Pipe Rams | 250 | 5 | 5,000 | 10 |
| Bottom Pipe Rams | 250 | 5 | 5,000 | 10 |
| Blind Rams | 250 | 5 | 5,000 | 10 |
| Annular B.O.P. | 250 | 5 | 2,500 | 10 |
| Choke Manifold | 250 | 5 | 5000 | 10 |
| Choke Line | 250 | 5 | 5,000 | 10 |
| Kill Line | 250 | 5 | 5,000 | 10 |
| Super Choke | 250 | 5 | 5,000 | 10 |
| Upper Kelly | 250 | 5 | 5,000 | 10 |
| Lower Kelly | 250 | 5 | 5,000 | 10 |
| Floor Valve | 250 | 5 | 5000 | 10 |
| Dart Valve | 250 | 5 | 5000 | 10 |
| Casing | — | — | — | — |

Closing Unit PSI 3,000
Closing Time of Rams 61 sec
Closing Time of Annular 15 sec
Closed Casing Head Valve Yes
Set Wear Sleeve

COMMENTS

## ADDITIONAL TESTS & COMMENTS

Copies sent to:
Ut Blm SIC.
Ut. Oil & gas commision
B.P. Amoco
Parker drilling

TEST PLUG 7 1/16" C22 Straight Bore
RET. TOOL on location
TOP SUB. HT 38
KELLY SUB. HT 38
X-OVER SUB. HT 38 Box x 3 1/2 IF pin

## RATES

UNIT RATES $800.00 for first 7 hours on location 7:00am to 2:00pm $800.00
ADDITIONAL $55.00 per hour overset up charge 2:00pm to 2:00am 12 hours $660.00
MILEAGE $1.00 per mile 44 miles to and from location $44.00
METHANOL 0
OTHER

PURCHASE ORDER #

Ryan T. + John M.
TESTED BY

154
DOUBLE JACK TESTING UNIT NUMBER

COMPANY REPRESENTATIVE

SUBTOTAL $1504.00
TAX
TOTAL

## NOTICE TO ALL CUSTOMERS

If this account shall not be paid when due and it is placed with an attorney for collection, or if suit be instituted for collection, the undersigned agree(s) to pay in either case, reasonable expense of collection including attorney's fees and court cost in compliance with TRUTH IN LENDING AND THE UNIFORM CONSUMER CREDIT CODE, the following information disclosure, under the terms of our regular accounts, all amounts for service due and payable within THIRTY (30) DAYS from the receipt of an invoice for such services. A LATE CHARGE will be assessed when accounts are not paid when due. THE LATE CHARGE is computed by a "periodic rate" 1-3/4% PER MONTH which is an ANNUAL PERCENTAGE RATE OF 21% to the previous balance in the account on the billing date. No further credit can be extended on unpaid delinquent accounts until the delinquent account is paid in full. The contractor will not be held liable for damages caused by acts of God, or unforeseen circumstances that could not be reasonably anticipated in performing the work done as set forth above.

| COMPANY | LEASE & WELL NAME | TEST DATE | RIG# & NAME |
|---|---|---|---|
| B.P. Amoco | | 8/21/99 | Parker 233 |

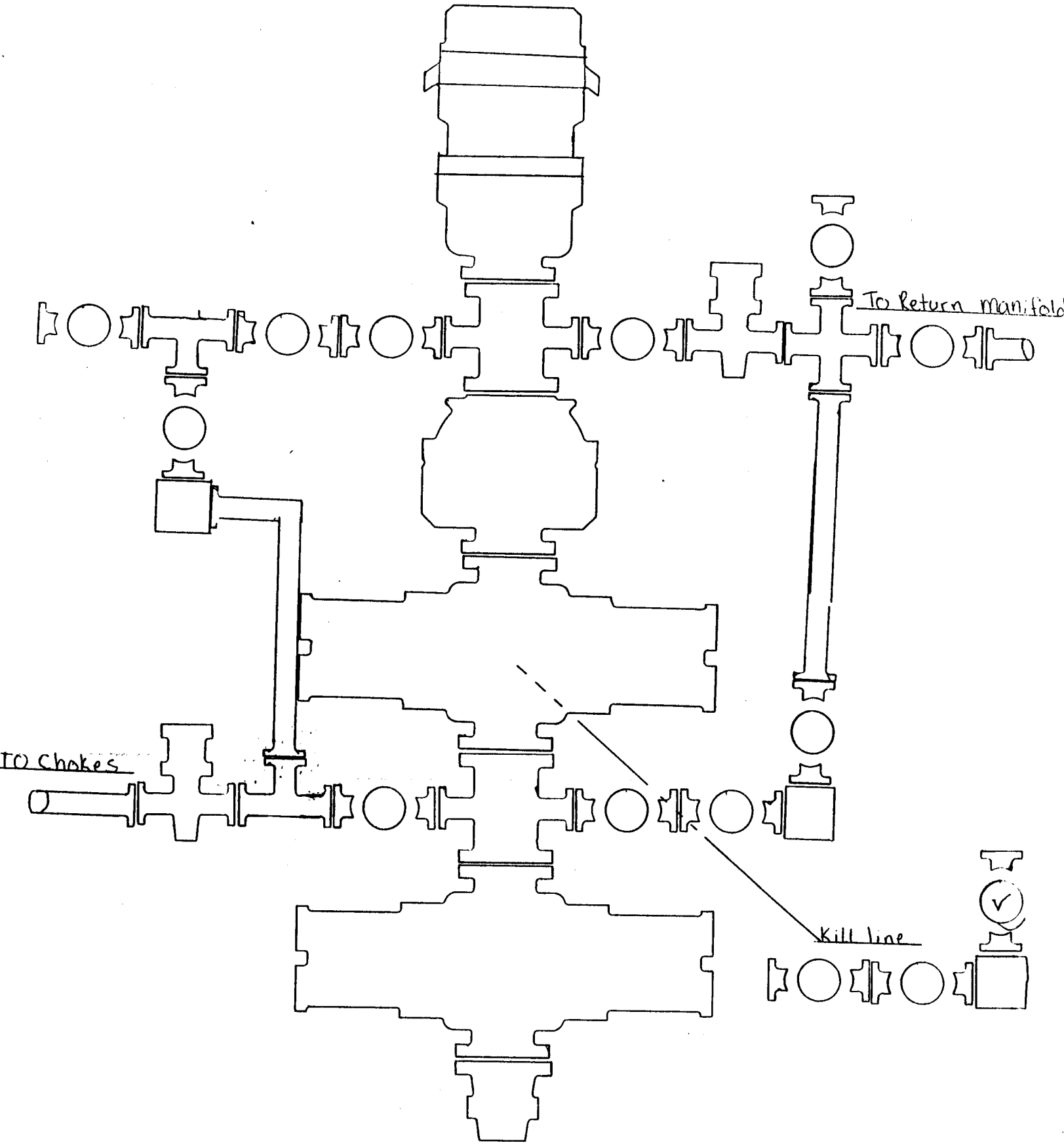
| TEST # | TIME | TEST DATA |
|---|---|---|
| 1 | | 250 psi 5 min 5,000 psi 10 min<br>Top blind Rams, inside kill line valve, inside choke line valve, inside pit side equalize line valve. |
| 2 | | 250 psi 5 min 5,000 psi 10 min<br>Top blind Rams, outside kill line valve, HCR, outside pit side bottom equalize line |
| 3 | | 250 psi 5 min 5,000 psi 10 min<br>Top blind Rams, check valve on kill line, Riser valve on Choke line, inside manifold valve, Riser valve (from bottom) on pitside equalize line valve |
| 4 | | 250 psi 5 min 5,000 psi 10 min<br>Top blind Rams, inside kill line valve, Riser valve on Choke line, outside manifold valves, Riser valve on pitside equalize line valve. |
| 5 | | 250 psi 5 min 2,500 psi 10 min<br>Top blind Rams, HCR, inside kill line valve, Riser valve on Return line outside out side valvee on Return line. |
| 6 | | ~~250 psi 5 min 2,500 psi 10 min~~<br>Top blind Rams, inside kill line valve, HCR, Riser valve on Return line, Return line back to Return manifold. |
| 7 | | 250 psi 5 min 5,000 psi 10 min<br>Bottom pipe Rams. |

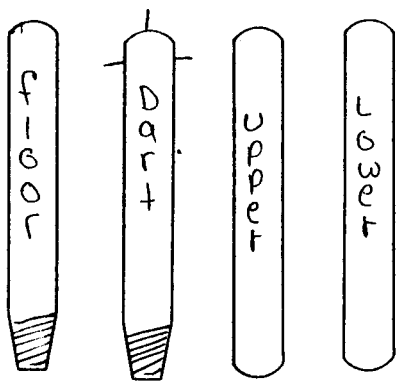
| COMPANY | LEASE ~ WELL NAME | TEST DATE ~ | RIG# & NAME |
|---|---|---|---|
| B.P. Amoco | | 8/21/99 | Parker 233 |

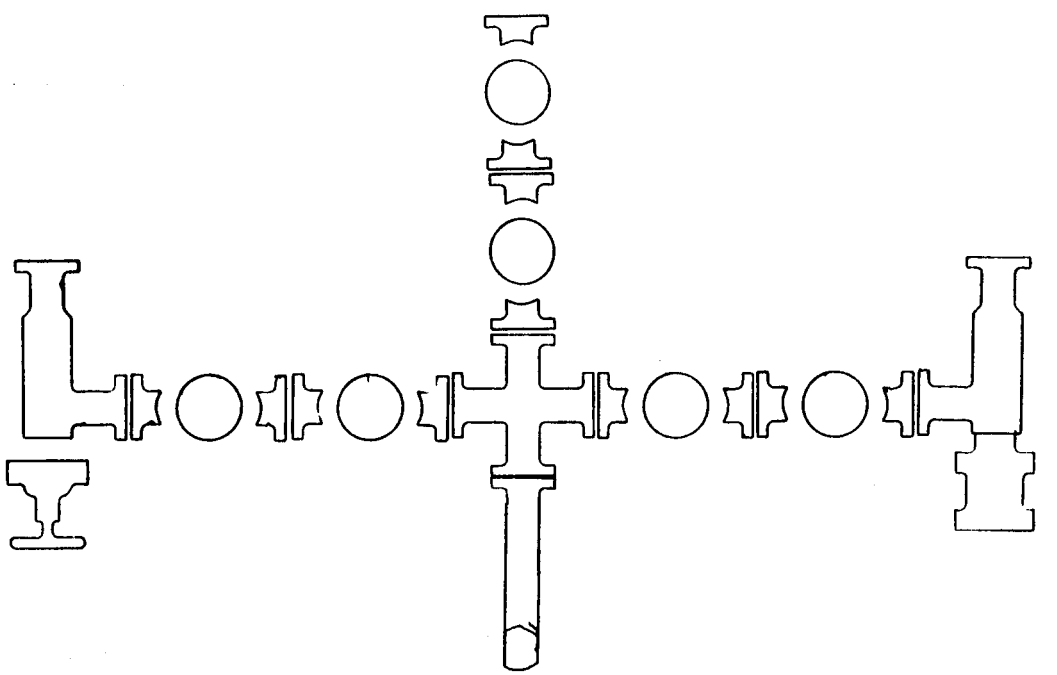
| TEST # | TIME | TEST |
|---|---|---|
| 8 | | 250 psi 5 min 5,000 psi 10 min<br>Top pipe Rams, inside kill line valve, inside choke line valve |
| 9 | | 250 psi 5 min 7,500 psi 10 min<br>Bottom Hydrill, inside kill line valve, inside choke line valve, inside Bottom equalize line valve |
| 10 | | 250 psi 5 min 7,500 psi 10 min<br>Bottom double Hydrill, inside kill line valve, inside choke line valve, inside Bottom equalize lines valve, inside Top equalize and Return line valves |
| 11 | | 250 psi 5 min 7,500 psi 10 min<br>Top double Hydrill, inside kill line valve, inside choke line valve, inside bottom equalize line valve, ESD valve, 2nd from inside equalize line valve |
| 12 | | 250 psi 5 min 7,500 psi 10 min<br>Top double Hydrill, inside kill line valve, inside choke line valve, insid bottom equalize line valve ESD valve furthest outise equalize line valve |
| 13 | | 250 psi 5 min 5,000 psi 10 min<br>~~Top pipe Rams, inside kill line valve, inside choke line valve, Return line to Return manifold~~ |
| 14 | | 250 psi 5 min 3,000 psi 10 min<br>Dart valve |
| 15 | | 250 psi 5 min 5,000 psi 10 min<br>floor valve |

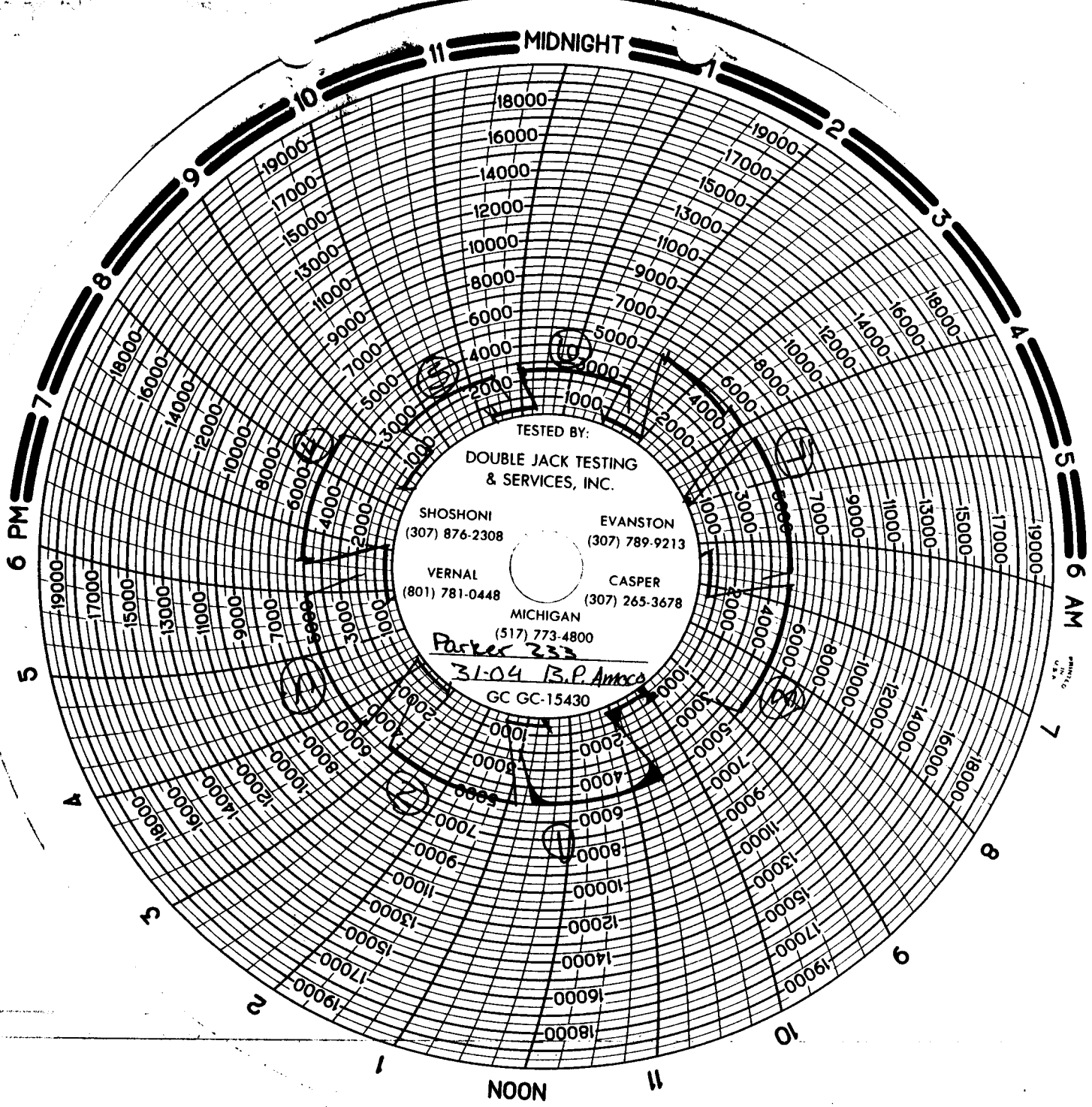
| COMPANY | LEASE & WELL NAME | TEST DATE | RIG# & NAME |
|---|---|---|---|
| B.P. Amoco | | 8/21/99 | Parker 233 |

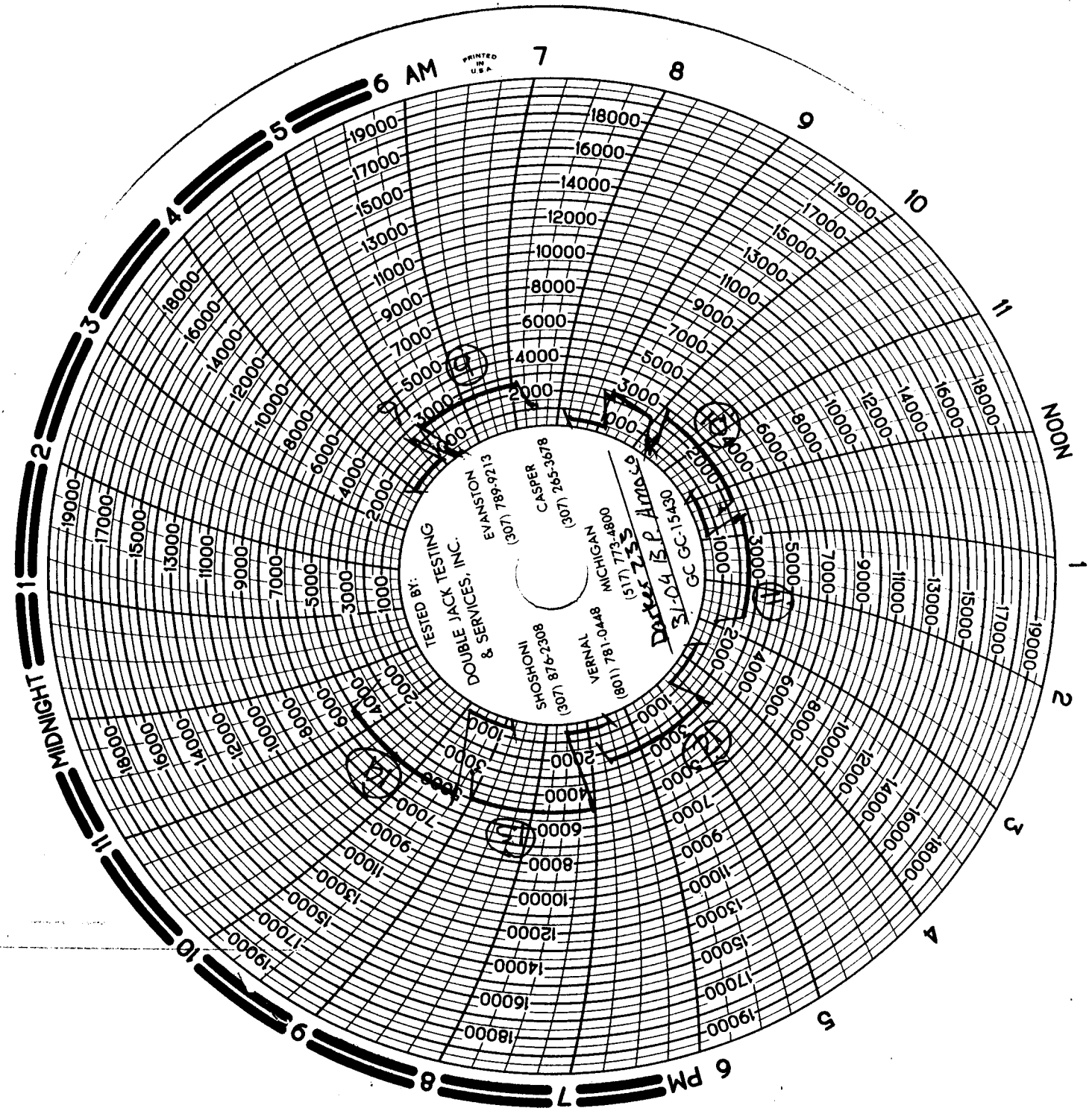
| TEST # | TIME | ITEMS TESTED |
|---|---|---|
| 16 | | 250 psi 5 min 5,000 psi 10 min<br>Lower kelly valve |
| 17 | | 250 psi 5 min 5,000 psi 10 min<br>Upper kelly valve |
| 18 | | 250 psi 5 min 3,000 psi 10 min<br>mud line back to Rig pumps |
| 19 | | 250 psi 5 min 5,000 psi 10 min<br>manual and supper choke. |

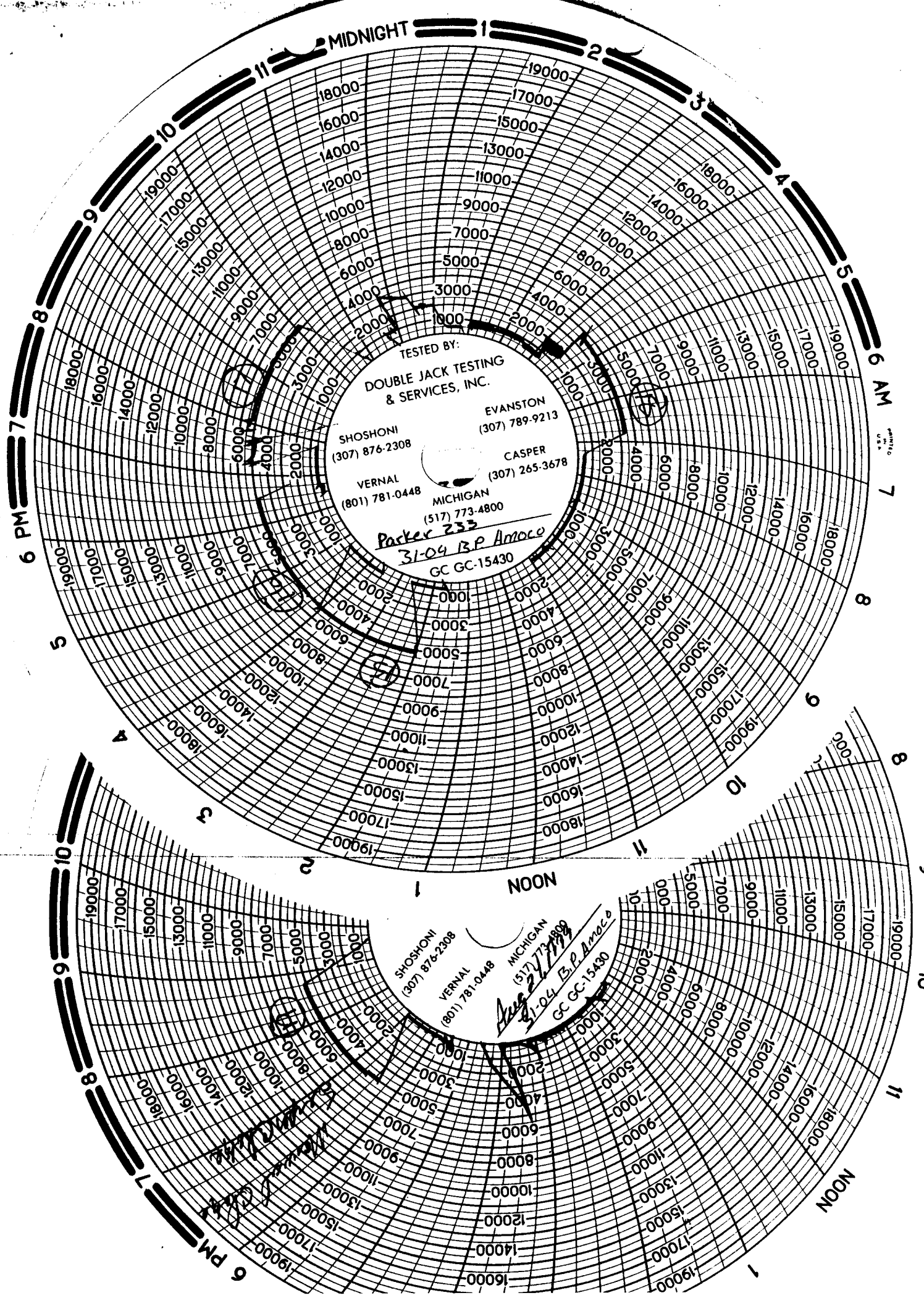

To Return manifold
TO Chokes
Kill line


floor
Dart
Upper
Lower




MIDNIGHT
NOON
6 PM
6 AM
TESTED BY:
DOUBLE JACK TESTING
& SERVICES, INC.
SHOSHONI
(307) 876-2308
EVANSTON
(307) 789-9213
VERNAL
(801) 781-0448
CASPER
(307) 265-3678
MICHIGAN
(517) 773-4800
Parker 233
31-04 B.P. Amoco
GC GC-15430


PRINTED IN U.S.A.
TESTED BY:
DOUBLE JACK TESTING & SERVICES, INC.
EVANSTON (307) 789-9213
CASPER (307) 265-3678
SHOSHONI (307) 876-2308
VERNAL (801) 781-0448
MICHIGAN (517) 773-4800
Parker 235
31-04 ISP Amoco
GC GC-15430
6 AM
NOON
6 PM
MIDNIGHT


MIDNIGHT
6 AM
NOON
6 PM
TESTED BY:
DOUBLE JACK TESTING
& SERVICES, INC.
SHOSHONI
(307) 876-2308
EVANSTON
(307) 789-9213
CASPER
(307) 265-3678
VERNAL
(801) 781-0448
MICHIGAN
(517) 773-4800
Parker 233
31-04 BP Amoco
GC GC-15430
SHOSHONI
(307) 876-2308
VERNAL
(801) 781-0448
MICHIGAN
(517) 773-4800
31-04 BP Amoco
GC GC-15430

**Sundry Notice: Modification to APD**
**W3104 Perforation Squeeze procedure**
(July 30, 1999)

The purpose of this Sundry Notice is to request approval to modify the APD received on W31-04. As a result of problems incurred during the squeeze procedure (approved on July 6, 1999 by Sundry) approximately 126 ft of cement and work string remain in the hole which will require milling prior to proceeding with the horizontal multi-lateral program for this well. This work will be performed by the drilling rig prior to the beginning of the approved W31-04 multilateral program.

Procedure for Milling:

1. Rig up drilling rig
2. Load well with gelled water. Note: no perfs are open.
3. Run in the hole with concave mill and work string.
4. Tag top of cement at 12,974 ft and mill to 13,100 ft.
5. Pull out of hole with mill and work string.
6. Rig up Schlumberger and run casing inspection log from 13,100 ft to 12,900 ft.
7. Rig down Schlumberger
8. Begin drilling program as previously approved.

Also note, the BOP stack for the drilling of the under balanced multi-laterals on W31-04 has been modified. An additional set of rams has been added to the schematic which was presented in the APD (see attached). Based on the planned operation BP Amoco felt this addition was necessary.

Please signify your approval of the above and fax to Terry Miglicco at 281-366-7937. Should you have any questions do not hesitate to contact me at 281-366-2036.

Terry Miglicco
BP Amoco
Anschutz Ranch East Operations Engineer

Approved by the
Utah Division of
Oil, Gas and Mining
Date: 8-5-99
By:

COPY SENT TO OPERATOR
Date: 8-6-99
Initials: CHD

FORM 8

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

# SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. USE APPLICATION FOR PERMIT TO DRILL OR DEEPEN FORM FOR SUCH PROPOSALS.

1. Type of Well: OIL ☐ GAS ☑ OTHER:

2. Name of Operator: AMOCO PRODUCTION COMPANY

3. Address and Telephone Number: P.O. BOX 3092, HOUSTON, TEXAS, 77253-3092 PH. 281-366-2036

4. Location of Well: Footage: 111' FNL x 737' FWL
OO, Sec., T., R., M.: SEC. 31 TWP: 4N RGE: 8E

5. Lease Designation and Serial Number: FEE

6. If Indian, Allotted or Tribe Name:

7. Unit Agreement Name: ANSCHUTZ RANCH EAST

8. Well Name and Number: A.R.E. W31-04B

9. API Well Number: 43043301650

10. Field and Pool, or Wildcat: ANSCHUTZ RANCH EAST

County: SUMMIT
State: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

**NOTICE OF INTENT** (Submit in Duplicate)

- ☐ Abandon
- ☐ Repair Casing
- ☐ Change of Plans
- ☐ Convert to Injection
- ☐ Fracture Treat or Acidize
- ☐ Multiple Completion
- ☐ New Construction
- ☐ Pull or Alter Casing
- ☐ Recomplete
- ☐ Reperforate
- ☐ Vent or Flare
- ☐ Water Shut-Off
- ☑ Other SQUEEZE PERFORATIONS

Approximate date work will start: JULY 12, 1999

**SUBSEQUENT REPORT** (Submit Original Form Only)

- ☐ Abandon *
- ☐ Repair Casing
- ☑ Change of Plans
- ☐ Convert to Injection
- ☐ Fracture Treat or Acidize
- ☐ Other
- ☐ New Construction
- ☐ Pull or Alter Casing
- ☐ Reperforate
- ☐ Vent or Flare
- ☐ Water Shut-Off

Date of work completion: JULY 8, 1999

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

THE EXISTING PERFORATIONS ARE TO BE SQUEEZED USING A WORKOVER RIG IN PREPARATION FOR MOVING IN A DRILLING RIG (JULY 19TH) TO BEGIN THE DRILLING OF MULTI-LATERAL HORIZONTAL SECTIONS TO ENHANCE PRODUCTIVITY.

- THIS SUNDRY IS TO REQUEST APPROVAL TO SQUEEZE PERFORATION.

(SEE THE ATTACHED PROCEDURE)

13. Name & Signature: [signature] Title: PETROLEUM ENGR. Date: 7/6/99

(This space for State use only)

**APPROVED** (See instructions on Reverse Side)
The Utah Division of Oil, Gas and Mining
Robert J. Krueger, PE, Petroleum Engineer
[signature]
Date: 7-6-99

**Sundry Subsequent Report**
**W3104 Perforation Squeeze procedure**
(July 30, 1999)

The purpose of this procedure was to prepare the well for drilling horizontal sidetracks. This workover was initiated on July 8th and was concluded July 26th. Plans were to set a cement retainer at approximately 13,005 ft and squeeze perforations at 13,588 to 14,140 ft. However, cement is believed to have come around the backside through uphole perforations and flash set sticking the drill string in the hole. The free pipe has been cut off and cement washed down to 12,974 ft. At this time we elected to rig down the workover rig and complete the milling job with the drilling rig. Request for approval for this operation will be conveyed via another Sundry Notice. The objective of the procedure which was to isolate and squeeze all perforations has been achieved since cement on top the cement retainer was found to be above the top perforations. Pressure tests also showed all perforations to be squeezed. A casing inspection log was run to determine the status of the casing. The casing was found to be in excellent condition with no areas indicating severe corrosion or wear.

Terry Miglicco
BP Amoco
Anschutz Ranch East Operations Engineer

DOUBLE JACK TESTING & SERVICES, INC.
Phone (307) 789-9213

B.O.P. TEST REPORT

B.O.P. TEST PERFORMED ON (DATE) 9-20-99

OIL COMPANY BP Amoco

WELL NAME & NUMBER ARE U31-04 API # 43-043-30165

SECTION 31

TOWNSHIP 4N

RANGE 8E

COUNTY & STATE Summit UT

DRILLING CONTRACTOR Parker 233

OIL COMPANY SITE REPRESENTATIVE Tom Nosdeen

RIG TOOL PUSHER Marion Spencer

TESTED OUT OF Evanston wy

NOTIFIED PRIOR TO TEST

COPIES OF THIS TEST REPORT SENT TO: BLM S.L.C. UT.

St. of UT. Dept. of Natural Res.

ORIGINAL CHART & TEST REPORT ON FILE AT:

DOUBLE JACK TESTING & SERVICES, INC.
P O BOX 2097
EVANSTON, WY 82930

TESTED BY: Darren Merrick

# Double Jack Testing & Services Inc.

FIELD TICKET
Nº 15496

Accounting Office: P.O. Box 516 Shoshoni, WY 82649 • (307) 876-9390

Field Operations:
Shoshoni, WY (307) 876-2308
Rock Springs, WY (307) 382-4020
Evanston, WY (307) 789-9213
Big Piney, WY (307) 276-5265
Vernal, UT (801) 781-0448

DATE 9-20-99
[X] OPERATOR BP Amoco
[ ] CONTRACTOR Parker 233
WELL NAME ARE W31-04

| COUNTY | STATE | SECTION | TOWNSHIP | RANGE |
|---|---|---|---|---|
| Summit | UT | 31 | 4N | 8E |

**Items Tested:**

| | LOW TEST PSI | TIME HELD MINUTES | HIGHTEST PSI | TIME HELD MINUTES |
|---|---|---|---|---|
| Top Pipe Rams | 250 | 5 | 5000 | 10 |
| Bottom Pipe Rams | 250 | 5 | 5000 | 10 |
| Blind Rams | 250 | 5 | 5000 | 10 |
| Annular B.O.P. | 250 | 5 | 2500 | 10 |
| Choke Manifold | 250 | 5 | 5000 | 10 |
| Choke Line | 250 | 5 | 5000 | 10 |
| Kill Line | 250 | 5 | 5000 | 10 |
| Super Choke | 250 | 5 | 5000 | 10 |
| Upper Kelly | 250 | 5 | 5000 | 10 |
| Lower Kelly | 250 | 5 | 5000 | 10 |
| Floor Valve | 250 | 5 | 5000 | 10 |
| Dart Valve | 250 | 5 | 5000 | 10 |
| Casing | | | | |

Closing Unit PSI 3000
Closing Time of Rams 2 sec
Closing Time of Annular 7 sec
Closed Casing Head Valve NA
Set Wear Sleeve

**COMMENTS**
Test stand pipe
To Pumps 3500

**ADDITIONAL TESTS & COMMENTS**

TEST PLUG 7 5/16 C-22
RET. TOOL
TOP SUB. 3 1/2 EF
KELLY SUB.
X-OVER SUB.

**RATES**

| | | |
|---|---|---|
| UNIT RATES | 7 HR set up Charge 7Pm-2AM | 800.00 |
| ADDITIONAL | 10 HRS over set up @ 60.00 2AM-12PM | 600 |
| MILEAGE | 50 miles @ 1.50 | 75.00 |
| METHANOL | 48 gal @ 2.00 per gal | 96 |
| OTHER | | |

| | | |
|---|---|---|
| SUBTOTAL | | 1571.00 |
| TAX | | |
| TOTAL | | |

ZDLC020001
PURCHASE ORDER #

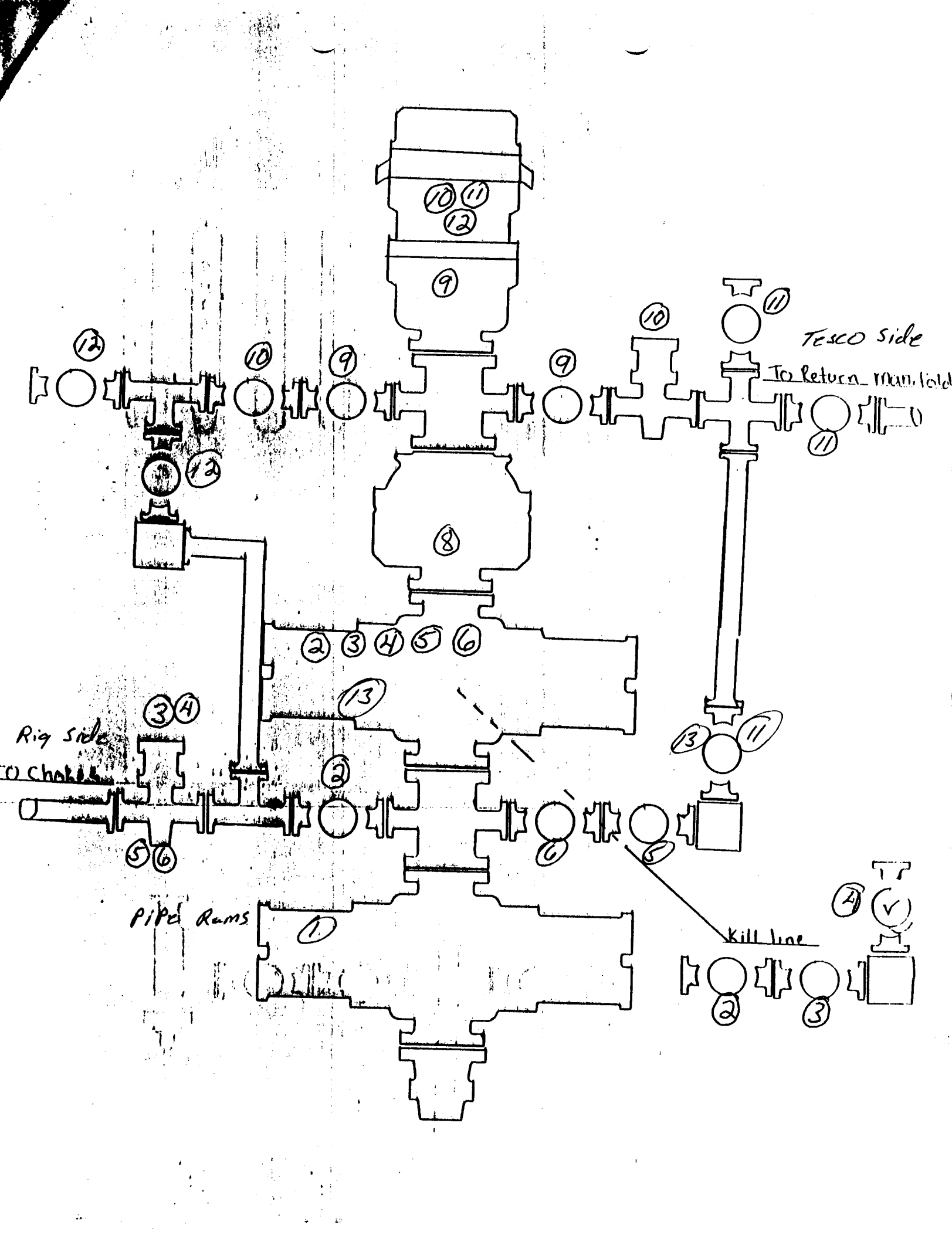
Darren Merrick
TESTED BY

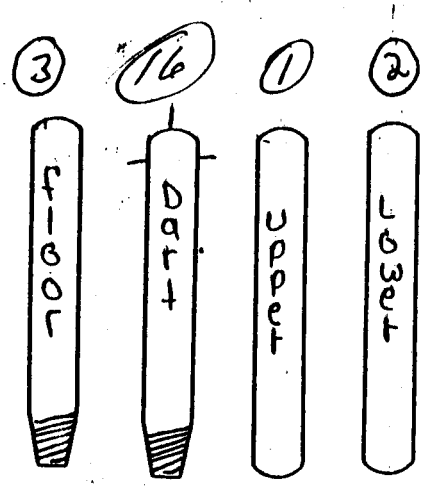
Tony Anderson
COMPANY REPRESENTATIVE

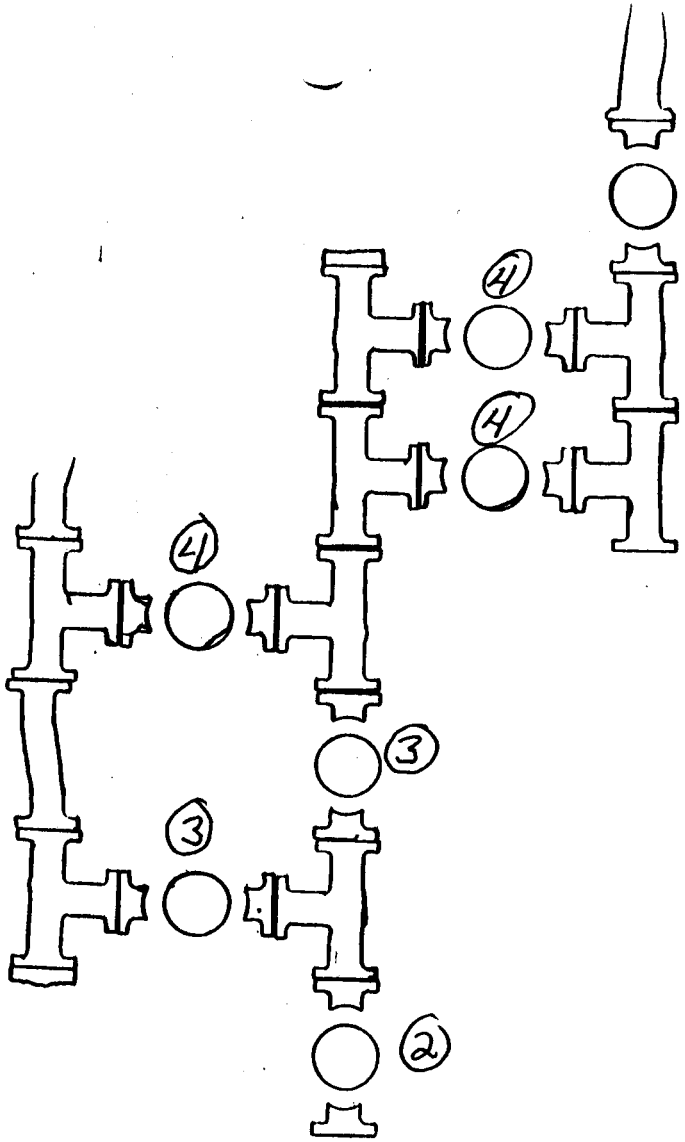
143 Thank you!
DOUBLE JACK TESTING UNIT NUMBER

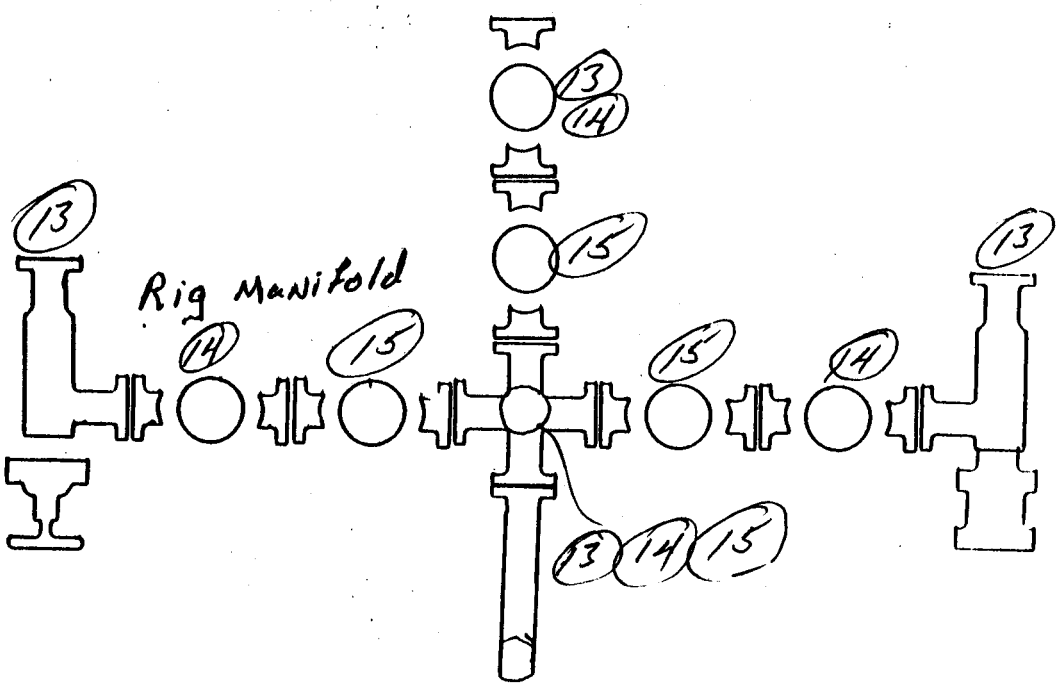
**NOTICE TO ALL CUSTOMERS**

If this account shall not be paid when due and it is placed with an attorney for collection, or if suit be instituted for collection, the undersigned agree(s) to pay in either case, reasonable expense of collection including attorney's fees and court cost in compliance with TRUTH IN LENDING AND THE UNIFORM CONSUMER CREDIT CODE, the following information disclosure, under the terms of our regular accounts, all amounts for service due and payable within THIRTY (30) DAYS from the receipt of an invoice for such services. A LATE CHARGE will be assessed when accounts are not paid when due. THE LATE CHARGE is computed by a "periodic rate" 1-3/4% PER MONTH which is an ANNUAL PERCENTAGE RATE OF 21% to the previous balance in the account on the billing date. No further credit can be extended on unpaid delinquent accounts until the delinquent account is paid in full. The contractor will not be held liable for damages caused by acts of God, or unforeseen circumstances that could not be reasonably anticipated in performing the work done as set forth above.


Tesco Side
To Return Manifold
Rig Side
To Choke
Pipe Rams
Kill line

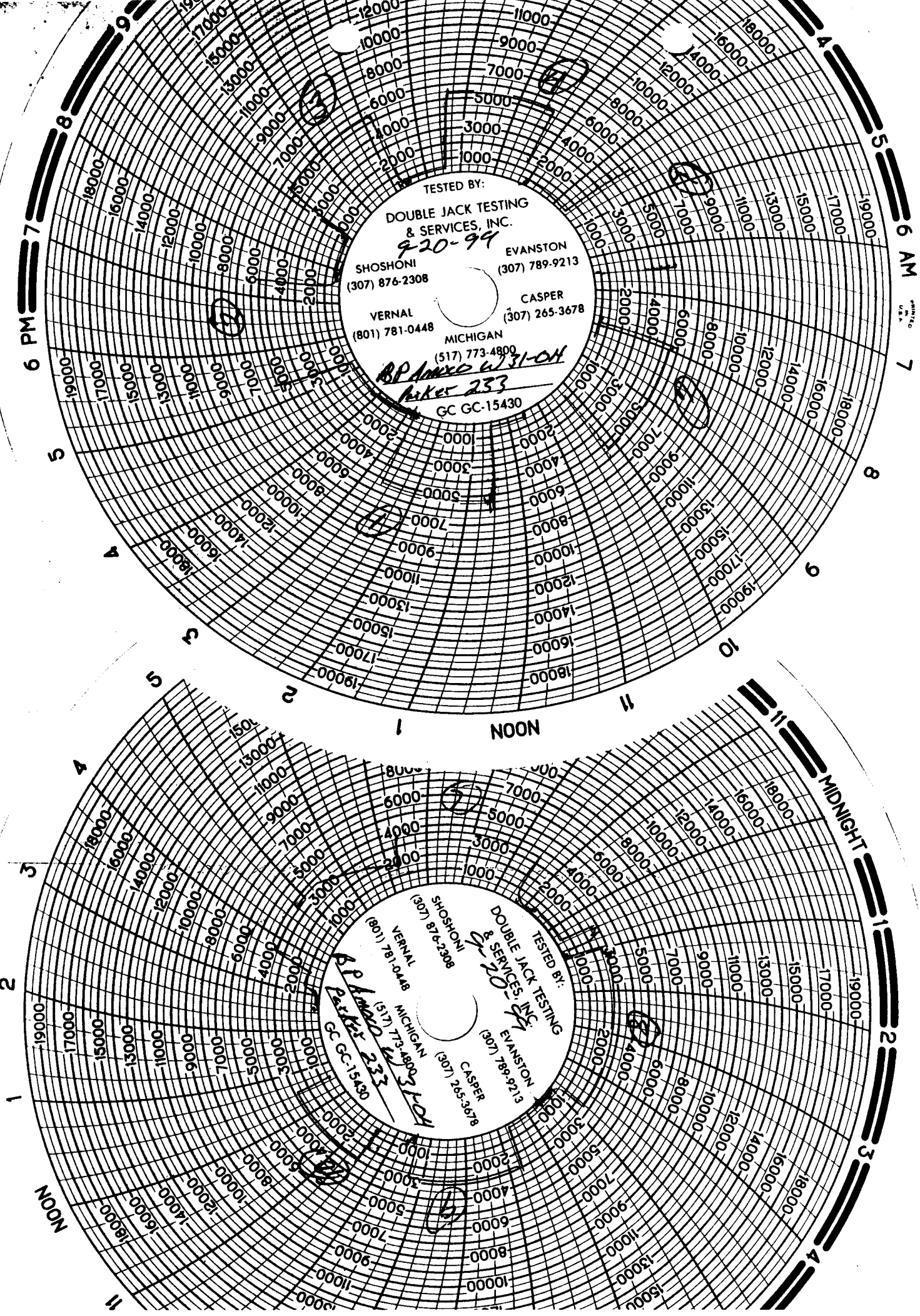

3
16
1
2
floor
Dart
Upper
Lower

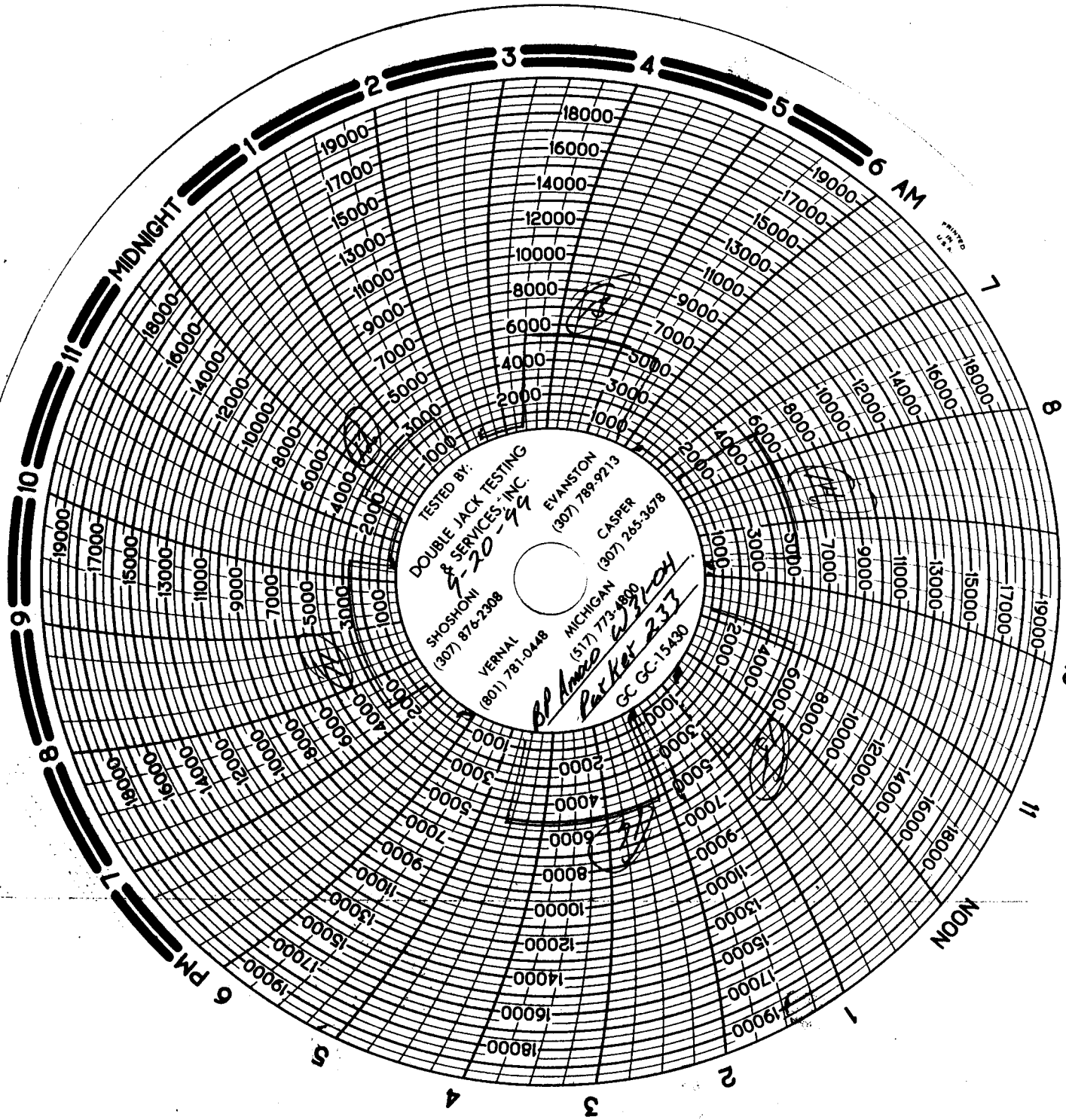

4
4
4
3
3
2


13
14
15
13
Rig Manifold
14
15
15
14
13
13
14
15

| COMPANY | LEASE & WELL NAME | TEST DATE | RIG# & NAME |
|---|---|---|---|
| | ARE W 31-04 | 9-20-99 | Parker 233 |

| ITEM | TIME | ITEMS TESTED |
|---|---|---|
| 1 | 12:40 | Lower Pipe Rams upper Kelly |
| 2 | 1:05 | Upper Pipe Rams Inside choke Line valve Rig manifold side Inside Tesco manifold Valve Lower Kelly Inside Kill Line valve |
| 3 | 1:25 | upper pipe Rams 2nd set Tesco manifold valves HCR Rig manifold side outside Kill Line valve Safety valve Inside 2" wing valve |
| 4 | 1:45 | upper pipe Rams 3rd set Tesco manifold valves HCR Rig manifold side check valve safety valve outside 2" wing valve |
| 5 | 2:05 | upper pipe Rams outside choke line valve Tesco side HCR Rig manifold side Safety valve |
| 6 | 2:25 | upper pipe Rams Inside choke Line valve Tesco side HCR Rig manifold side safety valve |
| 7 | 2:55 | stand pipe, Kill Line, Back To pumps |
| 8 | 3:40 | Bottom Hydril |
| 9 | 4:20 | middle Hydril Inside Flow Line valves |
| 10 | 4:45 | upper Hydril 2nd set Flow Line valves |
| 11 | 5:15 | upper Hydril 3rd set Flow Line valves Tesco side |
| 12 | 5:40 | upper Hydril 3rd set Flow Line valves Rig side |
| 13 | 7:20 | Blind Rams choke Line valve Tesco side super choke man choke on Rig manifold |
| 14 | 8:30 | outside choke manifold valves on Rig manifold |
| 15 | 8:50 | Inside Rig manifold valves |
| 16 | 10:55 | Dart valve |


TESTED BY:
DOUBLE JACK TESTING
& SERVICES, INC.
9-20-99
SHOSHONI
(307) 876-2308
EVANSTON
(307) 789-9213
VERNAL
(801) 781-0448
CASPER
(307) 265-3678
MICHIGAN
(517) 773-4800
BP Amoco 4-31-OH
Parker 233
GC GC-15430
6 AM
6 PM
NOON
MIDNIGHT


MIDNIGHT
1
2
3
4
5
6 AM
7
8
9
10
11
NOON
1
2
3
4
5
6 PM
7
8
9
10
11
TESTED BY:
DOUBLE JACK TESTING
& SERVICES, INC.
8-20-99
EVANSTON
(307) 789-9213
CASPER
(307) 265-3678
SHOSHONI
(307) 876-2308
VERNAL
(801) 781-0448
MICHIGAN
(517) 773-4800
BP Amoco 6231-04
Parker 233
GC GC-15430

FORM 9

STATE OF UTAH

DIVISION OF OIL, GAS AND MINING

| | |
|---|---|
| 5. Lease Designation and Serial Number: | FEE |
| 6. If Indian, Allottee or Tribe Name: | |
| 7. Unit Agreement Name: | ANSCHUTZ RANCH EAST |
| 8. Well Name and Number: | ARE W31-04 |
| 9. API Well Number: | 4304330165O |
| 10. Field and Pool, or Wildcat: | ANSCHUTZ RANCH EAST |

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

1. Type of Well: OIL ☐ GAS ☑ OTHER:

2. Name of Operator: AMOCO PRODUCTION COMPANY

3. Address and Telephone Number: P.O. BOX 3092, HOUSTON, TEXAS 77253-3092

4. Location of Well
Footages: 111' FNL x 737' FWL
QQ, Sec., T., R., M.: SEC. 31 TWP: 4N RGE: 8E
County: SUMMIT
State: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| NOTICE OF INTENT (Submit in Duplicate) | | SUBSEQUENT REPORT (Submit Original Form Only) | |
|---|---|---|---|
| ☐ Abandon | ☐ New Construction | ☐ Abandon * | ☐ New Construction |
| ☐ Repair Casing | ☐ Pull or Alter Casing | ☐ Repair Casing | ☐ Pull or Alter Casing |
| ☑ Change of Plans | ☐ Recomplete | ☐ Change of Plans | ☐ Reperforate |
| ☐ Convert to Injection | ☐ Reperforate | ☐ Convert to Injection | ☐ Vent or Flare |
| ☐ Fracture Treat or Acidize | ☐ Vent or Flare | ☐ Fracture Treat or Acidize | ☐ Water Shut-Off |
| ☐ Multiple Completion | ☐ Water Shut-Off | ☐ Other | |
| ☐ Other | | | |
| Approximate date work will start: 10/1/99 | | Date of work completion: | |

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

- DUE TO EXCESS WATER PRODUCTION IDENTIFIED AT A DEPTH OF 14,475 FT MD, IT IS OUR INTENT TO SET A BRIDGE PLUG AT 14,380 FT AND SQUEEZE OFF THE LOWER SECTION OF THIS HORIZONTAL LATERAL 14,350 TO 14,583 FT MD,
- PLANS ARE TO CONTINUE WITH THE PROGRAM AS PLANNED ON THE NORTHERN LATERAL,

13.

Name & Signature: Terry Wyler Title: PETR. ENGR. Date: 9/28

(This space for State use only)

**APPROVED**

**The Utah Division of Oil, Gas and Mining**

**Robert J. Krueger, PE, Petroleum Engineer**

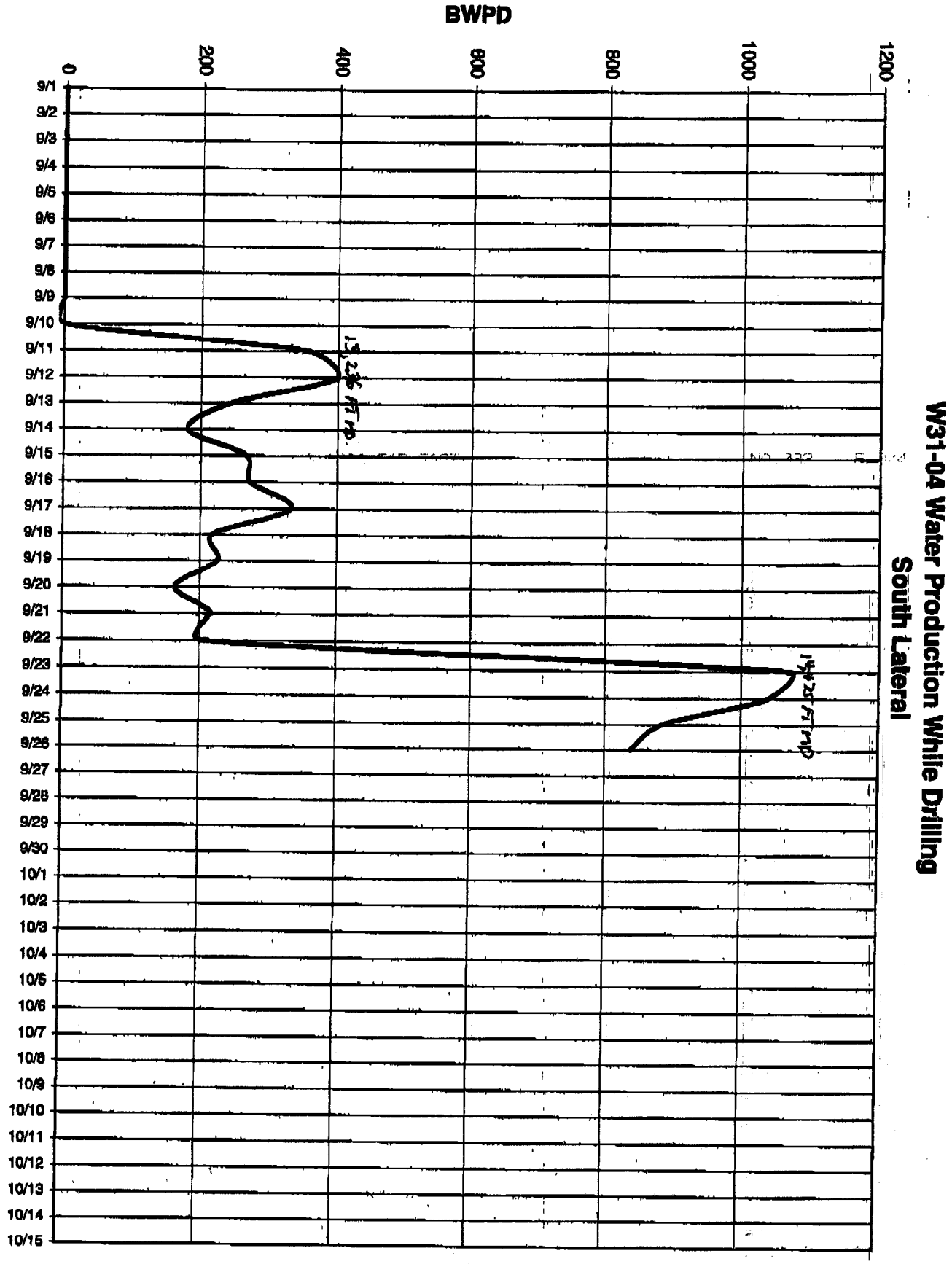
Date: 9-29-99

(See Instructions on Reverse Side)

COPY SENT TO OPERATOR
Date: 9-29-99
Initials: CHD

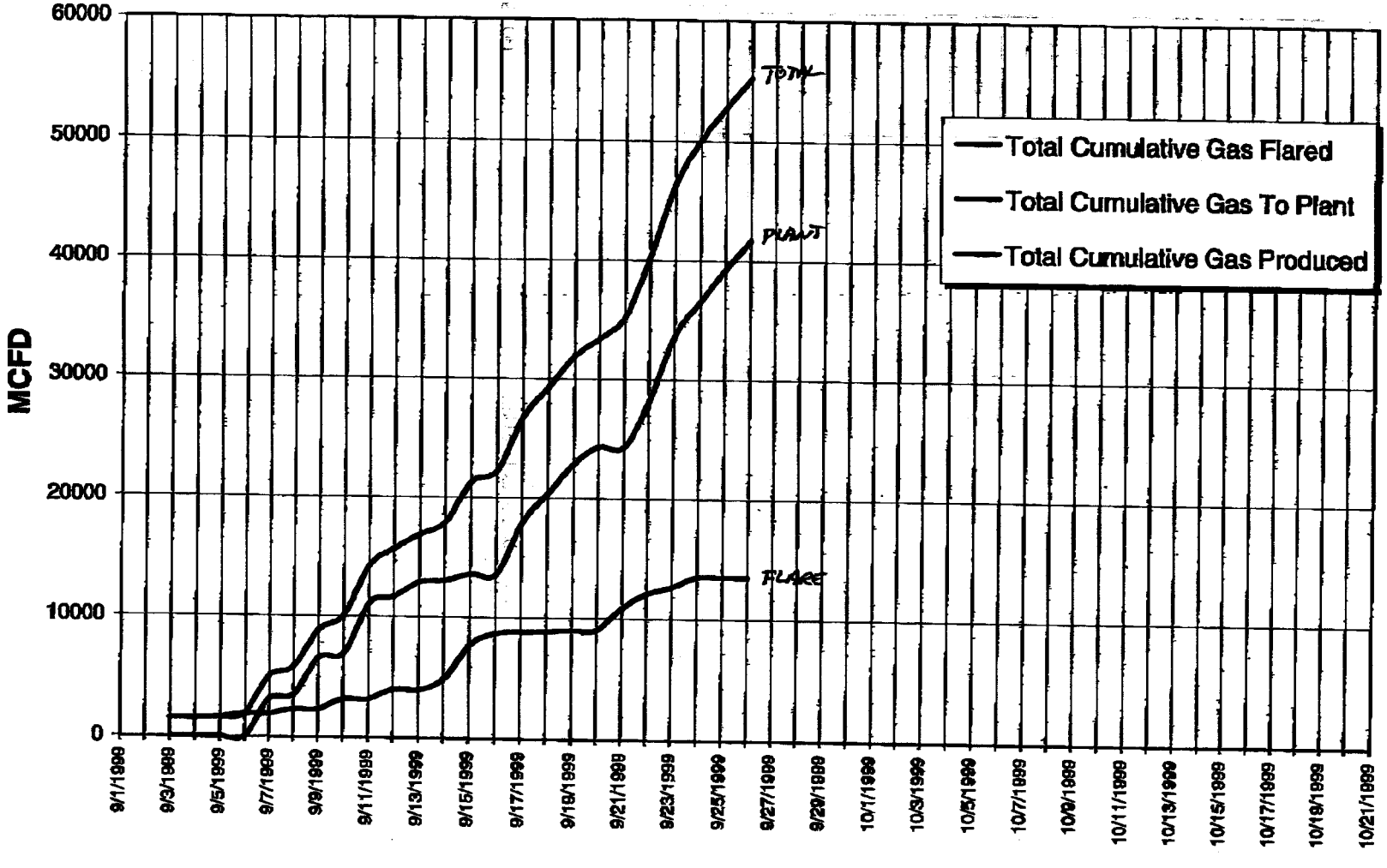
(4/94)

SEP.28.1999 4:41PM AMOCO ASIA FAR EAST NO.033 P.2/4


BWPD
0
200
400
600
800
1000
1200
9/1
9/2
9/3
9/4
9/5
9/6
9/7
9/8
9/9
9/10
9/11
9/12
9/13
9/14
9/15
9/16
9/17
9/18
9/19
9/20
9/21
9/22
9/23
9/24
9/25
9/26
9/27
9/28
9/29
9/30
10/1
10/2
10/3
10/4
10/5
10/6
10/7
10/8
10/9
10/10
10/11
10/12
10/13
10/14
10/15
W31-04 Water Production While Drilling
South Lateral

SEP.28.1999 4:42PM AMOCO ASIA FAR EAST NO.033 P.4/4

# Anshutz Ranch East W31-04
## Underbalanced Drilling Production



**BP Amoco**

# *FACSIMILE TRANSMISSION*

| To: | From: |
|---|---|
| State Of Utah<br>Department of Natural Resources<br>Division of Oil, Gas and Mining<br><br>Attention: Dan Jarvis<br>Bob Krueger<br><br>Fax No.: 801-359-3940 | Terry Miglicco<br>BP Amoco Exploration<br>Western U.S. Gas Business Unit<br>P.O. Box 3092<br>Houston, Texas 77253-3092<br><br>Telephone: 281-366-2036<br>Reply Fax: 281-366-7937 |
| Date: 9/28/99 | No. of Pages Including Cover: 3 |

Thank you,

Terry

This communication is intended for the use of the party to which it is addressed and may contain information that is privileged or confidential under applicable law. If you are not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is not permitted. If you have received this communication in error, please notify us immediately and then destroy this communication. Thank you.

*I:\hathaway.doc*

# BP AMOCO
## Daily Drilling Report

Page 1 of 4

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | 43-043-30165 | Date: 10/12/99 | Report: 49 | DFS: 44.00 | DOL: 60.00 |
| Event Name: | RE ENTER | | Start: 07/16/99 | End: | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: 14,109.0 (ft) | TVD: 13,206.0 (ft) | Progress: 377.0 (ft) | |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | AV ROP: | Hole Size: | |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | Shoe TMD: | Shoe TVD: | |
| Daily Cost: | 47,678 | Cumm. Cost: 3,699,505 | | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P/U | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 06:30 | 0.50 | DRILL | MISC | P | PROD1 | Washout in Tesco high pressure line, below choke. |
| 06:30 - 07:30 | 1.00 | DRILL | DRLD | P | PROD1 | Drill 5 7/8" hole in slide mode, f/ 13732- 13742 ft w/ 2100-2200 scf/ 30 gpm foam fuild. standpipe 920 psi/ 88 psi. |
| 07:30 - 08:00 | 0.50 | DRILL | REAM | P | PROD1 | Ream hole section / 13653-13742 ft due to high inclination. |
| 08:00 - 09:30 | 1.50 | DRILL | DRLD | P | PROD1 | Drill 5 7/8" hole in slide mode, f/ 13742- 13777 ft w/ 2100-2200 scf/ 30 gpm foam fuild. standpipe 980 psi/ 90 psi. |
| 09:30 - 10:30 | 1.00 | DRILL | DRLD | P | PROD1 | Drill 5 7/8" hole in rotary mode, f/ 13742- 13777 ft w/ 2100-2200 scf/ 30 gpm foam/ 30 rpm on rotary fuild. standpipe 980 psi/ 90 psi. |
| 10:30 - 11:00 | 0.50 | DRILL | SURD | P | PROD1 | Run survey w/ geo Com Gyro. |
| 11:00 - 11:30 | 0.50 | DRILL | MISC | P | PROD1 | Washout in Tesco Tee next to tesco separator. |
| 11:30 - 14:00 | 2.50 | DRILL | DRLD | P | PROD1 | Drill 5 7/8" hole in slide mode, f/ 13808- 13878 ft w/ 2100-2200 scf/ 30 gpm foam fuild. standpipe 920 psi/ 110 psi. |
| 14:00 - 14:30 | 0.50 | DRILL | MISC | P | PROD1 | Washout down stream out of tesco choke next to separator. |
| 14:30 - 22:00 | 7.50 | DRILL | DRLD | P | PROD1 | Drill 5 7/8" hole in slide mode, f/ 13878- 14020 ft w/ 2100-2200 scf/ 30 gpm foam fuild. standpipe 950 psi/ 110 psi. |
| 22:00 - 22:30 | 0.50 | DRILL | REAM | P | PROD1 | Ream 13930-14020 ft to maintain slick wellbore. |
| 22:30 - 23:30 | 1.00 | DRILL | MISC | P | PROD1 | Washout in high pressure line out side choke house, just below choke. |
| 23:30 - 02:00 | 2.50 | DRILL | DRLD | P | PROD1 | Drill 5 7/8" hole in slide mode, f/ 14020- 14066 ft w/ 2100-2200 scf/ 30 gpm foam fuild. standpipe 950 psi/ 122 psi. |
| 02:00 - 02:30 | 0.50 | DRILL | MISC | P | PROD1 | Washout in high pressure line out side choke house, next to Tesco separator. |
| 02:30 - 05:00 | 2.50 | DRILL | DRLD | P | PROD1 | Drill 5 7/8" hole in slide mode, f/ 14066- 14109 ft w/ 2100-2200 scf/ 30 gpm foam fuild. standpipe 995 psi/ 120 psi. |
| 05:00 - 05:30 | 0.50 | DRILL | CIRC | P | PROD1 | Drill string inc in pressure f/ 995-1100, annulas drop to 70 psi, ream full stand to minimize pressure, no success. |
| 05:30 - 06:00 | 0.50 | DRILL | TRIP | P | PROD1 | Maintain N2 on drill string while backream pout of hole, rpt time 14013 ft. |

Gas Analysis::

Total produced Gas ( INJECTED- PRODUCED)

| | | |
|---|---|---|
| Daily gas = | 7,695,519 | scf |
| Total Cumulative Gas | 85,745,970 | scf |

Total Gas Vented (N2- Methane)

| | | |
|---|---|---|
| Daily gas vented= | 385,269 | scf |
| Total Gas Vented= | 17,407,096 | scf |

Total Sales Line Gas

| | | |
|---|---|---|
| Daily sales Line Gas= | 7,310,250 | scf |
| Total Sales Line Gas= | 68,338,880 | scf |

Net Reservior Gas Produced

| | |
|---|---|
| Current Status: | Work drill string out hole, rpt time 14013 ft |
| 24hr Summary: | Drill 5 7/8" hole through Nugget formation. |
| 24hr Forecast: | Circ, TOH f/ bit, PU new bit, TIH, wash to btm, Dri horz. |

Printed: 10/12/99 9:19:59 AM

# DAILY DRILLING REPORT

Well Name: ARE W #31-04 Date: 10/12/99 Report: 49 DFS: 44.00 DOL: 60.00
Event Name: RE ENTER Start: 07/16/99 End:

## Operations Summary

| From - To | Hours | Code | Sub Code | P | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 05:30 - 06:00 | 0.50 | DRILL | TRIP | P | PROD1 | Daily Net Gas To Plant= 42634,656 scf<br>Net Gas Methane Comp (est)= 47 %<br>Daily Methane to Plant= 2,069,234 scf<br>Total Methane to Plant= 16,464,252 scf<br><br>Water Production (Start North lateral)<br>---------- <br>Daily Produced Water= 278 bbls.<br>Total Produced Water= 1509 bbls. |

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/12/99 Report: 49 DFS: 44.00 DOL: 60.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 16 | 15 |
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | HTC | HTC |
| Type | DMS 50 DDT | STR-DS 50 |
| Serial No. | V61YH | S59YJ |
| TFA (in²) | | |
| Depth In (ft) | 13,595.0 | 13,244.0 |
| Depth Out (ft) | | |
| Cum. Depth (ft) | 514.0 | |
| Cum. Hours | 25.50 | |
| WOB (Min) (Klb) | 18 | |
| WOB (Max) (Klb) | 24 | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 12:00 / PIT | | Ca+ (mg/L) | 620 | |
| Depth (ft) | 13,870.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.50 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 28 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 32.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 9.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.2 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit # 16 | 1 | 0.75 | EM sub | 1 | 9.86 |
| Dog sub | 1 | 0.55 | NM DC | 2 | 61.69 |
| Mud motor @ 1.83 deg. | 1 | 17.52 | XO | 1 | 3.11 |
| Float sub | 1 | 2.64 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.28 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,634.38 |
| DP OD | (in) | |
| String Rot Weight | (lbs) | 255,000 |
| Pick-Up Weight | (lbs) | 270,000 |
| Slack Off Weight | (lbs) | 235,000 |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | 2,068 |
| Cumulative | 32,792 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

Printed: 10/12/99 8:19:53 AM

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 10/12/99 Report: 49 DFS: 44.00 DOL: 60.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & Cold. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/11/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 13,699.00 | 112.000 | 79.300 | 13,243.39 | -529.05 | 996.68 | -529.05 | 5.93 | 5.17 |
| 13,729.00 | 112.100 | 82.300 | 13,232.13 | -524.61 | 1,024.13 | -524.61 | 9.27 | 0.33 |
| 13,760.00 | 108.400 | 81.800 | 13,221.40 | -520.59 | 1,052.92 | -520.59 | 12.03 | -11.94 |
| 13,791.00 | 107.500 | 79.700 | 13,211.85 | -515.84 | 1,082.03 | -515.84 | 7.07 | -2.90 |
| 13,821.00 | 108.100 | 81.300 | 13,202.68 | -511.13 | 1,110.20 | -511.13 | 5.46 | 2.00 |
| 13,852.00 | 109.000 | 84.200 | 13,192.81 | -507.42 | 1,139.35 | -507.42 | 9.33 | 2.90 |
| 13,883.00 | 109.300 | 86.400 | 13,182.64 | -505.02 | 1,168.53 | -505.02 | 6.77 | 0.97 |
| 13,913.00 | 109.500 | 86.200 | 13,172.68 | -503.69 | 1,196.80 | -503.69 | 5.70 | 0.67 |
| 13,944.00 | 108.100 | 89.200 | 13,162.69 | -503.02 | 1,226.14 | -503.02 | 5.45 | -4.52 |
| 13,975.00 | 107.800 | 91.700 | 13,153.13 | -503.25 | 1,255.62 | -503.25 | 7.73 | -0.97 |
| 14,005.00 | 108.500 | 92.300 | 13,143.78 | -504.25 | 1,284.11 | -504.25 | 3.01 | 2.33 |
| 14,036.00 | 109.600 | 93.700 | 13,133.67 | -505.78 | 1,313.37 | -505.78 | 5.55 | 3.55 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/12/99 9:19:53 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/11/99 | Report: | 46 | DFS: 43.00 | DOL: 59.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,732.0 (ft) | TVD: | 13,355.0 (ft) | Progress: | 137.0 (ft) |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: | |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: | |
| Daily Cost: | 64,058 | Cumm. Cost: | 3,651,827 | | | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 09:30 | 3.50 | DRILL | TRIP | P PROD1 | Continue TOH f/ 9750- 1067 ft. |
| 09:30 - 10:00 | 0.50 | DRILL | TRIP | P PROD1 | RU Tesco push-pull machine. |
| 10:00 - 11:00 | 1.00 | DRILL | TRIP | P PROD1 | TOH using Tesco push-pull machine. |
| 11:00 - 12:30 | 1.50 | DRILL | BHA | P PROD1 | Breakout - LD Geo Com MWD tool, mud motor , bit.<br>Bit Grade:<br>4-3-WT- I<br>E-I - No- In |
| 12:30 - 13:00 | 0.50 | DRILL | BHA | P PROD1 | PU new mud motor, set at 1.83 deg, Geo Com MWD, set-check- verify orientation on motor-MWD, test MWD. PU new 5 7/8" bit. |
| 13:00 - 14:00 | 1.00 | DRILL | TRIP | P PROD1 | TIH w/ Tesco push-pull machine to 1067 ft. |
| 14:00 - 14:30 | 0.50 | DRILL | TRIP | P PROD1 | RD Tesco push-pull machine, secure on drill floor. |
| 14:30 - 18:00 | 3.50 | DRILL | TRIP | P PROD1 | TIH w/ new 5 7/8" dir assy to 13093 ft. |
| 18:00 - 19:30 | 1.50 | DRILL | MISC | P PROD1 | Cut drilling line. |
| 19:30 - 20:00 | 0.50 | DRILL | RIGS | P PROD1 | Service rig- Tesco top drive system. |
| 20:00 - 22:00 | 2.00 | DRILL | CIRC | P PROD1 | Break circulation, pressure drill pipe- annulas w/ N2 with 2100-2200 cfm / 30 gpm foam fluid. |
| 22:00 - 22:30 | 0.50 | DRILL | REAM | P PROD1 | TIH f/ 13093- 13468 ft, drill string took wt. Wash-ream f/ 13468-13595 ft w/ 2200 scf N2/ 30 gpm faom fluid. |
| 22:30 - 23:00 | 0.50 | DRILL | DRLD | P PROD1 | drill 5 7/8" hole in slide mode f/ 13595-13602 ft w/ 2200 scf N2/ 30 gpm foam fluid.<br>stand pipe 980 psi/ 75 psi annulas. |
| 23:00 - 23:30 | 0.50 | DRILL | MISC | P PROD1 | Wash out in lower 4" tee below ESD on BOP stack, remove and repair.<br>NOTE:: A gas alarm drill for drill crew- contractor at 2300 hrs 10/10/ 99. |
| 23:30 - 00:00 | 0.50 | DRILL | DRLD | P PROD1 | Drill 5 7/8" hole in slide mode f/ 13602-13606 ft w/ 2100-2200 scf N2/ 30 gpm foam fluid.<br>standpipe pressure 980 psi/ annulas 70 psi. |
| 00:00 - 06:00 | 6.00 | DRILL | DRLD | P PROD1 | Drill 5 7/6" hole in slide mode f/ 13606-13732 ft w/ 2100-2200 scf N2/ 30 gpm foam fluid.<br>standpipe pressure 900 psi/ annulas 60 psi.<br><br>Gas Analysis::<br><br>Total produced Gas ( INJECTED- PRODUCED)<br>---------- |
| | | | | | Daily gas = 4,600,000 scf<br>Total Cumulative Gas 76,050,451 scf<br><br>Total Gas Vented (N2- Methane)<br>---------- |
| | | | | | Daily gas vented= 0 scf<br>Total Gas Vented= 17,021,827 scf<br><br>Total Sales Line Gas<br>---------- |
| | | | | | Daily sales Line Gas= 4,600,000 scf<br>Total Sales Line Gas= 61,028,630 scf |

| | |
|---|---|
| Current Status: | Repair washout in Tesco choke line. |
| 24hr Summary: | TOH, PU new bit, TIH, drill- orient to target. |
| 24hr Forecast: | Drill 5 7/8" hole through Nugget formation. |

Printed: 10/11/99 8:36:17 AM

BP AMOCO



# DAILY DRILLING REPORT

Well Name: ARE W #31-04 Date: 10/11/99 Report: 46 DFS: 43.00 DOL: 59.00
Event Name: RE ENTER Start: 07/16/99 End:

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 00:00 - 06:00 | 6.00 | DRILL | DRLD | P PROD1 | Net Reservior Gas Produced<br>---<br>Daily Net Gas To Plant= 3,184,300 scf<br>Net Gas Methane Comp (est)= 47 %<br>Daily Methane to Plant= 1,496,621 scf<br>Total Methane to Plant= 14,395,018 scf<br><br>Water Production (Start North lateral)<br>---<br>Daily Produced Water= 277 bbls.<br>Total Produced Water= 1229 bbls. |

BP AMOCO Page 3 of 4

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/11/99 Report: 48 DFS: 43.00 DOL: 59.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 16 | 15 |
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | HTC | HTC |
| Type | DMS 50 DDT | STR-DS 50 |
| Serial No. | V61YH | S59YJ |
| TFA (in²) | | |
| Depth In (ft) | 13,595.0 | 13,244.0 |
| Depth Out (ft) | | |
| Cum. Depth (ft) | 137.0 | |
| Cum. Hours | 7.00 | |
| WOB (Min) (Klb) | 12 | |
| WOB (Max) (Klb) | 22 | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 10:45 / PIT | | Ca+ (mg/L) | 600 | |
| Depth (ft) | 13,595.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.60 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 28 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 22.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.00 | | | | |
| Pm (mL) | 0.4 | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.6 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit # 16 | 1 | 0.75 | EM sub | 1 | 9.86 |
| Dog sub | 1 | 0.55 | NM DC | 2 | 61.69 |
| Mud motor @ 1.83 deg. | 1 | 17.52 | XO | 1 | 3.11 |
| Float sub | 1 | 2.64 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.28 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,634.38 |
| DP OD | (in) | |
| String Rot Weight | (lbs) | 255,000 |
| Pick-Up Weight | (lbs) | 275,000 |
| Slack Off Weight | (lbs) | 245,000 |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | 770 |
| Cumulative | 30,724 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| Type | HRS |
|---|---|
| | |
| | |
| | |
| | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

Printed: 10/11/99 8:36:17 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/11/99 Report: 46 DFS: 43.00 DOL: 59.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & Cold. | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/10/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 13,578.00 | 102.400 | 77.000 | 13,279.57 | -552.64 | 883.83 | -552.64 | 18.34 | 18.33 |
| 13,608.00 | 104.800 | 77.500 | 13,272.52 | -546.20 | 912.27 | -546.20 | 8.16 | 8.00 |
| 13,640.00 | 107.400 | 78.800 | 13,263.65 | -539.89 | 942.35 | -539.89 | 9.01 | 8.13 |
| 13,670.00 | 110.500 | 78.400 | 13,253.90 | -534.28 | 970.16 | -534.28 | 10.41 | 10.33 |

Printed: 10/11/99 8:36:17 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/10/99 | Report: | 47 | DFS: 42.00 | DOL: 58.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,595.0 (ft) | TVD: | 13,338.0 (ft) | Progress: | 283.0 (ft) |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: | |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: | |
| Daily Cost: | 57,337 | Cumm. Cost: | 3,587,769 | | | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 23:00 | 17.00 | DRILL | DRLD | P | PROD1 | drill 5 7/8" hole -slide mode f/ 13312-13551ft w/ 2100-2200 scf N2/ 30 gpm foam fluid, Stand pipe pressure 1050 psi/ 100 psi annulas.<br><br>gas inc. gas at 13375 ft MD. gradually up to 3.5 mmscf |
| 23:00 - 23:30 | 0.50 | DRILL | MISC | P | PROD1 | Change out washed out Tesco tee down stream ESD on BOP stack. |
| 23:30 - 02:00 | 2.50 | DRILL | DRLD | P | PROD1 | drill 5 7/8" hole -slide mode f/ 13312-13595ft w/ 2100-2200 scf N2/ 30 gpm foam fluid. |
| 02:00 - 02:30 | 0.50 | DRILL | CIRC | P | PROD1 | Circulate hole w/ 2000 scf N2, dry drill pipe up. |
| 02:30 - 03:00 | 0.50 | DRILL | TRIP | P | PROD1 | TOH w/ 5 7/8" dir assy to 13408 ft, tight hole. |
| 03:00 - 03:30 | 0.50 | DRILL | CIRC | P | PROD1 | Break circ, pressure up drill pipe w/ N2 w/ 2200 scf. Work drill string f/ 345,000 - 175,000, N2 pressure bluid to 1450 psi- drop back to 900 psi. Drill string free up. |
| 03:30 - 04:00 | 0.50 | DRILL | TRIP | P | PROD1 | TOH w/ 5 7/8" dir assy to 13090 ft. |
| 04:00 - 04:30 | 0.50 | DRILL | CIRC | P | PROD1 | Circulate w/ 2200 scf N2, to dry drill string. |
| 04:30 - 05:00 | 0.50 | DRILL | CIRC | P | PROD1 | Bleed down drill string, remove float sub. |
| 05:00 - 06:00 | 1.00 | DRILL | TRIP | P | PROD1 | TOH w/ 5 7/8" dir assy, at rpt time 9750 ft.<br><br>Gas Analysis::<br><br>Total produced Gas ( INJECTED- PRODUCED)<br>---<br>Daily gas = 6,074,925 scf<br>Total Cumulative Gas 73,450,451 scf<br><br>Total Gas Vented (N2- Methane)<br>---<br>Daily gas vented= 394,925 scf<br>Total Gas Vented= 17,021,627 scf<br><br>Total Sales Line Gas<br>---<br>Daily sales Line Gas= 5,680,000 scf<br>Total Sales Line Gas= 56,428,630 scf<br><br>Net Reservior Gas Produced<br>---<br>Daily Net Gas To Plant= 2,973,024 scf<br>Net Gas Methane Comp (est)= 47 %<br>Daily Methane to Plant= 1,306,483 scf<br>Total Methane to Plant= 12,898,397 scf<br><br>Water Production (Start North lateral)<br>---<br>Daily Produced Water= 311 bbls.<br>Total Produced Water= 952 bbls. |

| | |
|---|---|
| Current Status: | TOH w/ 5 7/6" Dir assy, rpt time 9750 ft. |
| 24hr Summary: | Contunie Drill 5 7/6" hole-slide mode, though build section, survey |
| 24hr Forecast: | Circ, TOH, PU new bit, TIH, drill- orient to target. |

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/10/99 Report: 47 DFS: 42.00 DOL: 58.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 16 | 15 |
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | HTC | HTC |
| Type | DMS 50 DDT | STR-DS 50 |
| Serial No. | V61YH | R28YY |
| TFA (in²) | | |
| Depth In (ft) | 13,595.0 | 13,244.0 |
| Depth Out (ft) | | 13,595.0 |
| Cum. Depth | | 351.0 |
| Cum. Hours | | 19.50 |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | 4/M/3/M |
| Cond (BGOR) | | E/ I/NO/ IN |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 14:00 / PIT | | Ca+ (mg/L) | 520 | |
| Depth (ft) | 13,428.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.40 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 28 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | | |
| API WL (cc/30min | 40.0 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 188.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | | | | | |
| Pf/Mf (mL / mL) | / 0.4 | | | | |
| Comment1: | | | 2: | | |

### BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit # 16 | 1 | 0.75 | EM sub | 1 | 9.86 |
| Dog sub | 1 | 0.55 | NM DC | 2 | 61.69 |
| Mud motor @ 1.83 deg. | 1 | 17.52 | XO | 1 | 3.11 |
| Float sub | 1 | 2.64 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.28 |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

### Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

### Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,634.38 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 29,954 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/11/99 8:36:31 AM

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/10/99 Report: 47 DFS: 42.00 DOL: 58.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL |
|---|---|
| Unit | Gals. |
| On Hand | |
| Used | 7,200 |
| Received | 7,200 |
| Returned | |
| Adjusted | |

## Weather

| | |
|---|---|
| Rig Heave | |
| Rig Pitch | |
| Rig Roll | |
| Wave Height | |
| Wave Direct | |
| Wave Period | |
| Swell Height | |
| Swell Direct | |
| Wind Speed | |
| Wind Direct | |
| Temp Maximum | |
| Temp Minimum | |
| Visibility | |
| Barom | |
| Weather | Clear & Cold. |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/09/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 13,295.00 | 48.200 | 84.900 | 13,205.68 | -605.43 | 627.24 | -605.43 | 19.46 | 19.35 |
| 13,325.00 | 53.200 | 83.700 | 13,224.68 | -603.11 | 650.33 | -603.11 | 16.95 | 16.67 |
| 13,356.00 | 59.400 | 80.500 | 13,241.87 | -599.55 | 675.86 | -599.55 | 21.76 | 20.00 |
| 13,387.00 | 64.600 | 77.400 | 13,256.42 | -594.29 | 702.70 | -594.29 | 18.95 | 16.77 |
| 13,418.00 | 69.000 | 75.800 | 13,268.63 | -587.68 | 730.41 | -587.68 | 14.96 | 14.19 |
| 13,448.00 | 76.000 | 76.700 | 13,277.65 | -580.89 | 756.19 | -580.89 | 23.51 | 23.33 |
| 13,480.00 | 82.400 | 77.500 | 13,283.64 | -573.87 | 788.81 | -573.87 | 20.15 | 20.00 |
| 13,511.00 | 87.900 | 77.600 | 13,286.26 | -567.27 | 818.97 | -567.27 | 17.77 | 17.74 |
| 13,542.00 | 95.800 | 77.200 | 13,285.26 | -560.57 | 849.20 | -560.57 | 25.56 | 25.48 |

Printed: 10/11/99 8:36:31 AM

# BP AMOCO

## Daily Drilling Report



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/09/99 | Report: | 46 | DFS: 41.00 | DOL: 57.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,312.0 (ft) | TVD: | 13,209.0 (ft) Progress: 68.0 (ft) |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 57,120 | Cumm. Cost: | 3,530,432 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 06:30 | 0.50 | DRILL | CIRC | P | PROD1 | Bleed off drill pipe, TOHf/ 13244- 12995 ft, bleed down drill pipe, remove float sub. |
| 06:30 - 10:00 | 3.50 | DRILL | TRIP | P | PROD1 | TOH w/ 5 7/8" dir assy to 5145 ft. |
| 10:00 - 10:30 | 0.50 | DRILL | CIRC | P | PROD1 | bleed off drill pipe at 5145 ft, remove float sub. |
| 10:30 - 12:30 | 2.00 | DRILL | TRIP | P | PROD1 | TOH w/ 5 7/8" dir assy to 620 ft. |
| 12:30 - 13:00 | 0.50 | DRILL | TRIP | P | PROD1 | RU Tesco push-pull machine, and secure. |
| 13:00 - 14:00 | 1.00 | DRILL | TRIP | P | PROD1 | TOH utulizing Tesco push-pull machine. |
| 14:00 - 14:30 | 0.50 | DRILL | BHA | P | PROD1 | Breakout, LD mud motor, (2) float subs, bit.<br>Bit grade:<br>2-3-wt-H<br>1-I-no- PR |
| 14:30 - 15:00 | 0.50 | DRILL | BHA | P | PROD1 | Laydown Geo Com MWD probe, change batteries in unit. |
| 15:00 - 16:00 | 1.00 | DRILL | BHA | P | PROD1 | PU new bit, (2) new float element in float sub, Pu new mud motor, set at 2.38 deg, Geo Com MWD. Orient-verify mud motor to MWD settings, test signal. |
| 16:00 - 17:00 | 1.00 | DRILL | TRIP | P | PROD1 | TIH utilizing Tesco push-pull maching to 620 ft. |
| 17:00 - 18:00 | 1.00 | DRILL | TRIP | P | PROD1 | RD Tesco push-pull machine and secure on drill floor. |
| 18:00 - 21:30 | 3.50 | DRILL | TRIP | P | PROD1 | TIH w/ 5 7/8" dir assy to xxxxx ft. |
| 21:30 - 23:30 | 2.00 | DRILL | CIRC | P | PROD1 | Break circulation, pressure up drill pipe- annulas w/ 2100-2200 scf N2/ 30 gpm foam fluid. |
| 23:30 - 00:00 | 0.50 | DRILL | SURD | P | PROD1 | Run (2) check shot survey to confurm in North lateral sidetrack. |
| 00:00 - 06:00 | 6.00 | DRILL | DRLD | P | PROD1 | Drill 5 7/8" hole in slide mode f/ 13244-13312,ft w/ 2100-2200 scf N3/ 30 gpm foam fluid. With standpipe pressure of 975 psi/ 57 psi on annulas.<br><br>Gas Analysis::<br><br>Total produced Gas ( INJECTED- PRODUCED)<br>----------<br>Daily gas = 1,690,000 scf<br>Total Cumulative Gas 67,375,526 scf<br><br>Total Gas Vented (N2- Methane)<br>----------<br>Daily gas vented= 0 scf<br>Total Gas Vented= 16,626,902 scf<br><br>Total Sales Line Gas<br>----------<br>Daily sales Line Gas= 1,690,000 scf<br>Total Sales Line Gas= 50,748,630 scf<br><br>Net Reservior Gas Produced<br>----------<br>Daily Net Gas To Plant= 1,392,608 scf<br>Net Gas Methane Comp (est)= 47 %<br>Daily Methane to Plant= 139,774 scf<br>Total Methane to Plant= 11,591,914 scf |

| | |
|---|---|
| Current Status: | Drill 5 7/8" hole-slide mode, rpt time 13312 ft. |
| 24hr Summary: | Drill in slide mode w/ bluilding angle. |
| 24hr Forecast: | Contunie Drill 5 7/8" hole-slide mode, though build section. |

BP AMOCO

# DAILY DRILLING REPORT

Well Name: ARE W #31-04 Date: 10/09/99 Report: 46 DFS: 41.00 DOL: 57.00
Event Name: RE ENTER Start: 07/16/99 End:

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 00:00 - 06:00 | 6.00 | DRILL | DRLD | P PROD1 | Water Production (Start North lateral)<br>---<br>Daily Produced Water= 210 bbls.<br>Total Produced Water= 641 bbls. |

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/09/99 Report: 46 DFS: 41.00 DOL: 57.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 15 | 15 |
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | HTC | HTC |
| Type | STR-DS 50 | STR-DS 50 |
| Serial No. | R28YY | S59YJ |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | 13,244.0 |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 14:00 / PIT | | Ca+ (mg/L) | 520 | |
| Depth (ft) | 13,246.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.40 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | | |
| API WL (cc/30min | 16.0 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 9.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 11.00 | | | | |
| Pm (mL) | 0.3 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.3 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #15 | 1 | 0.75 | NM DC | 2 | 61.69 |
| Dog sub | 1 | 0.55 | XO | 1 | 3.11 |
| Mud motor @ 1.83 deg. | 1 | 20.60 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.28 |
| EM sub | 1 | 9.86 | 4" HWDP | 45 | 1,387.33 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Strokes | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

## Pipe Data

| | | |
|---|---|---|
| Min ID (in) | | 2.500 |
| DC OD (in) | | |
| DC (ft) | | |
| HWDP OD (in) | | |
| HWDP (ft) | | |
| BHA | | 5,634.82 |
| DP OD (in) | | |
| String Rot Weight (lbs) | | 254,000 |
| Pick-Up Weight (lbs) | | 268,000 |
| Slack Off Weight (lbs) | | 247,000 |

## Mud Volume

| | |
|---|---|
| Hole Vol (bbl) | |
| Pit 1 | |
| Pit 2 | |
| Pit 3 | |
| Pit 4 | |
| Total Mud Vol (bbl) | |
| Vol Built Day (bbl) | |
| Vol Built Cum | |
| Vol Lost Surf Day (bbl) | |
| Vol Lost Surf Cum | |
| Vol Lost Hole Day (bbl) | |
| Vol Lost Hole Tot | |
| Vol Dumped Day (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 29,954 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/10/99 8:12:13 AM

# BP AMOCO

## Daily Drilling Report

PAGE 1 of 2

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/08/99 | Report: | 45 | DFS: 40.00 | DOL: 56.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,244.0 (ft) | TVD: | 13,180.0 (ft) |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | |
| Daily Cost: | 47,374 | Cumm. Cost: | 3,473,312 | | |

Progress: 121.0 (ft)

Hole Size:

Shoe TVD:

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 15:00 | 9.00 | DRILL | DRLD P | PROD1 | Time drill in slide mode f/ 13110-13120 ft w/ 2100-2200 scf N2/ 30 gpm foam fluid at 90 deg left. |
| 15:00 - 15:30 | 0.50 | DRILL | DRLD P | PROD1 | Attempt to slide f/ 13120-13123 ft w/ 6000 lbs wob, lost sidetrack ledge, fell back in old hole. |
| 15:30 - 16:00 | 0.50 | DRILL | DRLD P | PROD1 | Orient drill string, work pipe to get proper orientation to 130 deg Left. |
| 16:00 - 23:00 | 7.00 | DRILL | DRLD P | PROD1 | Time drill f/ 13123-13131 ft at 160-180 Left w/ 2100-2200 scf N2/ 30 gpm foam fluid. |
| 23:00 - 05:30 | 6.50 | DRILL | DRLD P | PROD1 | Drill in slide mode f/ 13131-13244 ft w/ 2100-2200 scf N2 / 30 gpm foam fluid/ 8-10,000 lb on bit. Int ROP 25.5 fph 17.38 fph overall |
| 05:30 - 06:00 | 0.50 | DRILL | DRLD P | PROD1 | Circulate, blow drill pipe dry w/ 2100-2200 scf N2, prepare to trip out hole f/ fit. |

Gas Analysis::

Total produced Gas ( INJECTED- PRODUCED)

Daily gas = 2,672,000 scf
Total Cumulative Gas 65,665,526 ecf

Total Gas Vented (N2- Methane)

Daily gas vented= 0 scf
Total Gas Vented= 16,626,902 scf

Total Sales Line Gas

Daily sales Line Gas= 2,670,000 scf
Total Sales Line Gas= 49,058,630 scf

Net Reservior Gas Produced

Daily Net Gas To Plant= 2,670,000 scf
Net Gas Methane Comp (est)= 47 %
Daily Methane to Plant= 0 scf
Total Methane to Plant= 11,452,140 scf

Water Production (Start North lateral)

Daily Produced Water= 219 bbls.
Total Produced Water= 431 bbls.

Current Status: Circulate Drill pipe dry, prepare to TOH.

24hr Summary: Time drill in slide mode, for side track- North Lateral, dri slide.

24hr Forecast: Drill in slide mode w/ biulding angle.

Printed: 10/09/99 8:09:38 AM

# BP AMOCO
# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/08/99 Report: 45 DFS: 40.00 DOL: 56.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| Bit No. | 15 | 14 |
|---|---|---|
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | HTC | HTC |
| Type | STR-DS 50 | STROS 50 F |
| Serial No. | S59YJ | S59YJ |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | 13,123.0 |
| Depth Out (ft) | | 13,244.0 |
| Cum. Depth | | 121.0 |
| Cum. Hours | | 6.50 |
| WOB (Min) | | 8 |
| WOB (Max) | | 12 |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | 2/H/3/H |
| Cond (BGOR) | | 1/ I/NO/ PR |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| Type 1: | WATER/BRINE | | 2: | | |
|---|---|---|---|---|---|
| Time/Loc | 11:30 / PIT | | Ca+ (mg/L) | 152 | |
| Depth (ft) | 13,116.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.40 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | | |
| API WL (cc/30min | 24.0 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.50 | | | | |
| Pm (mL) | | | | | |
| Pf/Mf (mL / mL) | 0.0 / 0.3 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #15 | 1 | 0.75 | NM DC | 2 | 61.69 |
| Dog sub | 1 | 0.55 | XO | 1 | 3.11 |
| Mud motor @ 1.83 deg. | 1 | 20.60 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.28 |
| EM sub | 1 | 9.86 | 4" HWDP | 45 | 1,387.33 |

## Pump Data

| Pump | | | |
|---|---|---|---|
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,634.82 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | 66 |
| Cumulative | 29,954 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/08/99 Report: 45 DFS: 40.00 DOL: 56.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | | Barom |
| Weather | Clear & Cold. | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Teaco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/07/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 13,109.00 | 27.400 | 125.300 | 13,052.28 | -594.01 | 527.30 | 764.42 | 0.00 | 0.20 |
| 13,138.00 | 26.400 | 117.800 | 13,078.15 | -600.88 | 538.45 | -600.88 | 12.19 | -3.45 |
| 13,169.00 | 29.300 | 101.400 | 13,105.60 | -605.60 | 552.01 | -605.60 | 26.33 | 9.35 |
| 13,201.00 | 31.900 | 94.400 | 13,133.15 | -607.79 | 566.12 | -607.79 | 13.77 | 8.13 |

Printed: 10/09/99 8:09:38 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 43-043-30165 | Date: | 10/01/99 | Report: | 35 | DFS: | 34.00 | DOL: 50.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,583.0 (ft) | TVD: | 13,058.0 (ft) Progress: |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 62,736 | Cumm. Cost: | 3,021,771 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 10:00 | 4.00 | DRILL | INSP | P PROD1 | Complete mag inspection on 4" HWDP, all jt OK. |
| 10:00 - 11:30 | 1.50 | DRILL | TRIP | P PROD1 | TOOH w/ remaining BHA. |
| 11:30 - 12:00 | 0.50 | DRILL | INSP | P PROD1 | Inspect Tesco dual annuar element, in good shape. |
| 12:00 - 13:30 | 1.50 | DRILL | INSP | P PROD1 | Inspect remaining BHA- monel DC, x-over subs. |
| 13:30 - 14:30 | 1.00 | DRILL | MISC | P PROD1 | Cut drilling line. |
| 14:30 - 15:00 | 0.50 | DRILL | RIGS | P PROD1 | Service rig. |
| 15:00 - 17:30 | 2.50 | DRILL | WAIT | P PROD1 | Wait on Orders. |
| 17:30 - 19:30 | 2.00 | DRILL | BHA | P PROD1 | PU-MU Baker PIP assy: |
| | | | | | Bull plug .46 |
| | | | | | 1 jt 3 1/2" tubing 9.3 ppf 31.24 |
| | | | | | perf sub- 3 1/2" 9.3 ppf 10.04 |
| | | | | | 1 jt 3 1/2" tubing 9.3 ppf 32.63 |
| | | | | | PIP assy 5" OD 10.98 |
| | | | | | 2 7/8" cmt ret flapper assy 2.62 |
| | | | | | 1- 2 7/8" sub 9.97 |
| | | | | | 1- 2 7/8 fill up sub 2.05 |
| | | | | | 1- 2 7/8 landing collar .82 |
| | | | | | 1- 2 7/8 tbg sub 10.23 |
| | | | | | x-over sub .97 |
| | | | | | 1- 3 1/2" pup jt 9.90 |
| | | | | | 1- 3 1/2 bumper sub 7.60 |
| | | | | | 1- x-over sub to HT-38 3.10 |
| | | | | | TOTAL 132.61 ft |
| 19:30 - 03:30 | 8.00 | DRILL | TRIP | P PROD1 | Trip in the hole, SLM drill pipe tp 14,219.6 ft( top of PIP packer element.) |
| 03:30 - 04:30 | 1.00 | CEMT | CMTP | P PROD1 | RU Dowell, hookup surface equipment. |
| 04:30 - 06:00 | 1.50 | CEMT | CMTP | P PROD1 | Conduct safety meeting. pressure test lines to 4500 psi. Pump production water at 1 bpm at 13 psi for40 bbls , slackoff 10,000 lb string wt, pump total 60 bbl, inc rate to 2 bpm to total 70 bbls at 32 psi, slackoff to 15,000 lb string wt. No inc in pressure. check- well on suction. |

| | |
|---|---|
| Current Status: | Set Baker PIP packer. |
| 24hr Summary: | Comp insept HWDP-BHA, PU OH BP, TIH, set, cement, TOH. |
| 24hr Forecast: | Pump cmt, disp, sting out, TOH, PU drl assy, TIH, disp to N2 |

Printed: 10/01/99 6:13:12 AM

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/01/99 Report: 36 DFS: 34.00 DOL: 50.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | | |
| Run | | |
| Size | | |
| Manu. | | |
| Type | | |
| Serial No. | | |
| TFA | | |
| Depth In | | |
| Depth Out | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 12:00 / PIT | | Ca+ (mg/L) | 800 | |
| Depth (ft) | 14,583.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.50 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 33 | | Sand (%) | | |
| PV (cp) | 4 | | Tot. Solids | | |
| YP (lb/100ft²) | 4 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | 8.0 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 7.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.20 | | | | |
| Pm (mL) | 0.6 | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.5 | | | | |
| Comment1: | | | 2: | | |

## BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

## Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 27,267 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | | |
|---|---|---|
| Conn Avg/Max | (ppm) | |
| Bkgr Avg/Max | (ppm) | |
| Trip Avg/Max | (ppm) | |
| H2S | (ppm) | |

Printed: 10/01/99 8:13:12 AM

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/01/99 Report: 36 DFS: 34.00 DOL: 50.00

Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & Cold. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/29/99 | Incident Report Sent Y/N | |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/01/99 8:13:12 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/30/99 | Report: | 37 | DFS: 33.00 | DOL: 49.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,583.0 (ft) | TVD: | 13,058.0 (ft) Progress: |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 106,968 | Cumm. Cost: | 2,959,035 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 07:00 | 1.00 | EVAL | LOG | P | PROD1 | TOH w/Electric line, drill pipe conveyed logs. |
| 07:00 - 07:30 | 0.50 | EVAL | LOG | P | PROD1 | Laydown side door entry sub, RD wireline equipment. |
| 07:30 - 12:30 | 5.00 | EVAL | TRIP | P | PROD1 | Trip out hole with drill pipe, drill pipe conveyed logging tools. |
| 12:30 - 13:00 | 0.50 | EVAL | BHA | P | PROD1 | Breakout- LD pipe conveyed logging tools. |
| 13:00 - 16:00 | 3.00 | EVAL | BHA | P | PROD1 | PU- MU BHA- MWD assy. |
| 16:00 - 22:30 | 6.50 | EVAL | TRIP | P | PROD1 | TIH with BHA- MWD assy to 14550 ft. Fluid level at 5000 ft. |
| 22:30 - 23:30 | 1.00 | EVAL | SURD | P | PROD1 | Run check shot survey to verify signal strength of EMT tool with out antenna at 14550, 14087, 13640, 13624, 13158 ft, survey appear to match with previous surveys. |
| 23:30 - 03:30 | 4.00 | EVAL | TRIP | P | PROD1 | TOOH with BHA assy to 1650 ft. |
| 03:30 - 06:00 | 2.50 | EVAL | INSP | P | PROD1 | Inspect 4" HWDP, at rpt time 18 jt of 49 jt completed, all in good shape. |

| | |
|---|---|
| Current Status: | Inspect 4" HWDP. |
| 24hr Summary: | TOH w/logs, TIH w/DP BHA-MWD, Eval survey, TOH Inspect HWDP. |
| 24hr Forecast: | Comp Inscpt HWDP-BHA, PU OH BP, TIH, set, cement, TOH. |

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/30/99 Report: 37 DFS: 33.00 DOL: 49.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 10 | |
| Run | RR6 | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS50FD | |
| Serial No. | S49YS | |
| TFA (in²) | | |
| Depth In (ft) | 14,583.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 12:00 / PIT | | Ca+ (mg/L) | 800 | |
| Depth (ft) | 14,583.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.50 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 33 | | Sand (%) | | |
| PV (cp) | 4 | | Tot. Solids | | |
| YP (lb/100ft²) | 4 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | 8.0 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 7.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.20 | | | | |
| Pm (mL) | 0.6 | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.5 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #10 | 1 | 0.75 | Cent Sub | 1 | 3.96 |
| BIT SUB | 1 | 3.05 | NM DC | 2 | 61.68 |
| XO | 1 | 3.10 | XO | 1 | 3.11 |
| FLOAT SUB | | 2.65 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.25 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | Press | |
| Pump | Press | |
| Pump | Press | |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,616.53 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 27,267 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/30/99 7:54:34 AM

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/30/99 Report: 37 DFS: 33.00 DOL: 49.00

Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & Cold. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/29/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/30/99 7:54:34 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/29/99 | Report: | 36 | DFS: 32.00 | DOL: 48.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,583.0 (ft) | TVD: | 13,058.0 (ft) Progress: |
| Rig Super: | Smith/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 50,250 | Cumm. Cost: | 2,852,067 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 07:00 | 1.00 | DRILL | BHA | P | PROD1 | Lay down BHA. |
| 07:00 - 09:30 | 2.50 | DRILL | FCHK | P | PROD1 | Observe well for flow. |
| 09:30 - 10:00 | 0.50 | EVAL | LOG | P | PROD1 | Pick up drill pipe conveyed FMS Log. |
| 10:00 - 17:00 | 7.00 | EVAL | LOG | P | PROD1 | TIH w/Logs. |
| 17:00 - 18:00 | 1.00 | EVAL | LOG | P | PROD1 | Install Side Door Sub. |
| 18:00 - 22:30 | 4.50 | EVAL | LOG | P | PROD1 | TIH w/Logs. |
| 22:30 - 04:30 | 6.00 | EVAL | LOG | P | PROD1 | Logging operation. |
| 04:30 - 06:00 | 1.50 | EVAL | LOG | P | PROD1 | Tripping out of hole w/logging tools on drillpipe. |

| | |
|---|---|
| Current Status: | TOH w/Electric line/drill pipe conveyed logs. |
| 24hr Summary: | TOH, Observe Well, TIH w/DP Conv. Logs, Logging. |
| 24hr Forecast: | TOH w/logs, TIH w/DP, Kick well off, Flow test. |

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/29/99 Report: 36 DFS: 32.00 DOL: 48.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 10 | |
| Run | RR6 | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-D850FD | |
| Serial No. | S49YS | |
| TFA (in²) | | |
| Depth In (ft) | 14,583.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | : / PIT | | Ca+ (mg/L) | 600 | |
| Depth (ft) | 14,583.00 | | K+ (mg/L) | 450 | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.45 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 33 | | Sand (%) | | |
| PV (cp) | 4 | | Tot. Solids | | |
| YP (lb/100ft²) | 4 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | 8.0 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 7.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.20 | | | | |
| Pm (mL) | 0.6 | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.5 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #10 | 1 | 0.75 | Cent Sub | 1 | 3.96 |
| BIT SUB | 1 | 3.05 | NM DC | 2 | 61.68 |
| XO | 1 | 3.10 | XO | 1 | 3.11 |
| FLOAT SUB | | 2.65 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.25 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | |
|---|---|
| Pump | Press |
| Pump | Press |
| Pump | Press |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,616.53 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 27,267 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/30/99 7:53:32 AM

# BP AMOCO

## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/29/99 Report: 36 DFS: 32.00 DOL: 48.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & Cold. | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/28/99 | Incident Report Sent Y/N | |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/30/99 7:53:32 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/28/99 | Report: | 35 | DFS: 31.00 | DOL: 47.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,583.0 (ft) | TVD: | 13,058.0 (ft) Progress: |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 71,665 | Cumm. Cost: | 2,801,817 | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 13:00 | 7.00 | EVAL | FCHK | PROD1 | Time: FCP: FBHP: MMCF/D: FLUID BBLS:<br>6:00-7:00 57 1310 2.44 26<br>7:00-8:00 56 1320 2.00 44<br>8:00-9:00 56 1320 2.48 48<br>9:00-10:00 59 1323 2.32 13<br>10:00-11:00 54 1330 2.16 43<br>11:00-12:00 61 1325 2.24 48<br>12:00-1:00 59 1328 2.32 21<br>1:00-2:00 48 1355 1.67 20 |
| 13:00 - 14:00 | 1.00 | DRILL | TRIP | P PROD1 | Trip in from 12985 - 14583' - No fill! |
| 14:00 - 17:00 | 3.00 | DRILL | WKIL | P PROD1 | Fill Pill Pit w/productin water, pump 200 bbls. |
| 17:00 - 19:30 | 2.50 | DRILL | TRIP | P PROD1 | TOH to hang off sub. |
| 19:30 - 20:30 | 1.00 | DRILL | TRIP | P PROD1 | Rig up wireline truck, pull Antenna. |
| 20:30 - 22:00 | 1.50 | DRILL | MISC | P PROD1 | Change elements in Tesco Annular Preventer. |
| 22:00 - 02:30 | 4.50 | DRILL | FCHK | P PROD1 | Strong blow on casing, pump 10 bbls produced water each hour. observe well. |
| 02:30 - 03:00 | 0.50 | DRILL | FCHK | P PROD1 | Close Tesco loop, open Parker loop to flair pit, observe well. |
| 03:00 - 06:00 | 3.00 | DRILL | TRIP | P PROD1 | TOH for logs. |
| 06:00 - | | DRILL | | P PROD1 | Gas Analysis:<br><br>TOTAL GAS (INJECTED & PRODUCED)<br>Daily Gas= 803,305 SCF<br>Total Gas= 56,096,969 SCF<br><br>TOTAL GAS VENTED: (N2 & METHANE)<br>Daily Gas Vented= 0 SCF<br>Total Gas Vented= 13,545,345 SCF<br><br>TOTAL SALES LINE GAS:<br>Daily sales line gas= 803,305 SCF<br>Total Sales Line Gas= 42,518,630 SCF<br><br>NET RESERVOIR GAS PRODUCED TO PLANT<br>Daily Net N2 & Methane To Plant= 723,895 SCF<br>Net Gas Methane Comp (est) = 46%<br>Daily Methane to Plant= 377,553 SCF<br>Total Methane to Plant= 14,753,628 SCF<br><br>Water Production<br>Daily Fluid Gain= 275 bbls.<br>Total Fluid Gain= 7106 bbls. |

| | |
|---|---|
| Current Status: | Tripping out for logs. |
| 24hr Summary: | Flow test, TIH to TD. Kill well. Observe well, TOH |
| 24hr Forecast: | TOH, TIH w/drillpipe conveyed logs. Log. |

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/28/99 Report: 35 DFS: 31.00 DOL: 47.00

Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 9 | |
| Run | RR7 | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS50FD | |
| Serial No. | S50YS | |
| TFA (in²) | | |
| Depth In (ft) | 14,583.0 | |
| Depth Out (ft) | 14,583.0 | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 10:00 / PIT | | Ca+ (mg/L) | 800 | |
| Depth (ft) | 14,583.00 | | K+ (mg/L) | 450 | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.45 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 34 | | Sand (%) | | |
| PV (cp) | 7 | | Tot. Solids | | |
| YP (lb/100ft²) | 6 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | 7.6 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 7.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.20 | | | | |
| Pm (mL) | 0.6 | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.5 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #9 | 1 | 0.75 | Cent Sub | 1 | 3.96 |
| BIT SUB | 1 | 3.05 | NM DC | 2 | 61.66 |
| XO | 1 | 3.10 | XO | 1 | 3.11 |
| FLOAT SUB | | 2.65 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.25 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | | |
|---|---|---|
| Min ID (in) | 2.500 | |
| DC OD (in) | | |
| DC (ft) | | |
| HWDP OD (in) | | |
| HWDP (ft) | | |
| BHA | 5,616.53 | |
| DP OD (in) | | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol (bbl) | | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol (bbl) | | |
| Vol Built Day (bbl) | | |
| Vol Built Cum | | |
| Vol Lost Surf Day (bbl) | | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day (bbl) | | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day (bbl) | | |

## Mud Cost

| | |
|---|---|
| Daily | 116 |
| Cumulative | 27,267 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| Type | HRS |
|---|---|
| | |
| | |
| | |
| | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

Printed: 09/30/99 7:52:30 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/28/99 Report: 35 DFS: 31.00 DOL: 47.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & Cold. | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/28/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/30/99 7:52:30 AM

# BP AMOCO
## Daily Drilling Report

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | | Date: | 09/29/99 | Report: | 36 | DFS: 31.00 | DOL: 46.00 |
| Event Name: | RE ENTER 43-043-30165 | | Start: | 07/16/99 | End: | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,583.0 (ft) | TVD: | 13,058.0 (ft) | Progress: |
| Rig Super: | Smith/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: |
| Daily Cost: | 50,250 | Cumm. Cost: | 2,851,407 | | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 07:00 | 1.00 | DRILL | BHA | P | PROD1 | Lay down BHA. |
| 07:00 - 09:30 | 2.50 | DRILL | FCHK | P | PROD1 | Observe well for flow. |
| 09:30 - 10:00 | 0.50 | EVAL | LOG | P | PROD1 | Pick up drill pipe conveyed FMS Log. |
| 10:00 - 17:00 | 7.00 | EVAL | LOG | P | PROD1 | TIH w/Logs. |
| 17:00 - 18:00 | 1.00 | EVAL | LOG | P | PROD1 | Install Side Door Sub. |
| 18:00 - 22:30 | 4.50 | EVAL | LOG | P | PROD1 | TIH w/Logs. |
| 22:30 - 04:30 | 6.00 | EVAL | LOG | P | PROD1 | Logging operation. |
| 04:30 - 06:00 | 1.50 | EVAL | LOG | P | PROD1 | Tripping out of hole w/logging tools on drillpipe. |

| | |
|---|---|
| Current Status: | TOH w/Electric line/drill pipe conveyed logs. |
| 24hr Summary: | TOH, Observe Well, TIH w/DP Conv. Logs, Logging. |
| 24hr Forecast: | TOH w/logs, TIH w/DP, Kick well off, Flow test. |

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/29/99 Report: 36 DFS: 31.00 DOL: 46.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | | |
| Run | | |
| Size | | |
| Manu. | | |
| Type | | |
| Serial No. | | |
| TFA | | |
| Depth In | | |
| Depth Out | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | : / PIT | | Ca+ (mg/L) | 800 | |
| Depth (ft) | 14,583.00 | | K+ (mg/L) | 450 | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.45 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 33 | | Sand (%) | | |
| PV (cp) | 4 | | Tot. Solids | | |
| YP (lb/100ft²) | 4 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | 8.0 | | Oil/H2O / | | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 7.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.20 | | | | |
| Pm (mL) | 0.6 | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.5 | | | | |
| Comment1: | | | 2: | | |

### BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

### Slow Pump

| | | |
|---|---|---|
| Pump | Press | |
| Pump | Press | |
| Pump | Press | |

### Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 27,267 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/29/99 7:12:11 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/29/99 Report: 36 DFS: 31.00 DOL: 46.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & Cold. | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
| Tensions | | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/28/99 | Incident Report Sent Y/N | |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/29/99 7:12:11 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/28/99 | Report: | 35 | DFS: 31.00 | DOL: 46.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,583.0 (ft) | TVD: | 13,058.0 (ft) Progress: |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 71,665 | Cumm. Cost: | 2,801,157 | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 13:00 | 7.00 | EVAL | FCHK | PROD1 | Time: FCP: FBHP: MMCF/D: FLUID BBLS:<br>6:00-7:00 57 1310 2.44 26<br>7:00-8:00 56 1320 2.00 44<br>8:00-9:00 56 1320 2.48 48<br>9:00-10:00 59 1323 2.32 13<br>10:00-11:00 54 1330 2.16 43<br>11:00-12:00 61 1325 2.24 46<br>12:00-1:00 59 1328 2.32 21<br>1:00-2:00 48 1355 1.67 20 |
| 13:00 - 14:00 | 1.00 | DRILL | TRIP | P PROD1 | Trip in from 12985 - 14583' - No fill! |
| 14:00 - 17:00 | 3.00 | DRILL | WKIL | P PROD1 | Fill Pill Pit w/productin water, pump 200 bbls. |
| 17:00 - 19:30 | 2.50 | DRILL | TRIP | P PROD1 | TOH to hang off sub. |
| 19:30 - 20:30 | 1.00 | DRILL | TRIP | P PROD1 | Rig up wireline truck, pull Antenna. |
| 20:30 - 22:00 | 1.50 | DRILL | MISC | P PROD1 | Change elements in Tesco Annular Preventer. |
| 22:00 - 02:30 | 4.50 | DRILL | FCHK | P PROD1 | Strong blow on casing, pump 10 bbls produced water each hour. observe well. |
| 02:30 - 03:00 | 0.50 | DRILL | FCHK | P PROD1 | Close Tesco loop, open Parker loop to flair pit, observe well. |
| 03:00 - 06:00 | 3.00 | DRILL | TRIP | P PROD1 | TOH for logs. |
| 06:00 - | | DRILL | | P PROD1 | Gas Analysis:<br><br>TOTAL GAS (INJECTED & PRODUCED)<br>Daily Gas= 803,305 SCF<br>Total Gas= 56,096,969 SCF<br><br>TOTAL GAS VENTED: (N2 & METHANE)<br>Daily Gas Vented= 0 SCF<br>Total Gas Vented= 13,545,345 SCF<br><br>TOTAL SALES LINE GAS:<br>Daily sales line gas= 803,305 SCF<br>Total Sales Line Gas= 42,518,630 SCF<br><br>NET RESERVOIR GAS PRODUCED TO PLANT<br>Daily Net N2 & Methane To Plant= 723,695 SCF<br>Net Gas Methane Comp (est) = 46%<br>Daily Methane to Plant= 377,553 SCF<br>Total Methane to Plant= 14,753,628 SCF<br><br>Water Production<br>Daily Fluid Gain= 275 bbls.<br>Total Fluid Gain= 7106 bbls. |

| | |
|---|---|
| Current Status: | Tripping out for logs. |
| 24hr Summary: | Flow test, TIH to TD. Kill well. Observe well, TOH |
| 24hr Forecast: | TOH, TIH w/drillpipe conveyed logs. Log. |

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/28/99 Report: 35 DFS: 31.00 DOL: 46.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 9 | |
| Run | RR7 | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS50FD | |
| Serial No. | S50YS | |
| TFA (in²) | | |
| Depth In (ft) | 14,583.0 | |
| Depth Out (ft) | 14,583.0 | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 10:00 / PIT | | Ca+ (mg/L) | 800 | |
| Depth (ft) | 14,583.00 | | K+ (mg/L) | 450 | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.45 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 34 | | Sand (%) | | |
| PV (cp) | 7 | | Tot. Solids | | |
| YP (lb/100ft²) | 6 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | 7.6 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 7.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.20 | | | | |
| Pm (mL) | 0.6 | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.5 | | | | |
| Comment1: | | | 2: | | |

### BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #9 | 1 | 0.75 | Cent Sub | 1 | 3.96 |
| BIT SUB | 1 | 3.05 | NM DC | 2 | 61.66 |
| XO | 1 | 3.10 | XO | 1 | 3.11 |
| FLOAT SUB | | 2.65 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.25 |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

### Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

### Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,616.53 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | 116 |
| Cumulative | 27,267 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/29/99 7:11:13 AM

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/28/99 Report: 35 DFS: 31.00 DOL: 46.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & Cold. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| | | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (P) | 09/21/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Test (F) | 09/22/99 | Last Rig Check | | Loss Control Incident | |
| Last BOP Drill | | Last Safety Meeting | 09/28/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/29/99 7:11:13 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 43-013-30165
Event Name: RE ENTER
Date: 09/27/99 Report: 34 DFS: 30.00 DOL: 46.00
Start: 07/16/99 End:

Rig Name: Parker
TMD: 14,583.0 (ft) TVD: 13,058.0 (ft) Progress:
Rig Super: Nordeen/McCrea 435-880-3208
Rot. Hours: AV ROP: Hole Size:
Wellsite Eng: Tim Anderson 281-366-5861
Last Casing: Shoe TMD: Shoe TVD:
Daily Cost: 86,057
Cumm. Cost: 2,729,493

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 06:00 | 24.00 | EVAL | FCHK | PROD1 | |

| Time: | FCP: | FBHP: | MMCF/D: | FLUID BBLS: |
|---|---|---|---|---|
| 6:00-7:00 | 64 | 1275 | 2.71 | 90 |
| 7:00-8:00 | 62 | 1280 | 2.44 | 31 |
| 8:00-9:00 | 63 | 1278 | 2.75 | 30 |
| 9:00-10:00 | 60 | 1274 | 2.53 | 48 |
| 10:00-11:00 | 61 | 1276 | 2.60 | 20 |
| 11:00-12:00 | 64 | 1278 | 2.39 | 46 |
| 12:00-1:00 | 62 | 1282 | 2.57 | 37 |
| 1:00-2:00 | 62 | 1285 | 2.49 | 51 |
| 2:00-3:00 | 62 | 1286 | 2.48 | 37 |
| 3:00-4:00 | 63 | 1286 | 2.65 | 37 |
| 4:00-5:00 | 60 | 1288 | 2.54 | 56 |
| 5:00-6:00 | 56 | 1288 | 2.42 | 34 |
| 6:00-7:00 | 61 | 1290 | 2.47 | 51 |
| 7:00-8:00 | 58 | 1296 | 2.48 | 32 |
| 8:00-9:00 | 61 | 1298 | 2.40 | 47 |
| 9:00-10:00 | 61 | 1299 | 2.44 | 37 |
| 10:00-11:00 | 60 | 1301 | 2.46 | 42 |
| 11:00-12:00 | 59 | 1302 | 2.48 | 41 |
| 12:00-1:00 | 56 | 1304 | 2.36 | 21 |
| 1:00-2:00 | 61 | 1307 | 2.23 | 40 |
| 2:00-3:00 | 59 | 1306 | 2.66 | 49 |
| 3:00-4:00 | 58 | 1309 | 2.35 | 30 |
| 4:00-5:00 | 59 | 1310 | 2.48 | 46 |
| 5:00-6:00 | 56 | 1310 | 2.500 | 43 |

06:00 - EVAL PROD1

Gas Analysis:

TOTAL GAS (INJECTED & PRODUCED)
Daily Gas= 2,421,806 SCF
Total Gas= 55,260,864 SCF

TOTAL GAS VENTED: (N2 & METHANE)
Daily Gas Vented= 0 SCF
Total Gas Vented= 13,545,345 SCF

TOTAL SALES LINE GAS:
Daily sales line gas= 2,421,806 SCF
Total Sales Line Gas= 41,715,325 SCF

NET RESERVOIR GAS PRODUCED TO PLANT
Daily Net N2 & Methane To Plant= 2,421,806 SCF
Net Gas Methane Comp (est) = 46%
Daily Methane to Plant= 1,138,249 SCF
Total Methane to Plant= 14,376,074 SCF

Current Status: Flow test, wait on orders.

24hr Summary: Flow test

24hr Forecast: Flow test

BP AMOCO



# DAILY DRILLING REPORT

Well Name: ARE W #31-04 Date: 09/27/99 Report: 34 DFS: 30.00 DOL: 46.00
Event Name: RE ENTER Start: 07/16/99 End:

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - | | EVAL | | PROD1 | Water Production<br>Daily Fluid Gain= 636 bbls.<br>Total Fluid Gain= 6831 bbls. |

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/27/99 Report: 34 DFS: 30.00 DOL: 46.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 9 | |
| Run | RR7 | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS50FD | |
| Serial No. | S50YS | |
| TFA (in²) | | |
| Depth In (ft) | 14,583.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 10:00 / PIT | | Ca+ (mg/L) | 760 | |
| Depth (ft) | 14,583.00 | | K+ (mg/L) | 450 | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.45 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 35 | | Sand (%) | | |
| PV (cp) | 7 | | Tot. Solids | | |
| YP (lb/100ft²) | 6 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | 7.6 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 7.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.20 | | | | |
| Pm (mL) | 0.5 | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.4 | | | | |
| Comment1: | | | 2: | | |

### BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #9 | 1 | 0.75 | Cent Sub | 1 | 3.96 |
| BIT SUB | 1 | 3.05 | NM DC | 2 | 61.66 |
| XO | 1 | 3.10 | XO | 1 | 3.11 |
| FLOAT SUB | | 2.65 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.25 |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

### Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

### Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,616.53 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 27,152 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

Printed: 09/27/99 8:26:08 AM

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 09/27/99 Report: 34 DFS: 30.00 DOL: 46.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | | Barom |
| Weather | Clear Sky, 22 DEG. F. | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/27/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

BP AMOCO Page 1 of 3

# Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | 43-043-30165 | Date: 10/07/99 | Report: 44 | DFS: 39.00 | DOL: 55.00 |
| Event Name: | RE ENTER | | Start: 07/16/99 | End: | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: 13,110.0 (ft) | TVD: 13,052.0 (ft) | Progress: | |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | AV ROP: | Hole Size: | |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | Shoe TMD: | Shoe TVD: | |
| Daily Cost: | 49,459 | Cumm. Cost: 3,475,397 | | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | P/U | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 15:30 - 16:30 | 1.00 | DRILL | MISC | P | PROD1 | Inspect Tesco dual annular, change out element. |
| 16:30 - 19:00 | 2.50 | DRILL | BHA | P | PROD1 | PU new 5 7/8 bit, (2) float subs, mud motor- 2.26 deg, EM sub. Check, verify mud motor , and EM sub orientation, communication w/ tool. |
| 19:00 - 20:00 | 1.00 | DRILL | TRIP | P | PROD1 | TIH utilizing Tesco push-pull machine to to 621 ft. |
| 20:00 - 21:00 | 1.00 | DRILL | MISC | P | PROD1 | RD Tesco push- pull machine. |
| 21:00 - 01:00 | 4.00 | DRILL | TRIP | P | PROD1 | TIH w/ 5 7/8" directional assy to 13093 ft. |
| 01:00 - 03:30 | 2.50 | DRILL | CIRC | P | PROD1 | Break circulation, pressure up wellbore w/ N2 at 2100-2200 scf/ 30 gpm fluid. |
| 03:30 - 04:30 | 1.00 | DRILL | DRLD | P | PROD1 | Cut trough f/ 13093-13109 ft w/ 2100-2200 scf/ 30 gpm fluid. |
| 04:30 - 06:00 | 1.50 | DRILL | DRLD | P | PROD1 | Time drill f/ 133109-13110 ft w/ 2100-2200 scf/ 30 gpm fluid. |

Gas Analysis::

Total produced Gas ( INJECTED- PRODUCED)

Daily gas = 1,077,000 scf
Total Cumulative Gas 63,015,526 scf

Total Gas Vented (N2- Methane)

Daily gas vented= 1,077,000 scf
Total Gas Vented= 16,626,902 scf

Total Sales Line Gas

Daily sales Line Gas= 0 scf
Total Sales Line Gas= 46,388,630 scf

Net Reservior Gas Produced

Daily Net Gas To Plant= 0 scf
Net Gas Methane Comp (est)= 47 %
Daily Methane to Plant= 0 scf
Total Methane to Plant= 1,452,140 scf

Water Production (Start North lateral)

Daily Produced Water= 212 bbls.
Total Produced Water= 212 bbls.

Current Status: Sidetrack well at 13110 ft.

24hr Summary: Test well, TOH w/ slick assy, PU 5 7/8" Dir assy, TIH.

24hr Forecast: Drill in slide mode- North Lateral.

Printed: 10/07/99 8:10:36 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/07/99 Report: 44 DFS: 39.00 DOL: 55.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 14 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STROS 50 F | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,109.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / PIT | | Ca+ (mg/L) | 400 | |
| Depth (ft) | 14,583.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.40 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | | |
| API WL (cc/30min | 13.5 | | Oil/H2O / | | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 1.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 9.50 | | | | |
| Pm (mL) | 0.2 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.1 | | | | |
| Comment1: | | | 2: | | |

### BHA Description: Drl Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #14 | 1 | 0.75 | NM DC | 2 | 61.69 |
| Dog sub | 1 | 0.55 | XO | 1 | 3.11 |
| Mud motor @ 1.83 deg. | 1 | 20.60 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.28 |
| EM sub | 1 | 9.66 | 4" HWDP | 45 | 1,387.33 |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

### Slow Pump

| | | |
|---|---|---|
| Pump | Press | |
| Pump | Press | |
| Pump | Press | |

### Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,634.82 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 29,888 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/07/99 8:10:38 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/07/99 Report: 44 DFS: 39.00 DOL: 55.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & Cold. | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/06/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/07/99 8:10:38 AM

BP AMOCO Page 1 of 3

# Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/07/99 | Report: | 44 | DFS: 39.00 | DOL: 55.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,110.0 (ft) | TVD: | 13,052.0 (ft) Progress: |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | | Cumm. Cost: | 3,425,938 | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 15:30 - 16:30 | 1.00 | DRILL | MISC | P | PROD1 | Inspect Tesco dual annular, change out element. |
| 16:30 - 19:00 | 2.50 | DRILL | BHA | P | PROD1 | PU new 5 7/8 bit, (2) float subs, mud motor- 2.26 deg, EM sub. Check, verify mud motor , and EM sub orientation, communication w/ tool. |
| 19:00 - 20:00 | 1.00 | DRILL | TRIP | P | PROD1 | TIH utilizing Tesco push-pull machine to to 621 ft. |
| 20:00 - 21:00 | 1.00 | DRILL | MISC | P | PROD1 | RD Tesco push- pull machine. |
| 21:00 - 01:00 | 4.00 | DRILL | TRIP | P | PROD1 | TIH w/ 5 7/8" directional assy to 13093 ft. |
| 01:00 - 03:30 | 2.50 | DRILL | CIRC | P | PROD1 | Break circulation, pressure up wellbore w/ N2 at 2100-2200 scf/ 30 gpm fluid. |
| 03:30 - 04:30 | 1.00 | DRILL | DRLD | P | PROD1 | Cut trough f/ 13093-13109 ft w/ 2100-2200 scf/ 30 gpm fluid. |
| 04:30 - 06:00 | 1.50 | DRILL | DRLD | P | PROD1 | Time drill f/ 133109-13110 ft w/ 2100-2200 scf/ 30 gpm fluid. |

Gas Analysis::

Total produced Gas ( INJECTED- PRODUCED)

Daily gas = 1,077,000 scf
Total Cumulative Gas 63,015,526 scf

Total Gas Vented (N2- Methane)

Daily gas vented= 1,077,000 scf
Total Gas Vented= 16,626,902 scf

Total Sales Line Gas

Daily sales Line Gas= 0 scf
Total Sales Line Gas= 46,388,630 scf

Net Reservior Gas Produced

Daily Net Gas To Plant= 0 scf
Net Gas Methane Comp (est)= 47 %
Daily Methane to Plant= 0 scf
Total Methane to Plant= 1,452,140 scf

Water Production (Start North lateral)

Daily Produced Water= 212 bbls.
Total Produced Water= 212 bbls.

Current Status: Sidetrack well at 13110 ft.

24hr Summary: Test well, TOH w/ slick assy, PU 5 7/8" Dir assy, TIH.

24hr Forecast: Drill in slide mode- North Lateral.

Printed: 10/07/99 9:30:26 AM

# BP AMOCO
# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/07/99 Report: 44 DFS: 39.00 DOL: 55.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 14 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STROS 50 F | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,109.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / PIT | | Ca+ (mg/L) | 400 | |
| Depth (ft) | 14,583.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.40 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | | |
| API WL (cc/30min | 13.5 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 1.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 9.50 | | | | |
| Pm (mL) | 0.2 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.1 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #14 | 1 | 0.75 | NM DC | 2 | 61.69 |
| Dog sub | 1 | 0.55 | XO | 1 | 3.11 |
| Mud motor @ 1.83 deg. | 1 | 20.60 | 4" HWDP | 1 | 30.61 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.28 |
| EM sub | 1 | 9.86 | 4" HWDP | 45 | 1,387.33 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,634.82 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 29,888 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

Printed: 10/07/99 9:30:25 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/07/99 Report: 44 DFS: 39.00 DOL: 55.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & Cold. | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor Tensions | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/06/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

# BP AMOCO

## Daily Drilling Report



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/06/99 | Report: | 43 | DFS: 38.00 | DOL: 54.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,583.0 (ft) | TVD: | 13,058.0 (ft) Progress: |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 83,804 | Cumm. Cost: | 3,354,689 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P/U | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 09:00 | 3.00 | EVAL | TRIP | P | PROD1 | TIH w/ 5 7/8" slick assy to 8400 ft. |
| 09:00 - 11:00 | 2.00 | EVAL | CIRC | P | PROD1 | Break circ, unload well w/ N2 w/ 2100-2200 scf-- service rig. |
| 11:00 - 11:30 | 0.50 | EVAL | TRIP | P | PROD1 | TIH w/ 5 7/8" slick assy to 10800 ft. |
| 11:30 - 13:30 | 2.00 | EVAL | CIRC | P | PROD1 | Break circ, unload well w/ N2 w/ 2100-2200 scf. |
| 13:30 - 14:00 | 0.50 | EVAL | TRIP | P | PROD1 | TIH w/ 5 7/8" slick assy to 12946 ft. Install string float. |
| 14:00 - 16:30 | 2.50 | EVAL | CIRC | P | PROD1 | Break circ, unload well w/ N2 w/ 2100-2200 scf. |
| 16:30 - 17:00 | 0.50 | EVAL | TRIP | P | PROD1 | TIH w/ 5 7/8" slick assy to 13572 ft. |
| 17:00 - 19:00 | 2.00 | EVAL | CIRC | P | PROD1 | Break circ, unload well w/ N2 w/ 2100-2200 scf20 rpm - rotary, w/ 30 gpm fluid to clean up wellbore, after well clean, cut fluid back to 13 gpm minimize well hydrostatic. |
| 19:00 - 17:30 | 22.50 | EVAL | TRIP | P | PROD1 | TOH w/ 5 7/8" slick assy to 12946 ft. |
| 17:30 - 06:00 | 12.50 | EVAL | CIRC | P | PROD1 | Circulate N2 at 2200 scf/ 13 gpm fluid/ 20 rpm on rotary while monitor- flow test well. |

Gas Analysis:

TOTAL GAS (INJECTED & PRODUCED)
Daily Gas= 2,770,000 SCF
Total Gas= 61,936,526 SCF

TOTAL GAS VENTED: (N2 & METHANE)
Daily Gas Vented= 0 SCF
Total Gas Vented= 15,549,902 SCF

TOTAL SALES LINE GAS:
Daily sales line gas= 2,770,000 SCF
Total Sales Line Gas= 46,386,630 SCF

NET RESERVOIR GAS PRODUCED TO PLANT
Daily Net N2 & Methane To Plant= 0 SCF
Net Gas Methane Comp (est) = 47%
Daily Methane to Plant= 0 SCF
Total Methane to Plant= 11,452,140 SCF

Water Production
Daily Produced water= 462 bbls.
Total Produced water= 8575 bbls.

| | |
|---|---|
| Current Status: | Flow test well. |
| 24hr Summary: | TIH w/ 5 7/8" drl assy, disp fluid @7000,9000, 11000 ft, flow test. |
| 24hr Forecast: | Test well, TOH w/ slick assy, PU 5 7/8" Dir assy, TIH. |

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/06/99 Report: 43 DFS: 36.00 DOL: 54.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 13 | |
| Run | RR6 | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS50FD | |
| Serial No. | S49YS | |
| TFA (in²) | | |
| Depth In (ft) | 14,583.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 12:00 / FLW | | Ca+ (mg/L) | 440 | |
| Depth (ft) | 14,583.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.40 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | | |
| API WL (cc/30min | 16.0 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 1.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 9.50 | | | | |
| Pm (mL) | 0.2 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.1 | | | | |
| Comment1: | | | 2: | | |

### BHA Description: Drl Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #13 | 1 | 0.75 | 4" HWDP | 1 | 30.81 |
| BIT SUB | 1 | 3.05 | Drilling Jars | 1 | 29.25 |
| XO | 1 | 3.10 | 4" HWDP | 47 | 1,446.03 |
| FLOAT SUB | | 2.65 | | | |
| Float sub | 1 | 3.08 | | | |
| XO | 1 | 3.11 | | | |
| 4" S135 DP | 75 | 3,972.47 | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

### Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

### Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,497.30 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 29,888 |

### Shaker

| | Mesh Size: | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/06/99 10:57:54 AM

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/06/99 Report: 43 DFS: 38.00 DOL: 54.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & Cold. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/05/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/08/99 10:57:54 AM

# BP AMOCO
## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/06/99 | Report: | 43 | DFS: 38.00 | DOL: 54.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,583.0 (ft) | TVD: | 13,058.0 (ft) Progress: |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 49,384 | Cumm. Cost: | 3,320,269 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 09:00 | 3.00 | EVAL | TRIP | P | PROD1 | TIH w/ 5 7/8" slick assy to 8400 ft. |
| 09:00 - 11:00 | 2.00 | EVAL | CIRC | P | PROD1 | Break circ, unload well w/ N2 w/ 2100-2200 scf-- service rig. |
| 11:00 - 11:30 | 0.50 | EVAL | TRIP | P | PROD1 | TIH w/ 5 7/8" slick assy to 10800 ft. |
| 11:30 - 13:30 | 2.00 | EVAL | CIRC | P | PROD1 | Break circ, unload well w/ N2 w/ 2100-2200 scf. |
| 13:30 - 14:00 | 0.50 | EVAL | TRIP | P | PROD1 | TIH w/ 5 7/8" slick assy to 12946 ft. Install string float. |
| 14:00 - 16:30 | 2.50 | EVAL | CIRC | P | PROD1 | Break circ, unload well w/ N2 w/ 2100-2200 scf. |
| 16:30 - 17:00 | 0.50 | EVAL | TRIP | P | PROD1 | TIH w/ 5 7/8" slick assy to 13572 ft. |
| 17:00 - 19:00 | 2.00 | EVAL | CIRC | P | PROD1 | Break circ, unload well w/ N2 w/ 2100-2200 scf20 rpm - rotary, w/ 30 gpm fluid to clean up wellbore, after well clean, cut fluid back to 13 gpm minimize well hydrostatic. |
| 19:00 - 17:30 | 22.50 | EVAL | TRIP | P | PROD1 | TOH w/ 5 7/8" slick assy to 12946 ft. |
| 17:30 - 06:00 | 12.50 | EVAL | CIRC | P | PROD1 | Circulate N2 at 2200 scf/ 13 gpm fluid/ 20 rpm on rotary while monitor- flow test well. |

Gas Analysis:

TOTAL GAS (INJECTED & PRODUCED)
Daily Gas= 2,770,000 SCF
Total Gas= 61,938,526 SCF

TOTAL GAS VENTED: (N2 & METHANE)
Daily Gas Vented= 0 SCF
Total Gas Vented= 15,549,902 SCF

TOTAL SALES LINE GAS:
Daily sales line gas= 2,770,000 SCF
Total Sales Line Gas= 46,388,630 SCF

NET RESERVOIR GAS PRODUCED TO PLANT
Daily Net N2 & Methane To Plant= 0 SCF
Net Gas Methane Comp (est) = 47%
Daily Methane to Plant= 0 SCF
Total Methane to Plant= 11,452,140 SCF

Water Production
Daily Produced water= 462 bbls.
Total Produced water= 8575 bbls.

| | |
|---|---|
| Current Status: | Flow test well. |
| 24hr Summary: | TIH w/ 5 7/8" dri assy, disp fluid @7000,9000, 11000 ft, flow test. |
| 24hr Forecast: | Test well, TOH w/ slick assy, PU 5 7/8" Dir assy, TIH. |

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/06/99 Report: 43 DFS: 36.00 DOL: 54.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 13 | |
| Run | RR6 | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS50FD | |
| Serial No. | S49YS | |
| TFA (in²) | | |
| Depth In (ft) | 14,583.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | |
|---|---|---|---|
| Type 1: | WATER/BRINE | | |
| Time/Loc | 12:00 / FLW | | |
| Depth (ft) | 14,583.00 | | |
| Temp (°F) | | | |
| Density (ppg) | 8.40 | | |
| ECD (ppg) | | | |
| Viscosity (s/qt) | 27 | | |
| PV (cp) | | | |
| YP (lb/100ft²) | | | |
| GELS (lb/100ft²) | | | |
| API WL (cc/30min | 16.0 | | |
| HTHP WL (cc/30min | | | |
| API FC (/32") | 1 | | |
| MBT (ppb) | | | |
| Lime (ppb) | | | |
| pH | 9.50 | | |
| Pm (mL) | 0.2 | | |
| Pf/Mf (mL / mL) | 0.1 / 0.1 | | |
| Comment1: | | | |

| 2: | | |
|---|---|---|
| Ca+ (mg/L) | 440 | |
| K+ (mg/L) | | |
| Polymer (ppb) | | |
| CaCl2 (%) | | |
| NaCl (%) | | |
| Sand (%) | | |
| Tot. Solids | | |
| % Oil | | |
| % H2O | | |
| Oil/H2O | / | |
| HGSolid (ppb) | | |
| LGSolid (ppb) | 1.0 | |
| ES (mV) | | |
| Oil Ret (%) | | |
| | | |
| | | |
| 2: | | |

## BHA Description: Drl Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #13 | 1 | 0.75 | 4" HWDP | 1 | 30.81 |
| BIT SUB | 1 | 3.05 | Drilling Jars | 1 | 29.25 |
| XO | 1 | 3.10 | 4" HWDP | 47 | 1,449.03 |
| FLOAT SUB | | 2.65 | | | |
| Float sub | 1 | 3.08 | | | |
| XO | 1 | 3.11 | | | |
| 4" S135 DP | 75 | 3,972.47 | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,497.30 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 29,888 |

## Shaker

| | Mesh Size: | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type: | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

Printed: 10/06/99 8:54:58 AM

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 10/06/99 Report: 43 DFS: 36.00 DOL: 54.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & Cold. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/05/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/06/99 8:54:56 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/05/99 | Report: | 42 | DFS: 38.00 | DOL: 54.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,583.0 (ft) | TVD: | 13,058.0 (ft) Progress: |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 62,227 | Cumm. Cost: | 3,270,885 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 09:00 | 3.00 | CEMT | TRIP | P | PROD1 | Continue TIH f/ 7022-13663(Btm tail pipe)-top of PIP 13610 ft. Took 15,000 lbs. stop string. (3 shear pins) |
| 09:00 - 10:00 | 1.00 | CEMT | WAIT | P | PROD1 | Discuss options w/ relevent parties on PIP Baker. |
| 10:00 - 10:30 | 0.50 | CEMT | TRIP | P | PROD1 | PU string 10,000 lbs. (5,000 lbs on packer) Packer assy start down hole with no additional weight, TIH to 14223 ft, (bottom of PIP packer). |
| 10:30 - 12:30 | 2.00 | CEMT | CMTP | P | PROD1 | PU-RU Baker cement head, conduct safety meeting for upcoming cement job. |
| 12:30 - 14:00 | 1.50 | CEMT | PKR | P | PROD1 | Pump 20 bbl produced water down drill pipe at 1 bpm, shut down 5 min, pump 30 bbls at 10 bbls increment at 1.3 bpm, 5 min between each. Set down 5,000 lb string wt on Baker PIP packer to verify set. Pump additional 20 bbl at 1.3 bpm, shut down, check drill pipe-on vacuum. Pumped 140 bbls produced water down annulus. |
| 14:00 - 14:30 | 0.50 | CEMT | CMTP | P | PROD1 | Establish injection rate, well on vacuum at 3 bpm. |
| 14:30 - 16:30 | 2.00 | CEMT | CMTP | P | PROD1 | Mix -Pump 50 bbl(250 sx)class G cement f/ batch mixer w/ .3% D65, .25% D167, .3% D800 . Drop Baker cement dart, wash up excess cement in line to pit. |
| 16:30 - 17:30 | 1.00 | CEMT | CMTP | P | PROD1 | Displace cement w/ produced water, well on vacuum at 3bpm for 134 of 141 bbls total . Last 10 bbls squeeze pressure 200-300 psi. Bump plug at 1000 psi. hold f/ 5 min. |
| 17:30 - 18:30 | 1.00 | CEMT | PKR | P | PROD1 | Work drill string to shear release pins several times, pump 50 bbls produced water down annulas to aid release. Work up to 30,000 lb over up wt(250,000 lbs) to 280,000 lbs. String wt dropped off tp up wt of 250,000 lb. POOH, layout cement head, encounter @ 15-20000 lb drag up first 6 std. |
| 18:30 - 19:30 | 1.00 | CEMT | TRIP | P | PROD1 | TOH, pull drill string (wet),utilizing mud bucket f/ 20 std to 12456 ft. |
| 19:30 - 20:00 | 0.50 | CEMT | MISC | P | PROD1 | LD Dowell cementing iron, breakout Baker cement head. |
| 20:00 - 22:00 | 2.00 | CEMT | TRIP | P | PROD1 | TOH, pulling wet drill string utulize mud bucket to 8794 ft. |
| 22:00 - 22:30 | 0.50 | CEMT | CIRC | P | PROD1 | Pump 50 bbls produced water down annulas. |
| 22:30 - 00:30 | 2.00 | CEMT | TRIP | P | PROD1 | TOH, pulling wet drill string utulize mud bucket to 3015 ft. |
| 00:30 - 01:00 | 0.50 | CEMT | CIRC | P | PROD1 | Pump 50 bbls produced water down annulas. |
| 01:00 - 02:30 | 1.50 | CEMT | TRIP | P | PROD1 | TOH, pulling wet drill string utulize mud bucket to surface. |
| 02:30 - 04:00 | 1.50 | CEMT | BHA | P | PROD1 | Breakout- LD Baker setting tool, equilizing sub, x-o sub, bumper sub, handling tools. |
| 04:00 - 05:00 | 1.00 | EVAL | MISC | P | PROD1 | Cut drilling line. |
| 05:00 - 06:00 | 1.00 | EVAL | BHA | P | PROD1 | PU-MU 5 7/8" slick assy. |

| | |
|---|---|
| Current Status: | Makeup 5 7/8" slick assy. |
| 24hr Summary: | RIH w/ PIP packer, set cmt- disp, TOH, PU 5 7/8" drl assy. |
| 24hr Forecast: | TIH w/ 5 7/8" drl assy, disp fluid @7000,9000, 11000 ft. |

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/05/99 Report: 42 DFS: 36.00 DOL: 54.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 13 | |
| Run | RR6 | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS50FD | |
| Serial No. | S49YS | |
| TFA (in²) | | |
| Depth In (ft) | 14,583.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | |
|---|---|---|
| Type 1: | WATER/BRINE | |
| Time/Loc | / FLW | |
| Depth (ft) | 14,583.00 | |
| Temp (°F) | | |
| Density (ppg) | 8.55 | |
| ECD (ppg) | | |
| Viscosity (s/qt) | 30 | |
| PV (cp) | 3 | |
| YP (lb/100ft²) | 3 | |
| GELS (lb/100ft²) | | |
| API WL (cc/30min | 8.4 | |
| HTHP WL (cc/30min | | |
| API FC (/32") | 1 | |
| MBT (ppb) | | |
| Lime (ppb) | | |
| pH | 10.00 | |
| Pm (mL) | 0.5 | |
| Pf/Mf (mL / mL) | 0.2 / 0.5 | |
| Comment1: | | |

| 2: | | |
|---|---|---|
| Ca+ (mg/L) | 960 | |
| K+ (mg/L) | | |
| Polymer (ppb) | | |
| CaCl2 (%) | | |
| NaCl (%) | | |
| Sand (%) | | |
| Tot. Solids | | |
| % Oil | | |
| % H2O | | |
| Oil/H2O | / | |
| HGSolid (ppb) | | |
| LGSolid (ppb) | 59.0 | |
| ES (mV) | | |
| Oil Ret (%) | | |
| | | |
| 2: | | |

### BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #13 | 1 | 0.75 | 4" HWDP | 1 | 30.81 |
| BIT SUB | 1 | 3.05 | Drilling Jars | 1 | 29.25 |
| XO | 1 | 3.10 | 4" HWDP | 47 | 1,449.03 |
| FLOAT SUB | | 2.65 | | | |
| Float sub | 1 | 3.08 | | | |
| XO | 1 | 3.11 | | | |
| 4" S135 DP | 75 | 3,972.47 | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | FB-1300 | | |
| Liner (in) | 5.000 | | |
| Stroke (in) | 12.000 | | |
| EFF | 100 | | |
| Press (psi) | | | |
| SPM | | | |
| Output (gpm) | | | |

### Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

### Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

### Pipe Data

| | | |
|---|---|---|
| Min ID (in) | 2.500 | |
| DC OD (in) | | |
| DC (ft) | | |
| HWDP OD (in) | | |
| HWDP (ft) | | |
| BHA | 5,497.30 | |
| DP OD (in) | | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol (bbl) | | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol (bbl) | | |
| Vol Built Day (bbl) | | |
| Vol Built Cum | | |
| Vol Lost Surf Day (bbl) | | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day (bbl) | | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day (bbl) | | |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 29,888 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/05/99 7:17:16 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/05/99 Report: 42 DFS: 36.00 DOL: 54.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | | Barom |
| Weather | Clear & Cold. | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/04/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/05/99 7:17:18 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/04/99 | Report: | 41 | DFS: 37.00 | DOL: 53.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,583.0 (ft) | TVD: | 13,058.0 (ft) Progress: |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 50,424 | Cumm. Cost: | 3,208,658 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 10:00 | 4.00 | CEMT | REAM | P PROD1 | Pressure up w/ N2 w/ 2200 scf, 30 gpm fluid, wash-ream f/ 13506-14151 ft. |
| 10:00 - 11:00 | 1.00 | CEMT | CIRC | P PROD1 | Circulate hole clean w/ 220 scf N2 w/ 30 gpm fluid. Well producing low amounts of formation water and gas. |
| 11:00 - 14:00 | 3.00 | CEMT | CIRC | P PROD1 | Continue to circulate hole clean w/ 2200 scf N2, stop fluid injection. Produced water increase up to 45 bph. |
| 14:00 - 15:00 | 1.00 | CEMT | TRIP | P PROD1 | Trip out hole, tight at 13538 ft. |
| 15:00 - 15:30 | 0.50 | CEMT | REAM | P PROD1 | Attach top drive, pressure up w/ N2 to 2200 scf w/ 30 gpm fliud, reaim through 13538-13600 ft. |
| 15:30 - 19:00 | 3.50 | CEMT | TRIP | P PROD1 | TOH w/ 5 7/8" drilling assy to 7000 ft. Well flowing at approx 0.4 mm scf and 2-4 psi casing pressure at a decreasing rate. |
| 19:00 - 20:00 | 1.00 | CEMT | CIRC | P PROD1 | Bleed of float sub, pump 200 bbls of 8.4 ppg produced water. |
| 20:00 - 21:30 | 1.50 | CEMT | TRIP | P PROD1 | TOH w/ 5 7/8" drill assy to 2022 ft. |
| 21:30 - 22:00 | 0.50 | CEMT | CIRC | P PROD1 | Pump 60 bbls of produced water. |
| 22:00 - 23:00 | 1.00 | CEMT | TRIP | P PROD1 | TOH w/ 5 7/8" drill assy, LD float subs, bit. |
| 23:00 - 00:00 | 1.00 | CEMT | MISC | P PROD1 | Conduct safety meeting, change out push-pull machine, secure on floor. |
| 00:00 - 01:30 | 1.50 | CEMT | WAIT | P PROD1 | Wait on additional Baker tools to arrive. |
| 01:30 - 03:00 | 1.50 | CEMT | BHA | P PROD1 | PU Baker PIP assy as follows: w/ 3 shear pins installed at 833 lb/ea<br>PU-MU Baker PIP assy:<br>Bull plug .46<br>1 jt 3 1/2" tubing 9.3 ppf 31.24<br>perf sub- 3 1/2" 9.3 ppf 10.04<br>PIP assy 5" OD 11.02<br>2 7/8" cmt ret flapper assy 2.60<br>1- 2 7/8 fill up sub 2.05<br>1- 2 7/8 landing collar 1.00<br>1- 2 7/8 tbg sub 10.25<br>x-over sub to 3 1/2 IF 1.60<br>x-over sub to 4" HT 38 3.10<br>10 std 4" Dp 921.38<br>x-over sub 4" HT- 3 1/2 IF 3.10<br>1- 3 1/2 bumper sub 7.60<br>1- x-over sub to HT-38 2.75<br>TOTAL 1008.39 ft |
| 03:00 - 06:00 | 3.00 | CEMT | TRIP | P PROD1 | TIH w/ PIP packer assy, at rpt time 7022 ft.<br><br>Gas Analysis:<br><br>TOTAL GAS (INJECTED & PRODUCED)<br>Daily Gas= 1,554,669 SCF<br>Total Gas= 59,168,526 SCF<br><br>TOTAL GAS VENTED: (N2 & METHANE)<br>Daily Gas Vented= 454,667 SCF<br>Total Gas Vented= 15,549,902 SCF |

| | |
|---|---|
| Current Status: | Run in hole w/ Baker PIP packer, Rpt 7022 ft. |
| 24hr Summary: | Disp hole to N2, clean out to 14200 ft, TOH to 9000 ft, load. |
| 24hr Forecast: | RIH w/ PIP packer, set cmt- disp, TOH, PU 5 7/8" drl assy. |

# DAILY DRILLING REPORT

Well Name: ARE W #31-04 Date: 10/04/99 Report: 41 DFS: 37.00 DOL: 53.00
Event Name: RE ENTER Start: 07/16/99 End:

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 03:00 - 06:00 | 3.00 | CEMT | TRIP P | PROD1 | TOTAL SALES LINE GAS:<br>Daily sales line gas= 1,100,000 SCF<br>Total Sales Line Gas= 43,618,630 SCF<br><br>NET RESERVOIR GAS PRODUCED TO PLANT<br>Daily Net N2 & Methane To Plant= 164,261 SCF<br>Net Gas Methane Comp (est) = 47%<br>Daily Methane to Plant= 517,000 SCF<br>Total Methane to Plant= 15,270,628 SCF<br><br>Water Production<br>Daily Produced water= 375 bbls.<br>Total Produced water= 7917 bbls. |

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 10/04/99 Report: 41 DFS: 37.00 DOL: 53.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 12 | |
| Run | RR6 | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS50FD | |
| Serial No. | S49YS | |
| TFA (in²) | | |
| Depth In (ft) | 14,583.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 10:30 / FLW | | Ca+ (mg/L) | 960 | |
| Depth (ft) | 14,583.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.55 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 30 | | Sand (%) | | |
| PV (cp) | 3 | | Tot. Solids | | |
| YP (lb/100ft²) | 3 | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | | |
| API WL (cc/30min | 8.4 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 59.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.00 | | | | |
| Pm (mL) | 0.5 | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.5 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #11 | 1 | 0.75 | 4" HWDP | 1 | 30.81 |
| BIT SUB | 1 | 3.05 | Drilling Jars | 1 | 29.25 |
| XO | 1 | 3.10 | 4" HWDP | 47 | 1,449.03 |
| FLOAT SUB | | 2.65 | | | |
| Float sub | 1 | 3.08 | | | |
| XO | 1 | 3.11 | | | |
| 4" S135 DP | 75 | 3,972.47 | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,497.30 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 27,267 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/04/99 8:21:26 AM

# BP AMOCO

## Daily Drilling Report



Well Name: ARE W #31-04 Date: 10/04/99 Report: 41 DFS: 37.00 DOL: 53.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | | Barom |
| Weather | Clear & Cold. | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/03/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/04/99 8:21:26 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/03/99 | Report: | 40 | DFS: 36.00 | DOL: 52.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,583.0 (ft) | TVD: | 13,058.0 (ft) Progress: |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 62,673 | Cumm. Cost: | 3,158,234 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 06:30 | 0.50 | CEMT | REAM | P | PROD1 | Continue to trip in f/ 13784- 14059 ft, work each std to check and verify drag trends up-down. No change. |
| 06:30 - 09:30 | 3.00 | CEMT | TRIP | P | PROD1 | TOOH w/ 5 7/8" drilling assy to 4900 ft, pipe pulling wet. |
| 09:30 - 10:00 | 0.50 | CEMT | CIRC | P | PROD1 | Pressure up w/ N2 to attempt to displace drill string, pipe plugged. |
| 10:00 - 10:30 | 0.50 | CEMT | CIRC | P | PROD1 | Bleed down drill string, and annulas. |
| 10:30 - 14:30 | 4.00 | CEMT | TRIP | P | PROD1 | TOOH w/ 5 7/8" drilling assy, (wet). |
| 14:30 - 15:30 | 1.00 | CEMT | BHA | P | PROD1 | Breakout bit, float subs- top seal were gone. bottom jt of 4" drill pipe full of cement. |
| 15:30 - 16:00 | 0.50 | CEMT | TRIP | P | PROD1 | TIH with 10 std of drill pipe to 930 ft. |
| 16:00 - 16:30 | 0.50 | CEMT | CIRC | P | PROD1 | Pump 50 bbls of production water down drill string to clean. |
| 16:30 - 17:00 | 0.50 | CEMT | CIRC | P | PROD1 | Bleed off annulas to pit, POOH w/ 10 std drill pipe. |
| 17:00 - 18:00 | 1.00 | CEMT | WAIT | P | PROD1 | Discuss options w/ relavent parties. |
| 18:00 - 21:30 | 3.50 | CEMT | BHA | P | PROD1 | PU bit, (2) float sub assy, TIH to 7000 ft. |
| 21:30 - 23:00 | 1.50 | CEMT | CIRC | P | PROD1 | Install float sub, displace hole w/ N2 at 2000-2100 scf. |
| 23:00 - 23:30 | 0.50 | CEMT | TRIP | P | PROD1 | TIH w/ 5 7/8" drilling assy to 9116 ft. |
| 23:30 - 01:00 | 1.50 | CEMT | CIRC | P | PROD1 | Displace hole w/ N2 at 2000-2100 scf. |
| 01:00 - 01:30 | 0.50 | CEMT | TRIP | P | PROD1 | TIH w/ 5 7/8" drilling assy to 10980 ft. |
| 01:30 - 03:00 | 1.50 | CEMT | CIRC | P | PROD1 | Displace hole w/ N2 at 2100 scf. |
| 03:00 - 03:30 | 0.50 | CEMT | TRIP | P | PROD1 | TIH w/ 5 7/8" drilling assy to 12961 ft. |
| 03:30 - 05:00 | 1.50 | CEMT | CIRC | P | PROD1 | Install float sub, displace hole w/ N2 at 2100 scf. |
| 05:00 - 05:30 | 0.50 | CEMT | TRIP | P | PROD1 | TIH w/ 5 7/8" drilling assy to 13506 ft. |
| 05:30 - 06:00 | 0.50 | CEMT | CIRC | P | PROD1 | Displace hole w/ N2 at 2100 scf.Prepare to wash-ream to 14200 ft. |

| | |
|---|---|
| Current Status: | Displace hole N2 at 13506 ft. |
| 24hr Summary: | Check hole condtion to 14000 ft, TOH, PU Dri assy, TIH, disp to N2. |
| 24hr Forecast: | Disp hole to N2, clean out to 14200 ft, TOH to 9000 ft, load |

Printed: 10/03/99 8:19:10 AM

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/03/99 Report: 40 DFS: 36.00 DOL: 52.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 12 | |
| Run | RR6 | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS50FD | |
| Serial No. | S49YS | |
| TFA (in²) | | |
| Depth In (ft) | 14,583.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / PIT | | Ca+ (mg/L) | 800 | |
| Depth (ft) | 14,583.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.50 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 33 | | Sand (%) | | |
| PV (cp) | 4 | | Tot. Solids | | |
| YP (lb/100ft²) | 4 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | 8.0 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 7.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.20 | | | | |
| Pm (mL) | 0.6 | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.5 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Drl Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #11 | 1 | 0.75 | 4" HWDP | 1 | 30.81 |
| BIT SUB | 1 | 3.05 | Drilling Jars | 1 | 29.25 |
| XO | 1 | 3.10 | 4" HWDP | 47 | 1,446.03 |
| FLOAT SUB | | 2.65 | | | |
| Float sub | 1 | 3.08 | | | |
| XO | 1 | 3.11 | | | |
| 4" S135 DP | 75 | 3,972.47 | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,497.30 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 27,287 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/03/99 8:19:10 AM

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/03/99 Report: 40 DFS: 36.00 DOL: 52.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | | Barom |
| Weather | Clear & Cold. | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Lose Control Incident | |
| | | Last Safety Meeting | 10/02/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/03/99 8:19:10 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/02/99 | Report: | 39 | DFS: 35.00 | DOL: 51.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,583.0 (ft) | TVD: | 13,058.0 (ft) Progress: |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 73,790 | Cumm. Cost: | 3,095,561 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 07:30 | 1.50 | CEMT | CMTP | P | PROD1 | Pump 60 bbls of produced water down annulas, as Dowell prepare 20bbls cement in batch mixer. |
| 07:30 - 08:30 | 1.00 | CEMT | CMTP | P | PROD1 | Pump 20 bbls FW prefush, followed by 20 bbls class G cement f/ batch mixer at 15.8 ppg w/ .3% D65, .25% D167, .35 D800. Drop plug, wash lines up to pit. Pump 10 bbls FW, followed by 127 bbl produced water( total 137 bbls), first 50 bbls disp at 5 bpm, to catch cmt, 3.3 bpm remaining disp. Bumped dart w/ 1100 psi- held f/ 15 min. With pressure on, PU string to 255,000 lb-slowly(up wt 230,000 lb), slackoff. On second attempt to shear, PU to 275,000 lb and string weight dropped off to 230,000 lb. PU string 7 ft and assume shear free of packer. Pressure in drill pipe at 1100 psi with dart holding. Bleed pressure off. |
| 08:30 - 09:00 | 0.50 | CEMT | CMTP | P | PROD1 | RD Baker cement head, and Dowell cement line. |
| 09:00 - 17:30 | 8.50 | CEMT | TRIP | P | PROD1 | Trip out hole(wet), utilizing mud bucket. Filling hole w/ 10bbl/ 10 std drill pipe. |
| 17:30 - 21:00 | 3.50 | CEMT | | P | PROD1 | Baker PIP assy still on bottom of running tool, PIP element damaged. LD all Baker PIP assy, and inspect. |
| 21:00 - 23:30 | 2.50 | CEMT | WAIT | P | PROD1 | WOO, evaluate opinions w/ relevant parties. |
| 23:30 - 00:30 | 1.00 | EVAL | BHA | P | PROD1 | PU 5 7/8" cleanout assy. |
| 00:30 - 06:00 | 5.50 | EVAL | TRIP | P | PROD1 | Trip in the hole w/ 5 7/8" cleanout assy to verify depth of cement, at rpt time 13764' ft.<br><br>Note: Cement samples were hard with good compressive strengh in 12 hrs at 70 deg F. |

| | |
|---|---|
| Current Status: | Trip in hole w/ 5 7/8" assy, at rpt time 13764 ft. |
| 24hr Summary: | Pump cmt, disp, sting out, TOH, PU drl assy, TIH, check hole condition |
| 24hr Forecast: | Check hole condtion to 14000 ft, TOH, PU Baker PIP assy, TIH |

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/02/99 Report: 39 DFS: 35.00 DOL: 51.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 12 | 11 |
| Run | RR6 | RR6 |
| Size (in) | 5.875 | 5.875 |
| Manu. | HTC | HTC |
| Type | STR-DS50FD | STR-DS50FD |
| Serial No. | S49YS | S49YS |
| TFA (in²) | | |
| Depth In (ft) | 14,583.0 | 14,583.0 |
| Depth Out (ft) | | 14,583.0 |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / PIT | | Ca+ (mg/L) | 800 | |
| Depth (ft) | 14,583.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.50 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 33 | | Sand (%) | | |
| PV (cp) | 4 | | Tot. Solids | | |
| YP (lb/100ft²) | 4 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | 8.0 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 7.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.20 | | | | |
| Pm (mL) | 0.6 | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.5 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #11 | 1 | 0.75 | 4" HWDP | 1 | 30.81 |
| BIT SUB | 1 | 3.05 | Drilling Jars | 1 | 29.25 |
| XO | 1 | 3.10 | 4" HWDP | 47 | 1,446.03 |
| FLOAT SUB | | 2.65 | | | |
| Float sub | 1 | 3.08 | | | |
| XO | 1 | 3.11 | | | |
| 4" S135 DP | 75 | 3,972.47 | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,497.30 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 27,267 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/03/99 8:18:11 AM

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 10/02/99 Report: 39 DFS: 35.00 DOL: 51.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | | Barom |
| Weather | Clear & Cold. | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/29/99 | Incident Report Sent Y/N | |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/03/99 8:18:11 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/01/99 | Report: | 38 | DFS: 34.00 | DOL: 50.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,583.0 (ft) | TVD: | 13,058.0 (ft) Progress: |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 62,736 | Cumm. Cost: | 3,021,771 | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | P/NP | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 10:00 | 4.00 | DRILL | INSP | P | PROD1 | Complete mag inspection on 4" HWDP, all jt OK. |
| 10:00 - 11:30 | 1.50 | DRILL | TRIP | P | PROD1 | TOOH w/ remaining BHA. |
| 11:30 - 12:00 | 0.50 | DRILL | INSP | P | PROD1 | Inspect Tesco dual annuar element, in good shape. |
| 12:00 - 13:30 | 1.50 | DRILL | INSP | P | PROD1 | Inspect remaining BHA- monel DC, x-over subs. |
| 13:30 - 14:30 | 1.00 | DRILL | MISC | P | PROD1 | Cut drilling line. |
| 14:30 - 15:00 | 0.50 | DRILL | RIGS | P | PROD1 | Service rig. |
| 15:00 - 17:30 | 2.50 | DRILL | WAIT | P | PROD1 | Wait on Orders. |
| 17:30 - 19:30 | 2.00 | DRILL | BHA | P | PROD1 | PU-MU Baker PIP assy: |
| | | | | | | Bull plug .46 |
| | | | | | | 1 jt 3 1/2" tubing 9.3 ppf 31.24 |
| | | | | | | perf sub- 3 1/2" 9.3 ppf 10.04 |
| | | | | | | 1 jt 3 1/2" tubing 9.3 ppf 32.63 |
| | | | | | | PIP assy 5" OD 10.98 |
| | | | | | | 2 7/8" cmt ret flapper assy 2.62 |
| | | | | | | 1- 2 7/8" sub 9.97 |
| | | | | | | 1- 2 7/8 fill up sub 2.05 |
| | | | | | | 1- 2 7/8 landing collar .82 |
| | | | | | | 1- 2 7/8 tbg sub 10.23 |
| | | | | | | x-over sub .97 |
| | | | | | | 1- 3 1/2" pup jt 9.90 |
| | | | | | | 1- 3 1/2 bumper sub 7.60 |
| | | | | | | 1- x-over sub to HT-38 3.10 |
| | | | | | | TOTAL 132.61 ft |
| 19:30 - 03:30 | 8.00 | DRILL | TRIP | P | PROD1 | Trip in the hole, SLM drill pipe tp 14,219.6 ft( top of PIP packer element.) |
| 03:30 - 04:30 | 1.00 | CEMT | CMTP | P | PROD1 | RU Dowell, hookup surface equipment. |
| 04:30 - 06:00 | 1.50 | CEMT | CMTP | P | PROD1 | Conduct safety meeting. pressure test lines to 4500 psi. Pump production water at 1 bpm at 13 psi for40 bbls , slackoff 10,000 lb string wt, pump total 60 bbl, inc rate to 2 bpm to total 70 bbls at 32 psi, slackoff to 15,000 lb string wt. No inc in pressure. check- well on suction. |

| | |
|---|---|
| Current Status: | Set Baker PIP packer. |
| 24hr Summary: | Comp inscpt HWDP-BHA, PU OH BP, TIH, set, cement, TOH. |
| 24hr Forecast: | Pump cmt, disp, sting out, TOH, PU drl assy, TIH, disp to N2 |

# BP AMOCO
# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/01/99 Report: 38 DFS: 34.00 DOL: 50.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 11 | |
| Run | RR6 | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS50FD | |
| Serial No. | S49YS | |
| TFA (in²) | | |
| Depth In (ft) | 14,583.0 | |
| Depth Out (ft) | 14,583.0 | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | |
|---|---|---|
| Type 1: | WATER/BRINE | |
| Time/Loc | 12:00 / PIT | |
| Depth (ft) | 14,583.00 | |
| Temp (°F) | | |
| Density (ppg) | 8.50 | |
| ECD (ppg) | | |
| Viscosity (s/qt) | 33 | |
| PV (cp) | 4 | |
| YP (lb/100ft²) | 4 | |
| GELS (lb/100ft²) | 1 / 1 / | |
| API WL (cc/30min | 8.0 | |
| HTHP WL (cc/30min | | |
| API FC (/32") | 1 | |
| MBT (ppb) | | |
| Lime (ppb) | | |
| pH | 10.20 | |
| Pm (mL) | 0.6 | |
| Pf/Mf (mL / mL) | 0.2 / 0.5 | |
| Comment1: | | |

| 2: | | |
|---|---|---|
| Ca+ (mg/L) | 800 | |
| K+ (mg/L) | | |
| Polymer (ppb) | | |
| CaCl2 (%) | | |
| NaCl (%) | | |
| Sand (%) | | |
| Tot. Solids | | |
| % Oil | | |
| % H2O | | |
| Oil/H2O | / | |
| HGSolid (ppb) | | |
| LGSolid (ppb) | 7.0 | |
| ES (mV) | | |
| Oil Ret (%) | | |
| | | |
| | | |
| 2: | | |

## BHA Description: Drl Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #11 | 1 | 0.75 | 4" HWDP | 1 | 30.81 |
| BIT SUB | 1 | 3.05 | Drilling Jars | 1 | 29.25 |
| XO | 1 | 3.10 | 4" HWDP | 47 | 1,449.03 |
| FLOAT SUB | | 2.65 | | | |
| Float sub | 1 | 3.08 | | | |
| XO | 1 | 3.11 | | | |
| 4" S135 DP | 75 | 3,972.47 | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,497.30 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 27,267 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/03/99 8:17:19 AM

# BP AMOCO

## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/01/99 Report: 36 DFS: 34.00 DOL: 50.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | |
|---|---|
| Rig Heave | |
| Rig Pitch | |
| Rig Roll | |
| Wave Height | |
| Wave Direct | |
| Wave Period | |
| Swell Height | |
| Swell Direct | |
| Wind Speed | |
| Wind Direct | |
| Temp Maximum | |
| Temp Minimum | |
| Visibility | Barom |
| Weather | Clear & Cold. |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/29/99 | Incident Report Sent Y/N | |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/03/99 8:17:19 AM

BP AMOCO Page 1 of 4

# Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | 43-043-30165 | Date: 09/26/99 | Report: 33 | DFS: 29.00 | DOL: 45.00 |
| Event Name: | RE ENTER | | Start: 07/16/99 | End: | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Rig Name: | Parker | | TMD: | 14,583.0 (ft) | TVD: | 13,058.0 (ft) | Progress: |
| Rig Super: | Nordeen/McCrea 435-880-3208 | | Rot. Hours: | | AV ROP: | | Hole Size: |
| Wellsite Eng: | Tim Anderson | 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: |
| Daily Cost: | 49,120 | | Cumm. Cost: | 2,643,436 | | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 06:00 | 24.00 | EVAL | FCHK P | PROD1 | |

| Time: | FCP: | FBHP: | MMCF/D: | FLUID BBLS: |
|---|---|---|---|---|
| 6:00-7:00 | 98 | 1225 | 2.96 | 71 |
| 7:00-8:00 | 98 | 1226 | 2.82 | 41 |
| 8:00-9:00 | 96 | 1228 | 2.89 | 42 |
| 9:00-10:00 | 95 | 1231 | 2.79 | 46 |
| 10:00-11:00 | 90 | 1235 | 2.84 | 37 |
| 11:00-12:00 | 89 | 1235 | 2.69 | 45 |
| 12:00-1:00 | 86 | 1238 | 2.87 | 41 |
| 1:00-2:00 | 82 | 1242 | 2.77 | 45 |
| 2:00-3:00 | 78 | 1248 | 2.71 | 59 |
| 3:00-4:00 | 76 | 1248 | 2.69 | 38 |
| 4:00-5:00 | 71 | 1250 | 2.84 | 43 |
| 5:00-6:00 | 68 | 1253 | 2.91 | 34 |
| 6:00-7:00 | 70 | 1254 | 2.51 | 39 |
| 7:00-8:00 | 66 | 1256 | 2.85 | 57 |
| 8:00-9:00 | 68 | 1259 | 2.51 | 30 |
| 9:00-10:00 | 68 | 1261 | 2.74 | 48 |
| 10:00-11:00 | 67 | 1262 | 2.63 | 43 |
| 11:00-12:00 | 69 | 1262 | 2.84 | 46 |
| 12:00-1:00 | 64 | 1264 | 2.68 | 53 |
| 1:00-2:00 | 65 | 1266 | 2.67 | 39 |
| 2:00-3:00 | 63 | 1266 | 2.20 | 65 |
| 3:00-4:00 | 62 | 1267 | 2.63 | 24 |
| 4:00-5:00 | 66 | 1274 | 2.55 | 17 |
| 5:00-6:00 | 64 | 1272 | 2.73 | 42 |

06:00 - EVAL P PROD1

Gas Analysis:

TOTAL GAS (INJECTED & PRODUCED)
Daily Gas= 2,720,142 SCF
Total Gas= 52,838,858 SCF

TOTAL GAS VENTED: (N2 & METHANE)
Daily Gas Vented= 0 SCF
Total Gas Vented= 13,545,345 SCF

TOTAL SALES LINE GAS:
Daily sales line gas= 2,720,142 SCF
Total Sales Line Gas= 39,293,519 SCF

NET RESERVOIR GAS PRODUCED TO PLANT
Daily Net N2 & Methane To Plant= 2,720,142 SCF
Net Gas Methane Comp (est) = 46%
Daily Methane to Plant= 1,278,467 SCF
Total Methane to Plant= 13,237,826 SCF

| | |
|---|---|
| Current Status: | Flow test |
| 24hr Summary: | Flow test |
| 24hr Forecast: | Flow test |

Printed: 09/26/99 10:09:39 AM

BP AMOCO



# DAILY DRILLING REPORT

Well Name: ARE W #31-04 Date: 09/26/99 Report: 33 DFS: 29.00 DOL: 45.00
Event Name: RE ENTER Start: 07/16/99 End:

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - | | EVAL | P | PROD1 | Water Production<br>Daily Fluid Gain= 886 bbls.<br>Total Fluid Gain= 5993 bbls. |
| - | | EVAL | P | PROD1 | |

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/26/99 Report: 33 DFS: 29.00 DOL: 45.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 9 | |
| Run | RR7 | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS50FD | |
| Serial No. | S50YS | |
| TFA (in²) | | |
| Depth In (ft) | 14,583.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 09:30 / PIT | | Ca+ (mg/L) | 760 | |
| Depth (ft) | 14,583.00 | | K+ (mg/L) | 450 | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.45 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 35 | | Sand (%) | | |
| PV (cp) | 7 | | Tot. Solids | | |
| YP (lb/100ft²) | 6 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | 7.6 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 7.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.20 | | | | |
| Pm (mL) | 0.5 | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.4 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Drl Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #9 | 1 | 0.75 | Cent Sub | 1 | 3.96 |
| BIT SUB | 1 | 3.05 | NM DC | 2 | 61.68 |
| XO | 1 | 3.10 | XO | 1 | 3.11 |
| FLOAT SUB | | 2.65 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.25 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | | |
|---|---|---|
| Min ID (in) | 2.500 | |
| DC OD (in) | | |
| DC (ft) | | |
| HWDP OD (in) | | |
| HWDP (ft) | | |
| BHA | 5,616.53 | |
| DP OD (in) | | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | |
|---|---|
| Hole Vol (bbl) | |
| Pit 1 | |
| Pit 2 | |
| Pit 3 | |
| Pit 4 | |
| Total Mud Vol (bbl) | |
| Vol Built Day (bbl) | |
| Vol Built Cum | |
| Vol Lost Surf Day (bbl) | |
| Vol Lost Surf Cum | |
| Vol Lost Hole Day (bbl) | |
| Vol Lost Hole Tot | |
| Vol Dumped Day (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 27,152 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

Printed: 09/26/99 10:09:39 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/26/99 Report: 33 DFS: 29.00 DOL: 45.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL |
|---|---|
| Unit | Gals. |
| On Hand | |
| Used | |
| Received | |
| Returned | |
| Adjusted | |

### Weather

| | |
|---|---|
| Rig Heave | |
| Rig Pitch | |
| Rig Roll | |
| Wave Height | |
| Wave Direct | |
| Wave Period | |
| Swell Height | |
| Swell Direct | |
| Wind Speed | |
| Wind Direct | |
| Temp Maximum | |
| Temp Minimum | |
| Visibility | Barom |
| Weather | Scattered clouds, cool wind. |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | VDL | | Riser Tension | | Riser Angle/Dir | |
|---|---|---|---|---|---|---|---|

| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/26/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/26/99 10:09:39 AM

BP AMOCO Page 1 of 3

# Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/25/99 | Report: | 32 | DFS: 26.00 | DOL: 44.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,583.0 (ft) | TVD: | 13,058.0 (ft) Progress: |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 101,597 | Cumm. Cost: | 2,594,316 | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 10:00 | 4.00 | DRILL | TRIP | P | PROD1 | Snub HWDP & BHA out of hole. |
| 10:00 - 17:00 | 7.00 | EVAL | FCHK | P | PROD1 | Flow testing. |
| 17:00 - 19:00 | 2.00 | DRILL | TRIP | P | PROD1 | Snub BHA in hole w/BHP Insturments. |
| 19:00 - 21:00 | 2.00 | DRILL | TRIP | P | PROD1 | Rig down Push/Pull Machine. |
| 21:00 - 23:00 | 2.00 | DRILL | TRIP | P | PROD1 | TIH Hang Off Sub @ 8182'. |
| 23:00 - 01:30 | 2.50 | DRILL | TRIP | P | PROD1 | Circulate 15 minutes, TIH w/Antenna, hang on sub. |
| 01:30 - 03:00 | 1.50 | DRILL | TRIP | P | PROD1 | TIH to window @ 12966'. Flowing casing pressure, 72 psi. Flowing bottom hole pressure 1331 psi. |
| 03:00 - 04:00 | 1.00 | EVAL | FCHK | P | PROD1 | FCP 98 psi. FBHP 1333 psi. Gas rate 3.22 MMCF/D. 25 bbls. fluid/hour. |
| 04:00 - 05:00 | 1.00 | EVAL | FCHK | P | PROD1 | FCP 98 psi. FBHP 1224 PSI. Gas rate 3.10 MMCF/D. 53 bbls. fluid/hour. |
| 05:00 - 06:00 | 1.00 | EVAL | FCHK | P | PROD1 | FCP= 98 psi., FBHP= 1226 psi., Gas rate= 2.97 MMCF/D, fluid gained=31 bbls. |

Gas Analysis:

TOTAL GAS (INJECTED & PRODUCED)
Daily Gas= 3,706,883 SCF
Total Gas= 50,116,716 SCF

TOTAL GAS VENTED: (N2 & METHANE)
Daily Gas Vented= 666,663 SCF
Total Gas Vented= 13,545,345 SCF

TOTAL SALES LINE GAS:
Daily sales line gas= 2,840,000 SCF
Total Sales Line Gas= 36,573,377 SCF

NET RESERVOIR GAS PRODUCED TO PLANT
Daily Net N2 & Methane To Plant= 3,662,294 SCF
Net Gas Methane Comp (est) = 46%
Daily Methane to Plant= 1,334,800 SCF
Total Methane to Plant= 11,959,359 SCF

Water Production
Daily Fluid Gain= 1041 bbls.
Total Fluid Gain= 5107 bbls.

Current Status: FLOW TESTING.

24hr Summary: TOH, FLOW TEST, TIH W/RECORDER, FLOW TEST.

24hr Forecast: FLOW TEST.

Printed: 09/26/99 9:10:19 AM

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/25/99 Report: 32 DFS: 28.00 DOL: 44.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 9 | 8 |
| Run | RR7 | |
| Size (in) | 5.875 | 5.875 |
| Manu. | HTC | Hughes |
| Type | STR-DS50FD | STR_DS50DD |
| Serial No. | S50YS | T40YD |
| TFA (in²) | | |
| Depth In (ft) | 14,583.0 | 14,220.0 |
| Depth Out (ft) | | 14,583.0 |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | 7/M/2/M |
| Cond (BGOR) | | 8/ I/WT/ PR |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 10:30 / PIT | | Ca+ (mg/L) | 760 | |
| Depth (ft) | 14,583.00 | | K+ (mg/L) | 450 | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.45 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 34 | | Sand (%) | | |
| PV (cp) | 6 | | Tot. Solids | | |
| YP (lb/100ft²) | 6 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | 7.8 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 7.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.50 | | | | |
| Pm (mL) | 0.6 | | | | |
| Pf/Mf (mL / mL) | 0.3 / 0.4 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #9 | 1 | 0.75 | Cent Sub | 1 | 3.96 |
| BIT SUB | 1 | 3.05 | NM DC | 2 | 61.66 |
| XO | 1 | 3.10 | XO | 1 | 3.11 |
| FLOAT SUB | | 2.65 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.25 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,616.53 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 27,152 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/26/99 9:10:19 AM

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/25/99 Report: 32 DFS: 28.00 DOL: 44.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Scattered clouds, cool wind. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| | | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (P) | 09/21/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Test (F) | 09/22/99 | Last Rig Check | | Loss Control Incident | |
| Last BOP Drill | | Last Safety Meeting | 09/25/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/26/99 9:10:19 AM

# BP-AMOCO

## Daily Drilling Report



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/24/99 | Report: | 31 | DFS: 27.00 | DOL: 43.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,583.0 (ft) | TVD: | 13,058.0 (ft) |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | |
| Daily Cost: | 87,058 | Cumm. Cost: | 2,492,719 | | |

Progress: 88.0 (ft)
Hole Size:
Shoe TVD:

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 07:30 | 1.50 | DRILL | DRLD | P PROD1 | Slide from 14495' to 14505'. |
| 07:30 - 08:00 | 0.50 | DRILL | REAM | P PROD1 | Reaming from 14498' to 14503'. Difficult to slide. |
| 08:00 - 09:00 | 1.00 | DRILL | CIRC | P PROD1 | Circulating. |
| 09:00 - 10:00 | 1.00 | DRILL | DRLD | P PROD1 | Slide from 14505' to 14514'. |
| 10:00 - 10:30 | 0.50 | DRILL | SURD | P PROD1 | Survey. |
| 10:30 - 15:00 | 4.50 | DRILL | DRLD | P PROD1 | Slide from 14514' to 14531'. |
| 15:00 - 17:00 | 2.00 | DRILL | DRLD | P PROD1 | Rotate from 14531' to 14568'. |
| 17:00 - 17:30 | 0.50 | DRILL | SURD | P PROD1 | Survey & connection. |
| 17:30 - 18:30 | 1.00 | DRILL | DRLD | P PROD1 | Rotate from 14568' to 14583'. Bit torqued, stopped top drive. |
| 18:30 - 21:00 | 2.50 | DRILL | CIRC | P PROD1 | Circulate, prepare to acidize bath for drillpipe. |
| 21:00 - 01:00 | 4.00 | DRILL | TRIP | P PROD1 | TOH. |
| 01:00 - 02:30 | 1.50 | DRILL | TRIP | P PROD1 | Pull survey Antenna. |
| 02:30 - 04:30 | 2.00 | DRILL | TRIP | P PROD1 | TOH. |
| 04:30 - 05:30 | 1.00 | DRILL | TRIP | P PROD1 | Rig up push pull machine. |
| 05:30 - 06:00 | 0.50 | DRILL | TRIP | P PROD1 | Snub out HWDP & BHA. |
| 06:00 - | | DRILL | | P PROD1 | Gas Analysis: |

TOTAL GAS (INJECTED & PRODUCED)
Daily Gas= 6,088,488 SCF
Total Gas= 46,411,833 SCF

TOTAL GAS VENTED: (N2 & METHANE)
Daily Gas Vented= 588,488 SCF
Total Gas Vented= 12,678,462 SCF

TOTAL SALES LINE GAS:
Daily sales line gas= 5,500,000 SCF
Total Sales Line Gas= 33,733,377 SCF

NET RESERVOIR GAS PRODUCED TO PLANT
Daily Net N2 & Methane To Plant= 4,147,489 SCF
Net Gas Methane Comp (est) = 46%
Daily Methane to Plant= 2,585,000 SCF
Total Methane to Plant= 10,624,559 SCF

Water Production
Daily Produced Water = 1070 bbls.
Total Produced Water= 4066 bbls.

| | |
|---|---|
| Current Status: | Snubbing HWDP & BHA out of hole. |
| 24hr Summary: | Directional drilling, Surveying, TOH. |
| 24hr Forecast: | Flow Test |

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/24/99 Report: 31 DFS: 27.00 DOL: 43.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 8 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | Hughes | |
| Type | STR_DS50DD | |
| Serial No. | T40YD | |
| TFA (in²) | | |
| Depth In (ft) | 14,220.0 | |
| Depth Out (ft) | | |
| Cum. Depth (ft) | 363.0 | |
| Cum. Hours | 33.50 | |
| WOB (Min) (Klb) | 10 | |
| WOB (Max) (Klb) | | |
| RPM (Min) | 100 | |
| RPM (Max) | 120 | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 10:30 / PIT | | Ca+ (mg/L) | 800 | |
| Depth (ft) | 14,519.00 | | K+ (mg/L) | 1,000 | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.45 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 34 | | Sand (%) | | |
| PV (cp) | 5 | | Tot. Solids | | |
| YP (lb/100ft²) | 5 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | 8.0 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 7.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.90 | | | | |
| Pm (mL) | 0.6 | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.4 | | | | |
| Comment1: | | | 2: | | |

### BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #8 | 1 | 0.75 | NM DC | 2 | 61.68 |
| Dog sub | 1 | 0.55 | XO | 1 | 3.11 |
| Mud motor @ 1.83 deg. | 1 | 20.57 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.25 |
| Cent Sub | 1 | 3.96 | 4" HWDP | 45 | 1,387.33 |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

### Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

### Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,628.85 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 27,152 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/24/99 8:26:47 AM

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 09/24/99 Report: 31 DFS: 27.00 DOL: 43.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL |
|---|---|
| Unit | Gals. |
| On Hand | |
| Used | 7,200 |
| Received | 7,200 |
| Returned | |
| Adjusted | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Scattered clouds, cool wind. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/24/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 14,434.00 | 105.800 | 175.800 | 13,082.68 | -1,709.65 | 813.25 | -1,709.65 | 0.97 | 0.97 |
| 14,464.00 | 105.600 | 173.000 | 13,074.56 | -1,738.39 | 816.07 | -1,738.39 | 9.01 | -0.67 |
| 14,495.00 | 105.700 | 170.800 | 13,066.20 | -1,767.94 | 820.28 | -1,767.94 | 6.84 | 0.32 |
| 14,526.00 | 105.500 | 168.000 | 13,057.86 | -1,797.29 | 825.77 | -1,797.29 | 8.72 | -0.65 |

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | | Date: 09/23/99 | Report: 30 | DFS: 26.00 | DOL: 42.00 | |
| Event Name: | RE ENTER 43-043-30165 | | Start: 07/16/99 | End: | | | |
| Rig Name: | Parker | | TMD: 14,495.0 (ft) | TVD: 13,091.0 (ft) | Progress: 217.0 (ft) | | |
| Rig Super: | Nordeen/McCrea 435-880-3208 | | Rot. Hours: | AV ROP: | Hole Size: | | |
| Wellsite Eng: | Tim Anderson 281-366-5861 | | Last Casing: | Shoe TMD: | Shoe TVD: | | |
| Daily Cost: | 77,240 | | Cumm. Cost: 2,405,661 | | | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P/NPT | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 07:00 | 1.00 | DRILL | DRLD | P | PROD1 | Slide from 14276' to 14290'. |
| 07:00 - 08:00 | 1.00 | DRILL | MISC | P | PROD1 | Replaced washed out target Tee. on BOP loop. |
| 08:00 - 10:30 | 2.50 | DRILL | DRLD | P | PROD1 | Slide from 14290' to 14316'. |
| 10:30 - 11:00 | 0.50 | DRILL | DRLD | P | PROD1 | Rotate from 14316' to 14326'. |
| 11:00 - 13:30 | 2.50 | DRILL | DRLD | P | PROD1 | Slide from 14326' to 14346'. |
| 13:30 - 14:00 | 0.50 | DRILL | DRLD | P | PROD1 | Rotate from 14346' to 14356'. |
| 14:00 - 15:00 | 1.00 | DRILL | DRLD | P | PROD1 | Slide from 14356' to 14361'. |
| 15:00 - 16:00 | 1.00 | DRILL | CIRC | P | PROD1 | Circulate & survey. |
| 16:00 - 19:30 | 3.50 | DRILL | DRLD | P | PROD1 | Slide from 14361' to 14380'. |
| 19:30 - 20:00 | 0.50 | DRILL | DRLD | P | PROD1 | Rotate from 14380' to 14386'. |
| 20:00 - 20:30 | 0.50 | DRILL | SURD | P | PROD1 | Survey. |
| 20:30 - 02:00 | 5.50 | DRILL | DRLD | P | PROD1 | Slide from 14386' to 14450'. |
| 02:00 - 02:30 | 0.50 | DRILL | DRLD | P | PROD1 | Rotate from 14450' to 14455'. |
| 02:30 - 04:00 | 1.50 | DRILL | DRLD | P | PROD1 | Slide from 14455' to 14477'. |
| 04:00 - 05:00 | 1.00 | DRILL | SURD | P | PROD1 | Survey & Connection. |
| 05:00 - 06:00 | 1.00 | DRILL | DRLD | P | PROD1 | Slide from 14,477' - 14,495' |

Gas Analysis:

TOTAL GAS (INJECTED & PRODUCED)
Daily Gas= 5,107,770 SCF
Total Gas= 40,323,345 SCF

TOTAL GAS VENTED: (N2 & METHANE)
Daily Gas Vented= 1,207,770 SCF
Total Gas Vented= 12,089,974 SCF

TOTAL SALES LINE GAS:
Daily sales line gas= 3,900,000 SCF
Total Sales Line Gas= 28,233,377 SCF

NET RESERVOIR GAS PRODUCED TO PLANT
Daily Net N2 & Methane To Plant= 1,904,261 SCF
Net Gas Methane Comp (est) = 46%
Daily Methane to Plant= 1,833,000 SCF
Total Methane to Plant= 8,039,559 SCF

Water Production
Daily Produced water= 201 bbls.
Total Produced water= 2996 bbls.

Current Status: Directional drilling @ 14495'

24hr Summary: Directional drilling, Repair washed out flow Tee, Drill & Survey.

24hr Forecast: Directional Drill, & Survey.

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/23/99 Report: 30 DFS: 26.00 DOL: 42.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 8 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | Hughes | |
| Type | STR_DS50DD | |
| Serial No. | T40YD | |
| TFA (in²) | | |
| Depth In (ft) | 14,220.0 | |
| Depth Out (ft) | | |
| Cum. Depth (ft) | 275.0 | |
| Cum. Hours | 23.50 | |
| WOB (Min) (Klb) | 10 | |
| WOB (Max) (Klb) | 80 | |
| RPM (Min) | 120 | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 11:30 / PIT | | Ca+ (mg/L) | 800 | |
| Depth (ft) | 14,335.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.45 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 35 | | Sand (%) | | |
| PV (cp) | 5 | | Tot. Solids | | |
| YP (lb/100ft²) | 5 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | 8.4 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 7.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 11.00 | | | | |
| Pm (mL) | 0.6 | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.4 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #8 | 1 | 0.75 | NM DC | 2 | 61.66 |
| Dog sub | 1 | 0.55 | XO | 1 | 3.11 |
| Mud motor @ 1.83 deg. | 1 | 20.57 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.25 |
| Cent Sub | 1 | 3.96 | 4" HWDP | 45 | 1,387.33 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,628.85 |
| DP OD | (in) | |
| String Rot Weight | (lbs) | 260,000 |
| Pick-Up Weight | (lbs) | 290,000 |
| Slack Off Weight | (lbs) | 235,000 |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 27,152 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

Printed: 09/23/99 6:30:00 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/23/99 Report: 30 DFS: 26.00 DOL: 42.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Scattered clouds, cool wind. | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/23/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 14,249.00 | 102.800 | 183.400 | 13,127.98 | -1,530.56 | 816.61 | -1,530.56 | 1.33 | -1.29 |
| 14,280.00 | 103.100 | 183.300 | 13,121.03 | -1,560.72 | 814.85 | -1,560.72 | 1.02 | 0.97 |
| 14,311.00 | 103.700 | 182.500 | 13,113.85 | -1,590.84 | 813.32 | -1,590.84 | 3.17 | 1.94 |
| 14,341.00 | 103.800 | 180.900 | 13,106.71 | -1,619.98 | 812.46 | -1,619.98 | 5.19 | 0.33 |
| 14,372.00 | 104.800 | 184.300 | 13,099.11 | -1,649.98 | 811.10 | -1,649.98 | 10.94 | 2.58 |
| 14,403.00 | 105.500 | 175.800 | 13,091.04 | -1,679.88 | 811.07 | -1,679.88 | 26.64 | 2.90 |

# BP AMOCO

## Daily Drilling Report



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/22/99 | Report: | 29 | DFS: 25.00 | DOL: 41.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,278.0 (ft) | TVD: | 13,134.0 (ft) Progress: 58.0 (ft) |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 71,666 | Cumm. Cost: | 2,328,420 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 12:00 | 6.00 | WHEAD | BOPT | P | PROD1 | Finish BOP & related equipment testing, pull test plug. Test went very well. |
| 12:00 - 13:00 | 1.00 | DRILL | MISC | P | PROD1 | Rig up drilling nipple to acidize drill pipe for scale removal.<br>*Aborted acid bath until next trip out! |
| 13:00 - 15:30 | 2.50 | DRILL | BHA | P | PROD1 | Pick up BHA, make up same, snub in BHA & ten stands. |
| 15:30 - 16:30 | 1.00 | DRILL | TRIP | P | PROD1 | Rig down Push/Pull Machine. |
| 16:30 - 19:00 | 2.50 | DRILL | TRIP | P | PROD1 | Trip in hole to 8797'. Install Hang Off Sub. |
| 19:00 - 22:00 | 3.00 | DRILL | TRIP | P | PROD1 | Circulate 15 minutes, TIH w/Antenna. Perform operational test on Antenna. Tested ok. Hang Antenna on Hang Off Sub. Run one stand in hole. |
| 22:00 - 00:00 | 2.00 | DRILL | RIGS | P | PROD1 | Slip and cut drilling line. |
| 00:00 - 01:00 | 1.00 | DRILL | TRIP | P | PROD1 | TIH to window @ 12965' |
| 01:00 - 02:30 | 1.50 | DRILL | CIRC | P | PROD1 | Circulate hole dry with N2. |
| 02:30 - 03:00 | 0.50 | DRILL | TRIP | P | PROD1 | TIH to 14220' |
| 03:00 - 03:45 | 0.75 | DRILL | SURD | P | PROD1 | Orient tool face. |
| 03:45 - 04:00 | 0.25 | DRILL | DRLD | P | PROD1 | Rotate from 14220' to 14235'. |
| 04:00 - 04:15 | 0.25 | DRILL | SURD | P | PROD1 | Survey @ 14188' |
| 04:15 - 05:00 | 0.75 | DRILL | DRLD | P | PROD1 | Slide from 14235' to 14255'. |
| 05:00 - 05:15 | 0.25 | DRILL | DRLD | P | PROD1 | Rotate from 14255' to 14265'. |
| 05:15 - 05:30 | 0.25 | DRILL | SURD | P | PROD1 | Survey @ 14218'. |
| 05:30 - 06:00 | 0.50 | DRILL | DRLD | P | PROD1 | Slide from 14265' to 14278' |
| 06:00 - | | DRILL | | P | PROD1 | Gas Analysis:<br><br>TOTAL GAS (INJECTED & PRODUCED)<br>Daily Gas= 1,849,719 SCF<br>Total Gas= 35,215,575 SCF<br><br>TOTAL GAS VENTED: (N2 & METHANE)<br>Daily Gas Vented= 1,849,719 SCF<br>Total Gas Vented= 10,882,204 SCF<br><br>TOTAL SALES LINE GAS:<br><br>Daily sales line gas= 0 SCF<br>Total Sales Line Gas= 24,333,377 SCF<br><br>NET RESERVOIR GAS PRODUCED TO PLANT<br><br>Daily Net N2 & Methane To Plant= 0 SCF<br>Net Gas Methane Comp (est) = 46%<br>Daily Methane to Plant= 0 SCF<br>Total Methane to Plant= 6,206,559 SCF<br><br>Water Production<br>Daily Produced water= 217 bbls.<br>Total Produced water= 2795 bbls. |

| | |
|---|---|
| Current Status: | Directional Drilling @ 11278' |
| 24hr Summary: | Test BOP, Trip in, Rig up GeoCom, Drill |
| 24hr Forecast: | Directional Drill |

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 09/22/99 Report: 29 DFS: 25.00 DOL: 41.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 8 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | Hughes | |
| Type | STR_DS50DD | |
| Serial No. | T40YD | |
| TFA (in²) | | |
| Depth In (ft) | 14,220.0 | |
| Depth Out (ft) | | |
| Cum. Depth (ft) | 58.0 | |
| Cum. Hours | 2.50 | |
| WOB (Min) (Klb) | 10 | |
| WOB (Max) (Klb) | | |
| RPM (Min) | 120 | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | |
|---|---|---|
| Type 1: | WATER/BRINE | |
| Time/Loc | / PIT | |
| Depth (ft) | 14,220.00 | |
| Temp (°F) | | |
| Density (ppg) | 8.45 | |
| ECD (ppg) | | |
| Viscosity (s/qt) | 34 | |
| PV (cp) | 5 | |
| YP (lb/100ft²) | 5 | |
| GELS (lb/100ft²) | 1 / 1 / | |
| API WL (cc/30min | 8.0 | |
| HTHP WL (cc/30min | | |
| API FC (/32") | 1 | |
| MBT (ppb) | | |
| Lime (ppb) | | |
| pH | 11.40 | |
| Pm (mL) | 0.6 | |
| Pf/Mf (mL / mL) | 0.3 / 0.5 | |
| Comment1: | | |

| 2: | | |
|---|---|---|
| Ca+ (mg/L) | 800 | |
| K+ (mg/L) | | |
| Polymer (ppb) | | |
| CaCl2 (%) | | |
| NaCl (%) | | |
| Sand (%) | | |
| Tot. Solids | | |
| % Oil | | |
| % H2O | | |
| Oil/H2O | / | |
| HGSolid (ppb) | | |
| LGSolid (ppb) | 7.0 | |
| ES (mV) | | |
| Oil Ret (%) | | |
| | | |
| | | |
| 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #8 | 1 | 0.75 | NM DC | 2 | 61.68 |
| Dog sub | 1 | 0.55 | XO | 1 | 3.11 |
| Mud motor @ 1.83 deg. | 1 | 20.57 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.25 |
| Cent Sub | 1 | 3.96 | 4" HWDP | 45 | 1,367.33 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Strokes | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Pipe Data

| | | |
|---|---|---|
| Min ID (in) | | 2.500 |
| DC OD (in) | | |
| DC (ft) | | |
| HWDP OD (in) | | |
| HWDP (ft) | | |
| BHA | | 5,628.85 |
| DP OD (in) | | |
| String Rot Weight (lbs) | | 265,000 |
| Pick-Up Weight (lbs) | | 280,000 |
| Slack Off Weight (lbs) | | 260,000 |

## Mud Volume

| | |
|---|---|
| Hole Vol (bbl) | |
| Pit 1 | |
| Pit 2 | |
| Pit 3 | |
| Pit 4 | |
| Total Mud Vol (bbl) | |
| Vol Built Day (bbl) | |
| Vol Built Cum | |
| Vol Lost Surf Day (bbl) | |
| Vol Lost Surf Cum | |
| Vol Lost Hole Day (bbl) | |
| Vol Lost Hole Tot | |
| Vol Dumped Day (bbl) | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 27,152 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/22/99 Report: 29 DFS: 25.00 DOL: 41.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | Barom | |
| Weather | Clear Sky, Cool light wind. | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/22/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 14,188.00 | 103.100 | 182.400 | 13,141.78 | -1,471.23 | 819.93 | -1,471.23 | 8.17 | 0.00 |
| 14,218.00 | 103.200 | 183.500 | 13,134.95 | -1,500.41 | 818.43 | -1,500.41 | 3.59 | 0.33 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/23/99 8:21:07 AM

BP AMOCO Page: 1 of 2

# Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/21/99 | Report: | 28 | DFS: 24.00 | DOL: 40.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,220.0 (ft) | TVD: | 13,134.0 (ft) Progress: |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 65,497 | Cumm. Cost: | 2,256,754 | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 09:00 | 3.00 | DRILL | SURD P | PROD1 | Run wire line Antenna, trouble shoot same. |
| 09:00 - 10:00 | 1.00 | DRILL | CIRC P | PROD1 | Circulate drill string, pull one stand to 7235'. |
| 10:00 - 13:00 | 3.00 | DRILL | SURD P | PROD1 | Trouble shoot wire line Antenna, pull Antena out of hole. |
| 13:00 - 15:30 | 2.50 | DRILL | TRIP P | PROD1 | TOH w/drillpipe. |
| 15:30 - 16:30 | 1.00 | DRILL | TRIP P | PROD1 | Rig up push pull machine. |
| 16:30 - 19:00 | 2.50 | DRILL | TRIP P | PROD1 | Finish TOH w/push pull machine. |
| 19:00 - 20:00 | 1.00 | WHEAD | BOPT P | PROD1 | Rig up for State BOP test.<br>Notified Dan Jarvis with Utah Oil & Gas of BOP test @ 1530 hrs on 9/20/99. |
| 20:00 - 20:30 | 0.50 | DRILL | BHA P | PROD1 | Lay down BHA. |
| 20:30 - 21:00 | 0.50 | WHEAD | BOPT P | PROD1 | Make up test plug below push pull machine. |
| 21:00 - 21:30 | 0.50 | DRILL | WAIT P | PROD1 | Wait for chicksans to arrive on location. |
| 21:30 - 23:00 | 1.50 | WHEAD | BOPT P | PROD1 | Rig equalizer line to well head and BOP stack. |
| 23:00 - 00:00 | 1.00 | WHEAD | BOPT P | PROD1 | Snub test plug into well head, set lock pins on plug. Bleed gas off stack. |
| 00:00 - 06:00 | 6.00 | WHEAD | BOPT P | PROD1 | Testing BOP system and related equipment. All valves, chokes and rams to 250 psi low & 5000 psi high, except annulars. Tested annulars to 250 psi low and 2500 psi high. Duration of test on each component, five minutes low and ten minutes high. |
| 06:00 - | | WHEAD | | P PROD1 | Gas Analysis:<br><br>TOTAL GAS (INJECTED & PRODUCED)<br>Daily Gas= 1,423,063 SCF<br>Total Gas= 33,365,856 SCF<br><br>TOTAL GAS VENTED: (N2 & METHANE)<br>Daily Gas Vented= 23,063 SCF<br>Total Gas Vented= 9,032,485 SCF<br><br>TOTAL SALES LINE GAS:<br><br>Daily sales line gas= 1,423,063 SCF<br>Total Sales Line Gas= 24,333,377 SCF<br><br>NET RESERVOIR GAS PRODUCED TO PLANT<br><br>Daily Net N2 & Methane To Plant= 1,410,433 SCF<br>Net Gas Methane Comp (est) = 46%<br>Daily Methane to Plant= 644,000 SCF<br>Total Methane to Plant= 6,206,559 SCF<br><br>Water Production<br>Daily Produced water= 154 bbls.<br>Total Produced water= 2578 bbls. |

| | |
|---|---|
| Current Status: | Testing in progress. |
| 24hr Summary: | Trouble shooting Survey System, TOH, Rig up for State BOP test. |
| 24hr Forecast: | Finish BOP test. |

Printed: 09/21/99 8:24:05 AM

# BP AMOCO
# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/21/99 Report: 26 DFS: 24.00 DOL: 40.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 8 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | Hughes | |
| Type | STR_DS50DD | |
| Serial No. | T40YD | |
| TFA (in²) | | |
| Depth In (ft) | 14,220.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 10:15 / PIT | | Ca+ (mg/L) | 800 | |
| Depth (ft) | 14,220.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.45 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 34 | | Sand (%) | | |
| PV (cp) | 5 | | Tot. Solids | | |
| YP (lb/100ft²) | 5 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | 8.0 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 7.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 11.40 | | | | |
| Pm (mL) | 0.6 | | | | |
| Pf/Mf (mL / mL) | 0.3 / 0.5 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #8 | 1 | 0.75 | NM DC | 2 | 61.66 |
| Dog sub | 1 | 0.55 | XO | 1 | 3.11 |
| Mud motor @ 1.83 deg. | 1 | 20.57 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.25 |
| Cent Sub | 1 | 3.96 | 4" HWDP | 45 | 1,387.33 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | | |
|---|---|---|
| Min ID (in) | 2.500 | |
| DC OD (in) | | |
| DC (ft) | | |
| HWDP OD (in) | | |
| HWDP (ft) | | |
| BHA | 5,628.85 | |
| DP OD (in) | | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol (bbl) | | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol (bbl) | | |
| Vol Built Day (bbl) | | |
| Vol Built Cum | | |
| Vol Lost Surf Day (bbl) | | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day (bbl) | | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day (bbl) | | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 27,152 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/21/99 8:24:05 AM

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 09/21/99 Report: 26 DFS: 24.00 DOL: 40.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | | Barom |
| Weather | Clear Sky, Cool light wind. | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/16/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Lose Control Incident | |
| | | Last Safety Meeting | 09/20/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

# BP AMOCO
## Daily Drilling Report



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/20/99 | Report: | 27 | DFS: 23.00 | DOL: 39.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,220.0 (ft) | TVD: | 13,134.0 (ft) Progress: |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 53,443 | Cumm. Cost: | 2,191,257 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P/U | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 08:00 | 2.00 | DRILL | TRIP | P | PROD1 | TIH w/push pull machine. |
| 08:00 - 09:00 | 1.00 | DRILL | TRIP | P | PROD1 | Rig down push pull machine. |
| 09:00 - 11:30 | 2.50 | DRILL | TRIP | P | PROD1 | TIH. |
| 11:30 - 19:00 | 7.50 | DRILL | TRIP | P | PROD1 | TIH w/Antenna, trouble shooting system. |
| 19:00 - 01:00 | 6.00 | DRILL | WAIT | P | PROD1 | Pull Antenna out of hole, wait on service technician and testing equipment. |
| 01:00 - 01:30 | 0.50 | DRILL | TRIP | P | PROD1 | TOH w/eleven stands drill pipe to 7512'. |
| 01:30 - 04:30 | 3.00 | DRILL | SURD | P | PROD1 | Cut 880' off Antenna, cut out splice. Cable checked out ok after cutting, but not long enough to hang off. TOH w/Antenna. |
| 04:30 - 05:00 | 0.50 | DRILL | TRIP | P | PROD1 | TOH w/two stands to 7328'. Hang off sub at top of stand number 61 going in hole. |
| 05:00 - 06:00 | 1.00 | DRILL | TRIP | P | PROD1 | TIH w/Antenna. |
| 06:00 - | | DRILL | | P | PROD1 | Gas Analysis:<br><br>TOTAL GAS (INJECTED & PRODUCED)<br>Daily Gas= 2,631,181 SCF<br>Total Gas= 31,942,793 SCF<br><br>TOTAL GAS VENTED: (N2 & METHANE)<br>Daily Gas Vented= 131,181 SCF<br>Total Gas Vented= 9,009,422 SCF<br><br>TOTAL SALES LINE GAS:<br><br>Daily sales line gas= 2,500,000 SCF<br>Total Sales Line Gas= 22,933,377 SCF<br><br>NET RESERVOIR GAS PRODUCED TO PLANT<br><br>Daily Net N2 & Methane To Plant= 2,631,181 SCF<br>Net Gas Methane Comp (est) = 46%<br>Daily Methane to Plant= 1,150,000 SCF<br>Total Methane to Plant= 5,562,559 SCF<br><br>Water Production<br>Daily Produced water= 226 bbls.<br>Total Produced water= 2358 bbls. |

| | |
|---|---|
| Current Status: | Tripping in hole with Antenna. |
| 24hr Summary: | Trouble shooting survey system. |
| 24hr Forecast: | Run operational check on survey system, TIH, drill & survey. |

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/20/99 Report: 27 DFS: 23.00 DOL: 39.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 8 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | Hughes | |
| Type | STR_DS50DD | |
| Serial No. | T40YD | |
| TFA (in²) | | |
| Depth In (ft) | 14,220.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | |
|---|---|---|---|
| Type 1: | WATER/BRINE | | |
| Time/Loc | 09:15 / PIT | | |
| Depth (ft) | 14,220.00 | | |
| Temp (°F) | | | |
| Density (ppg) | 8.45 | | |
| ECD (ppg) | | | |
| Viscosity (s/qt) | 34 | | |
| PV (cp) | 5 | | |
| YP (lb/100ft²) | 6 | | |
| GELS (lb/100ft²) | 1 / 1 / | | |
| API WL (cc/30min | 8.0 | | |
| HTHP WL (cc/30min | | | |
| API FC (/32") | 1 | | |
| MBT (ppb) | | | |
| Lime (ppb) | | | |
| pH | 9.80 | | |
| Pm (mL) | 0.5 | | |
| Pf/Mf (mL / mL) | 0.2 / 0.4 | | |
| Comment1: | | 2: | |

| | | |
|---|---|---|
| 2: | | |
| Ca+ (mg/L) | 800 | |
| K+ (mg/L) | | |
| Polymer (ppb) | | |
| CaCl2 (%) | | |
| NaCl (%) | | |
| Sand (%) | | |
| Tot. Solids | | |
| % Oil | | |
| % H2O | | |
| Oil/H2O | / | |
| HGSolid (ppb) | | |
| LGSolid (ppb) | 7.0 | |
| ES (mV) | | |
| Oil Ret (%) | | |

### BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #8 | 1 | 0.75 | NM DC | 2 | 61.68 |
| Dog sub | 1 | 0.55 | XO | 1 | 3.11 |
| Mud motor @ 1.83 deg. | 1 | 20.57 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.25 |
| Cent Sub | 1 | 3.96 | 4" HWDP | 45 | 1,387.33 |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,628.85 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

### Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 15,804 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

Printed: 09/20/99 8:15:18 AM

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/20/99 Report: 27 DFS: 23.00 DOL: 39.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Unit | DIESEL Gals. | | | | | | |
|---|---|---|---|---|---|---|---|
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Fog & cold rain. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/16/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/16/99 | Incident Report Sent Y/N | |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/20/99 8:15:18 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/19/99 | Report: | 26 | DFS: 22.00 | DOL: 38.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,220.0 (ft) | TVD: | 13,134.0 (ft) Progress: |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 47,366 | Cumm. Cost: | 2,137,814 | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 07:00 | 1.00 | DRILL | CIRC | P PROD1 | Circulate hole dry w/nitrogen, prepare to trip. |
| 07:00 - 10:30 | 3.50 | DRILL | TRIP | P PROD1 | Trip out of hole to Antenna Hang Off Sub. Bleed floats. |
| 10:30 - 18:00 | 7.50 | DRILL | TRIP | P PROD1 | While pulling Antenna, wire line operator pulled rope socket into sheave, pulled out of rope socket. Lost Antenna in drill pipe. Pulled six stands drill pipe. Found Antenna line. Splice line, pull Antenna out of hole. |
| 18:00 - 21:00 | 3.00 | DRILL | TRIP | P PROD1 | TOH. |
| 21:00 - 22:00 | 1.00 | DRILL | TRIP | P PROD1 | Rig up Push Pull Machine. |
| 22:00 - 23:30 | 1.50 | DRILL | TRIP | P PROD1 | TOH. |
| 23:30 - 00:00 | 0.50 | DRILL | TRIP | P PROD1 | Slips hung up on pipe, work on push pull machine. |
| 00:00 - 01:30 | 1.50 | DRILL | BHA | P PROD1 | Break out BHA, lay down motor. |
| 01:30 - 05:00 | 3.50 | DRILL | SURD | P PROD1 | Trouble shooting survey equipment. |
| 05:00 - 06:00 | 1.00 | DRILL | BHA | P PROD1 | Pick up new bit & motor, make up rest of BHA, snub in hole. |
| 06:00 - | | DRILL | | P PROD1 | Gas Analysis: |

TOTAL GAS (INJECTED & PRODUCED)
Daily Gas= 2,550,310 SCF
Total Gas= 29,311,612 SCF

TOTAL GAS VENTED: (N2 & METHANE)
Daily Gas Vented= 50,310 SCF
Total Gas Vented= 8,878,241 SCF

TOTAL SALES LINE GAS:

Daily sales line gas= 2,500,000 SCF
Total Sales Line Gas= 20,433,377 SCF

NET RESERVOIR GAS PRODUCED TO PLANT

Daily Net N2 & Methane To Plant= 2,550,310 SCF
Net Gas Methane Comp (est) = 46%
Daily Methane to Plant= 1,150,000 SCF
Total Methane to Plant= 4,412,559 SCF

Water Production
Daily Produced water= 216 bbls.
Total Produced water= 2132 bbls.

| | |
|---|---|
| Current Status: | Picking up BHA, Snubbing in hole. |
| 24hr Summary: | Circulate, TOH, Trouble shoot survey system, Pick up new BHA |
| 24hr Forecast: | TIH to hang off sub, run operation test on Antenna, TIH |

# BP AMOCO
# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/19/99 Report: 26 DFS: 22.00 DOL: 38.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 8 | 7 |
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | Hughes | Hughes |
| Type | STR_DS50DD | DS50FDX |
| Serial No. | T40YD | S50YS |
| TFA (in²) | | |
| Depth In (ft) | 14,220.0 | 13,965.0 |
| Depth Out (ft) | | 14,220.0 |
| Cum. Depth | | 510.0 |
| Cum. Hours | | 16.50 |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | 1/A/1/A |
| Cond (BGOR) | | E/ I/NO/ MW |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 10:00 / PIT | | Ca+ (mg/L) | 800 | |
| Depth (ft) | 14,220.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.45 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 34 | | Sand (%) | | |
| PV (cp) | 6 | | Tot. Solids | | |
| YP (lb/100ft²) | 6 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 7.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.50 | | | | |
| Pm (mL) | 0.6 | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.5 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #8 | 1 | 0.75 | NM DC | 2 | 61.66 |
| Dog sub | 1 | 0.55 | XO | 1 | 3.11 |
| Mud motor @ 1.83 deg. | 1 | 20.57 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.25 |
| Cent Sub | 1 | 3.96 | 4" HWDP | 45 | 1,387.33 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | | |
|---|---|---|
| Min ID (in) | | 2.500 |
| DC OD (in) | | |
| DC (ft) | | |
| HWDP OD (in) | | |
| HWDP (ft) | | |
| BHA | | 5,628.85 |
| DP OD (in) | | |
| String Rot Weight (lbs) | | 265,000 |
| Pick-Up Weight (lbs) | | 285,000 |
| Slack Off Weight (lbs) | | 260,000 |

## Mud Volume

| | |
|---|---|
| Hole Vol (bbl) | |
| Pit 1 | |
| Pit 2 | |
| Pit 3 | |
| Pit 4 | |
| Total Mud Vol (bbl) | |
| Vol Built Day (bbl) | |
| Vol Built Cum | |
| Vol Lost Surf Day (bbl) | |
| Vol Lost Surf Cum | |
| Vol Lost Hole Day (bbl) | |
| Vol Lost Hole Tot | |
| Vol Dumped Day (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 15,804 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/19/99 12:39:52 PM

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/19/99 Report: 26 DFS: 22.00 DOL: 38.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | | Barom |
| Weather | Cool-clear 45 deg. | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/16/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/18/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/19/99 12:39:52 PM

# BP AMOCO

## Daily Drilling Report



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/18/99 | Report: | 25 | DFS: 21.00 | DOL: 37.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,220.0 (ft) | TVD: | 13,134.0 (ft) Progress: 255.0 (ft) |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 53,215 | Cumm. Cost: | 2,090,448 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 07:00 | 1.00 | DRILL | TRIP | P PROD1 | TIH. |
| 07:00 - 08:30 | 1.50 | DRILL | CIRC | P PROD1 | Pressure system prepare to finish TIH. |
| 08:30 - 10:00 | 1.50 | DRILL | TRIP | P PROD1 | TIH. |
| 10:00 - 11:30 | 1.50 | DRILL | REAM | P PROD1 | Wash and ream from 13836' to 13965' |
| 11:30 - 19:30 | 8.00 | DRILL | DRLD | P PROD1 | Slide f/13965' to 14054'. |
| 19:30 - 21:30 | 2.00 | DRILL | DRLD | P PROD1 | Rotate f/14054' to 14112' |
| 21:30 - 23:00 | 1.50 | DRILL | DRLD | P PROD1 | Slide f/14112' to 14129' |
| 23:00 - 23:30 | 0.50 | DRILL | DRLD | P PROD1 | Rotate f/14129' to 14143' |
| 23:30 - 01:30 | 2.00 | DRILL | DRLD | P PROD1 | Slide f/14143' to 14166' |
| 01:30 - 02:00 | 0.50 | DRILL | DRLD | P PROD1 | Rotate f/14166' to 14173' |
| 02:00 - 02:30 | 0.50 | DRILL | DRLD | P PROD1 | Slide f/14173' to 14183' |
| 02:30 - 03:30 | 1.00 | DRILL | DRLD | P PROD1 | Rotate f/14183' to 14203' |
| 03:30 - 04:00 | 0.50 | DRILL | DRLD | P PROD1 | Slide f/14203' to 14220' |
| 04:00 - 05:00 | 1.00 | DRILL | SURD | P PROD1 | Attempt to survey, unsuccessful. |
| 05:00 - 06:00 | 1.00 | DRILL | CIRC | P PROD1 | Circulate, prepare to TOH to Antenna, check Antenna, possible TOH for MWD. |
| 06:00 - | | DRILL | | P PROD1 | Gas Analysis: |

TOTAL GAS (INJECTED & PRODUCED)
Daily Gas= 4,480,661 SCF
Total Gas= 22,280,621 SCF

TOTAL GAS VENTED: (N2 & METHANE)
Daily Gas Vented= 145,661 SCF
Total Gas Vented= 8,827,931 SCF

TOTAL SALES LINE GAS:

Daily sales line gas= 4,335,020 SCF
Total Sales Line Gas= 17,933,377 SCF

NET RESERVOIR GAS PRODUCED TO PLANT

Daily Net N2 & Methane To Plant= 1,435,428 SCF
Net Gas Methane Comp (est) = 46%
Daily Methane to Plant= 1,994,109 SCF
Total Methane to Plant= 3,262,559 SCF

Water Production
Daily Produced water= 333 bbls.
Total Produced water= 1914 bbls.

| | |
|---|---|
| Current Status: | CIRCULATING TO BLOW HOLE DRY |
| 24hr Summary: | FINISH TIH, DRILL & SURVEY, CHECK MWD, CIRCULATE |
| 24hr Forecast: | CIRCULATE, TOH TO ANTENA, POSSIBLE TOH. |

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 09/18/99 Report: 25 DFS: 21.00 DOL: 37.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 7 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | Hughes | |
| Type | DS50FDX | |
| Serial No. | S50YS | |
| TFA (in²) | | |
| Depth In (ft) | 13,965.0 | |
| Depth Out (ft) | 14,220.0 | |
| Cum. Depth (ft) | 255.0 | |
| Cum. Hours | 16.50 | |
| WOB (Min) (Klb) | 10 | |
| WOB (Max) (Klb) | 40 | |
| RPM (Min) | 100 | |
| RPM (Max) | 120 | |
| Cond (IODL) | 1/1/WT/A | |
| Cond (BGOR) | E/ I/NO/ MW | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | |
|---|---|---|
| Type 1: | WATER/BRINE | |
| Time/Loc | 10:00 / PIT | |
| Depth (ft) | 13,965.00 | |
| Temp (°F) | | |
| Density (ppg) | 8.45 | |
| ECD (ppg) | | |
| Viscosity (s/qt) | 35 | |
| PV (cp) | 5 | |
| YP (lb/100ft²) | 5 | |
| GELS (lb/100ft²) | 1 / 1 / | |
| API WL (cc/30min | | |
| HTHP WL (cc/30min | | |
| API FC (/32") | 1 | |
| MBT (ppb) | | |
| Lime (ppb) | | |
| pH | 10.80 | |
| Pm (mL) | 0.6 | |
| Pf/Mf (mL / mL) | 0.2 / 0.5 | |
| Comment1: | | |

| 2: | | |
|---|---|---|
| Ca+ (mg/L) | 100 | |
| K+ (mg/L) | | |
| Polymer (ppb) | | |
| CaCl2 (%) | | |
| NaCl (%) | | |
| Sand (%) | | |
| Tot. Solids | | |
| % Oil | | |
| % H2O | | |
| Oil/H2O | / | |
| HGSolid (ppb) | | |
| LGSolid (ppb) | 7.0 | |
| ES (mV) | | |
| Oil Ret (%) | | |
| 2: | | |

## BHA Description: Drl Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #7 | 1 | 0.75 | NM DC | 2 | 61.68 |
| Dog sub | 1 | 0.55 | XO | 1 | 3.11 |
| Mud motor @ 1.83 deg. | 1 | 20.57 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.25 |
| Cent Sub | 1 | 3.96 | 4" HWDP | 45 | 1,387.33 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,628.85 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 15,804 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/19/99 12:38:40 PM

# BP AMOCO
# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/18/99 Report: 25 DFS: 21.00 DOL: 37.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | 7,200 | | | | | | |
| Received | 7,200 | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Cool-clear 45 deg. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/16/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/16/99 | Incident Report Sent Y/N | |

## Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 13,974.00 | 104.200 | 186.300 | 13,195.79 | -1,264.68 | 817.26 | -1,264.68 | 9.40 | 6.72 |
| 14,004.00 | 106.700 | 183.400 | 13,187.79 | -1,293.48 | 814.81 | -1,293.48 | 12.50 | 8.33 |
| 14,035.00 | 106.800 | 173.000 | 13,178.84 | -1,323.11 | 815.75 | -1,323.11 | 32.12 | 0.32 |
| 14,066.00 | 105.800 | 174.200 | 13,170.19 | -1,352.69 | 819.06 | -1,352.69 | 5.37 | -3.87 |
| 14,096.00 | 103.800 | 183.800 | 13,162.56 | -1,381.66 | 819.56 | -1,381.66 | 31.52 | -6.00 |
| 14,126.00 | 102.800 | 176.400 | 13,155.70 | -1,410.85 | 819.51 | -1,410.85 | 24.34 | -4.00 |
| 14,157.00 | 103.100 | 179.800 | 13,148.80 | -1,441.05 | 820.51 | -1,441.05 | 10.81 | 1.81 |

Printed: 09/19/99 12:36:40 PM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/17/99 Report: 24 DFS: 20.00 DOL: 36.00
Event Name: RE ENTER 43-043-30165 Start: 07/16/99 End:

Rig Name: Parker TMD: 13,985.0 (ft) TVD: 13,199.0 (ft) Progress:
Rig Super: Nordeen/McCrea 435-880-3208 Rot. Hours: AV ROP: Hole Size:
Wellsite Eng: Tim Anderson 281-366-5861 Last Casing: Shoe TMD: Shoe TVD:
Daily Cost: 77,330 Cumm. Cost: 2,037,234

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 07:00 | 1.00 | DRILL | TRIP | P PROD1 | Trip out float number 3#. |
| 07:00 - 07:30 | 0.50 | DRILL | TRIP | P PROD1 | Bleed drillpipe down. |
| 07:30 - 09:00 | 1.50 | DRILL | TRIP | P PROD1 | Pull survey antenna. |
| 09:00 - 12:30 | 3.50 | DRILL | TRIP | P PROD1 | TOH. |
| 12:30 - 14:00 | 1.50 | DRILL | TRIP | P PROD1 | Rig up push pull machine. |
| 14:00 - 16:00 | 2.00 | DRILL | TRIP | P PROD1 | Finish trip out of hole. |
| 16:00 - 18:00 | 2.00 | DRILL | BHA | P PROD1 | Break out bit, motor, MWD, change element in top annular. |
| 18:00 - 19:00 | 1.00 | DRILL | BHA | P PROD1 | Make up bit, orient motor, snub BHA in hole. |
| 19:00 - 23:00 | 4.00 | DRILL | TRIP | P PROD1 | Snubbing in hole, lower slips hung up on push pull unit, two hours getting machine back in operation. |
| 23:00 - 00:00 | 1.00 | DRILL | TRIP | P PROD1 | Rig down push pull machine. |
| 00:00 - 02:30 | 2.50 | DRILL | TRIP | P PROD1 | TIH. |
| 02:30 - 05:30 | 3.00 | DRILL | TRIP | P PROD1 | Trip in hole with Antena, hang in sub. |
| 05:30 - 06:00 | 0.50 | DRILL | TRIP | P PROD1 | TIH |
| 06:00 - | | DRILL | | P PROD1 | Gas Analysis: |

TOTAL GAS (INJECTED & PRODUCED)
Daily Gas= 950,616 SCF
Total Gas= 19,631,824 SCF

TOTAL GAS VENTED: (N2 & METHANE)
Daily Gas Vented= 950,616 SCF
Total Gas Vented= 4,976,120 SCF

TOTAL SALES LINE GAS:

Daily sales line gas= 0 SCF
Total Sales Line Gas= 11,794,030 SCF

NET RESERVOIR GAS PRODUCED TO PLANT

Daily Net N2 & Methane To Plant= 0 SCF
Net Gas Methane Comp (est) = 46%
Daily Methane to Plant= 0 SCF
Total Methane to Plant= 1,024,650 SCF

Water Production
Daily Produced water= 272 bbls.
Total Produced water= 1581 bbls.

Current Status: TRIPPING IN HOLE.

24hr Summary: FINISH TOH, CHANGE BIT, CHANGE MOTOR, ORIENT MOTOR, TIH.

24hr Forecast: FINISH TIH, DRILL & SURVEY.

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 09/17/99 Report: 24 DFS: 20.00 DOL: 36.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 7 | 6 |
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | Hughes | HTC |
| Type | DS50FDX | STR-DS50FD |
| Serial No. | S50YS | S49YS |
| TFA (in²) | | |
| Depth In (ft) | 13,965.0 | 13,623.0 |
| Depth Out (ft) | | 13,965.0 |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | 2/A/2/A |
| Cond (BGOR) | | E/ I/NO/ MW |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 09:15 / PIT | | Ca+ (mg/L) | 320 | |
| Depth (ft) | 13,965.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.45 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 35 | | Sand (%) | | |
| PV (cp) | 7 | | Tot. Solids | | |
| YP (lb/100ft²) | 6 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 2 / | | % H2O | | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | 1 | | LGSolid (ppb) | 7.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 11.20 | | | | |
| Pm (mL) | 0.7 | | | | |
| Pf/Mf (mL / mL) | 0.3 / 0.6 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #7 | 1 | 0.75 | NM DC | 2 | 61.68 |
| Dog sub | 1 | 0.55 | XO | 1 | 3.11 |
| Mud motor @ 1.83 deg. | 1 | 20.57 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.25 |
| Cent Sub | 1 | 3.96 | 4" HWDP | 45 | 1,387.33 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | | |
|---|---|---|
| Min ID (in) | | 2.500 |
| DC OD (in) | | |
| DC (ft) | | |
| HWDP OD (in) | | |
| HWDP (ft) | | |
| BHA | | 5,626.85 |
| DP OD (in) | | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | |
|---|---|
| Hole Vol (bbl) | |
| Pit 1 | |
| Pit 2 | |
| Pit 3 | |
| Pit 4 | |
| Total Mud Vol (bbl) | |
| Vol Built Day (bbl) | |
| Vol Built Cum | |
| Vol Lost Surf Day (bbl) | |
| Vol Lost Surf Cum | |
| Vol Lost Hole Day (bbl) | |
| Vol Lost Hole Tot | |
| Vol Dumped Day (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 15,804 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/17/99 8:31:48 AM

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 09/17/99 Report: 24 DFS: 20.00 DOL: 36.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | | Barom |
| Weather | Cool-clear 45 deg. | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/16/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/16/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/17/99 8:31:46 AM

BP AMOCO

# Daily Drilling Report



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/16/99 | Report: | 23 | DFS: 19.00 | DOL: 35.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,965.0 (ft) | TVD: | 13,199.0 (ft) Progress: 342.0 (ft) |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 48,012 | Cumm. Cost: | 1,959,904 | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | P/U | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 07:00 | 1.00 | DRILL | TRIP | P | PROD1 | Trip into the window @ 12965' |
| 07:00 - 09:00 | 2.00 | DRILL | CIRC | P | PROD1 | Break Circulation w/N2. Bottoms up showed a small amount of gas. |
| 09:00 - 10:30 | 1.50 | DRILL | TRIP | P | PROD1 | Trip in f/ 12985 - 13623' |
| 10:30 - 13:00 | 2.50 | DRILL | DRLD | P | PROD1 | Slide f/ 13623 - 13668' |
| 13:00 - 19:00 | 6.00 | DRILL | DRLD | P | PROD1 | Rotate f/ 13668 - 13837' |
| 19:00 - 21:00 | 2.00 | DRILL | DRLD | P | PROD1 | Slide f/13837 - 13864' |
| 21:00 - 22:30 | 1.50 | DRILL | DRLD | P | PROD1 | Rotate f/13864 - 13926' |
| 22:30 - 02:00 | 3.50 | DRILL | DRLD | P | PROD1 | Slide f/13926 - 13965' |
| 02:00 - 03:30 | 1.50 | DRILL | CIRC | P | PROD1 | Unable to get tool face, circulate/prepare to TOH. |
| 03:30 - 06:00 | 2.50 | DRILL | TRIP | P | PROD1 | TOH to check MWD, change angle on motor. |
| 06:00 - | | DRILL | | P | PROD1 | Gas Analysis: |

TOTAL GAS (INJECTED & PRODUCED)
Daily Gas= 3,391674 SCF
Total Gas= 18,681,208 SCF

TOTAL GAS VENTED: (N2 & METHANE)
Daily Gas Vented= 2,661,674 SCF
Total Gas Vented= 6,687,178 SCF

TOTAL SALES LINE GAS:

Daily sales line gas= 530,000 SCF
Total Sales Line Gas= 11,794,030 SCF

NET RESERVOIR GAS PRODUCED TO PLANT

Daily Net N2 & Methane To Plant= 530,000 SCF
Net Gas Methane Comp (est) = 54%
Daily Methane to Plant= 286,200 SCF
Total Methane to Plant= 1,310,850 SCF

Water Production
Daily Produced water= 266 bbls.
Total Produced water= 1182 bbls.

| | |
|---|---|
| Current Status: | Tripping to check MWD. Unable to get tool face. |
| 24hr Summary: | Trip In, Directional Drill, Circulate, TOH. |
| 24hr Forecast: | TOH, Change bit & MWD. Change motor angle. TIH. |

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 09/16/99 Report: 23 DFS: 19.00 DOL: 35.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 6 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS50FD | |
| Serial No. | S49YS | |
| TFA (in²) | | |
| Depth In (ft) | 13,623.0 | |
| Depth Out (ft) | | |
| Cum. Depth (ft) | 342.0 | |
| Cum. Hours | 15.50 | |
| WOB (Min) (Klb) | 10 | |
| WOB (Max) (Klb) | 32 | |
| RPM (Min) | 100 | |
| RPM (Max) | 120 | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 09:30 / PIT | | Ca+ (mg/L) | 320 | |
| Depth (ft) | 13,623.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.45 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 35 | | Sand (%) | | |
| PV (cp) | 7 | | Tot. Solids | | |
| YP (lb/100ft²) | 8 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 2 / | | % H2O | | |
| API WL (cc/30min) | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 6.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 11.50 | | | | |
| Pm (mL) | 1.0 | | | | |
| Pf/Mf (mL / mL) | 0.4 / 0.5 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit | 1 | 0.75 | NM DC | 2 | 61.68 |
| Dog sub | 1 | | XO | 1 | 3.11 |
| Mud motor at 1.5 deg | 1 | 20.57 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.25 |
| Cent Sub | 1 | 3.96 | 4" HWDP | 45 | 1,387.33 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,628.30 |
| DP OD | (in) | |
| String Rot Weight | (lbs) | 263,000 |
| Pick-Up Weight | (lbs) | 270,000 |
| Slack Off Weight | (lbs) | 240,000 |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 15,804 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/16/99 12:16:09 PM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/16/99 Report: 23 DFS: 19.00 DOL: 35.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | Barom | |
| Weather | Cool-clear 45 deg. | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/15/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/15/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 13,606.00 | 100.400 | 157.800 | 13,278.91 | -912.91 | 770.46 | -912.91 | 19.20 | 17.33 |
| 13,698.00 | 105.100 | 165.900 | 13,258.58 | -998.06 | 798.43 | -998.06 | 9.99 | 5.11 |
| 13,790.00 | 103.900 | 172.800 | 13,235.52 | -1,085.54 | 814.87 | -1,085.54 | 7.38 | -1.30 |
| 13,882.00 | 102.300 | 176.300 | 13,214.65 | -1,174.83 | 821.80 | -1,174.83 | 6.08 | -1.74 |
| 13,913.00 | 100.100 | 182.200 | 13,208.63 | -1,205.23 | 821.66 | -1,205.23 | 14.24 | -7.10 |

BP AMOCO

# Daily Drilling Report



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | 43-043-30165 | Date: | 09/15/99 | Report: | 22 | DFS: 16.00 | DOL: 34.00 |
| Event Name: | RE ENTER | | Start: | 07/16/99 | End: | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,623.0 (ft) | TVD: | 13,329.0 (ft) | Progress: | |
| Rig Super: | Nordeen/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: | |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: | |
| Daily Cost: | 44,391 | Cumm. Cost: | 1,913,892 | | | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 07:30 | 1.50 | DRILL | DRLD | P PROD1 | Dir drill 5 7/8" hole f/ 13593-13623 ft in slide mode w/ 2200 scf N2/ 30 gpm foam/ WOB= 5-15,000 lb./ 960 psi on standpipe/ 40 psi on annulus. |
| 07:30 - 09:30 | 2.00 | DRILL | CIRC | P PROD1 | Circulate hole clean w/ 2200 scf N2- 30 gpm foam. Blow pipe dry w/ N2. Bleed drill pipe down. |
| 09:30 - 11:00 | 1.50 | DRILL | TRIP | P PROD1 | Trip out hole w/ 5 7/8" Directional assy to 9270 ft. |
| 11:00 - 11:30 | 0.50 | DRILL | TRIP | P PROD1 | Bleed down N2 from drill pipe, remove float sub. TOH to anntena hangoff sub. (7698 ft) |
| 11:30 - 13:00 | 1.50 | DRILL | SURD | P PROD1 | RU wireline, RIH with retrieval tool. Latch on to antenna. POOH with Geo Com antenna and probe assy. Well shut in pressure biult to 145 psi- 45 min. |
| 13:00 - 15:30 | 2.50 | DRILL | TRIP | P PROD1 | TOH w/ 5 7/8" Dir drilling assy to 1066.5 ft. |
| 15:30 - 16:30 | 1.00 | DRILL | TRIP | P PROD1 | RU push-pull machine on rotary table. |
| 16:30 - 18:00 | 1.50 | DRILL | TRIP | P PROD1 | Trip out hole using push-pull machine, familiar crews with equipment to surface. |
| 18:00 - 18:30 | 0.50 | DRILL | BHA | P PROD1 | Laydown Anadrill 4 3/4" mud motor w/ 2.12 deg offset, 5 7/8" bit. |
| 18:30 - 19:30 | 1.00 | DRILL | BHA | P PROD1 | MU new Anadrill A475M mud motor w/ 1.5 deg offset, new 5 7/8" HTC STR50 FDX bit. Check alignment of motor- MWD, check-verify. Check top Tesco Dual annular element 55-60%. |
| 19:30 - 00:00 | 4.50 | DRILL | TRIP | P PROD1 | Trip in hole utilizing push-pull machine, familiarize crew with operation. to 1066 ft. |
| 00:00 - 00:30 | 0.50 | DRILL | TRIP | P PROD1 | RD push- pull machine- secure. |
| 00:30 - 04:00 | 3.50 | DRILL | TRIP | P PROD1 | Trip in the hole w/ 5 7/8" Dir drilling assy to 8618 ft. |
| 04:00 - 05:30 | 1.50 | DRILL | SURD | P PROD1 | RU wireline - probe, RIH- latch probe into muleshoe. Check and verify connection. Hangoff antenna at 8618 ft. Release- POOH w/ wireline. Rig back. |
| 05:30 - 06:00 | 0.50 | DRILL | TRIP | P PROD1 | Run one stand 4" drill pipe, install drill pipe float sub at 8710 ft, trip in hole at rpt time 9650 ft. |

Gas Analysis:

TOTAL GAS (INJECTED & PRODUCED)
Daily Gas= 1,061,928 SCF
Total Gas= 15,289,534 SCF

TOTAL GAS VENTED: (N2 & METHANE)
Daily Gas Vented= 894,928 SCF
Total Gas Vented= 4,025,504 SCF

TOTAL SALES LINE GAS:

Daily sales line gas= 167,000 SCF
Total Sales Line Gas= 11,264,030 SCF

NET RESERVOIR GAS PRODUCED TO PLANT

Daily Net N2 & Methane To Plant= 167,000 SCF
Net Gas Methane Comp (est) = 70%
Daily Methane to Plant= 116,900 SCF
Total Methane to Plant= 907,750 SCF

| | |
|---|---|
| Current Status: | Tripping in hole at 9650 ft. |
| 24hr Summary: | Drill 5 7/8" hole in slide mode in Nugget.TOH, Chg motor, bit. TIH. |
| 24hr Forecast: | BRK circ, TIH, Drill 5 7/8" hole. |

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 09/15/99 Report: 22 DFS: 16.00 DOL: 34.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 6 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS50FD | |
| Serial No. | S49YS | |
| TFA (in²) | | |
| Depth In (ft) | 13,623.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | |
|---|---|---|
| Type 1: | WATER/BRINE | |
| Time/Loc | : / PIT | |
| Depth (ft) | 13,623.00 | |
| Temp (°F) | | |
| Density (ppg) | 8.45 | |
| ECD (ppg) | | |
| Viscosity (s/qt) | 35 | |
| PV (cp) | 8 | |
| YP (lb/100ft²) | 8 | |
| GELS (lb/100ft²) | 2 / 2 / | |
| API WL (cc/30min | | |
| HTHP WL (cc/30min | | |
| API FC (/32") | | |
| MBT (ppb) | | |
| Lime (ppb) | | |
| pH | 11.00 | |
| Pm (mL) | | |
| Pf/Mf (mL / mL) | 0.3 / 0.5 | |
| Comment1: | | |

| | | |
|---|---|---|
| 2: | | |
| Ca+ (mg/L) | 120 | |
| K+ (mg/L) | | |
| Polymer (ppb) | | |
| CaCl2 (%) | | |
| NaCl (%) | | |
| Sand (%) | | |
| Tot. Solids | | |
| % Oil | | |
| % H2O | | |
| Oil/H2O | / | |
| HGSolid (ppb) | | |
| LGSolid (ppb) | | |
| ES (mV) | | |
| Oil Ret (%) | | |
| | | |
| | | |
| 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit | 1 | 0.75 | NM DC | 2 | 61.66 |
| Dog sub | 1 | | XO | 1 | 3.11 |
| Mud motor at 1.5 deg | 1 | 20.57 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.25 |
| Cent Sub | 1 | 3.96 | 4" HWDP | 45 | 1,387.33 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,628.30 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | 100 |
| Cumulative | 15,804 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/15/99 8:18:48 AM

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/15/99 Report: 22 DFS: 18.00 DOL: 34.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Cool-clear 45 deg. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 08/30/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/14/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 13,576.00 | 95.200 | 155.300 | 13,282.98 | -885.66 | 758.63 | -885.66 | 21.21 | 18.71 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/15/99 8:18:48 AM

# BP AMOCO

## Daily Drilling Report



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/14/99 | Report: | 21 | DFS: 17.00 | DOL: 33.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,593.0 (ft) | TVD: | 13,387.0 (ft) |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | |
| Daily Cost: | 67,083 | Cumm. Cost: | 1,869,501 | | |

Progress: 79.0 (ft)

Hole Size:

Shoe TVD:

### Operations Summary

| From - To | Hours | Code | Sub Code | P/U | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 11:00 | 5.00 | DRILL | TRIP | P | PROD1 | Break out, Anadrill mud motor, bit. PU new 4 3/4" mud motor, HTC 5 7/8" bit. Set motor at 2.12 deg. Check-verify orientation on MWD- mules shoe setting.<br>Bit #3 Grade:<br>7-7-FC-H<br>E-I- WT-INO<br><br>BHA as follows:<br>Bit - HTC--STR 50 FDX5 5.875" s/n R32YY .75 ft<br>Dog sub --STC 5.875" x 1.5" .55 ft<br>Motor w/ float 2.12 deg 4.75 " x 3" 20.59 ft<br>Float sub 4.75" x 2" 3.08 ft<br>UBHO sub 4.625" x 2.5" 3.09 ft<br>tool carrier 4.687" x 2.5" 19.69 ft<br>Cent sub 4.687" x 2.5" 3.95 ft<br>NMDC 4.75" x 2.5" 30.65 ft<br>NMDC 4.75" x 2.5" 31.03 ft<br>x-over sub 4.875" x 2.5" 3.11 ft<br>1 jt HWDP 4.750"x 2.5" 30.81 ft<br>10 std S135 4" DP 4.875"x 2.5" 919.27 ft<br>3 jt 4" HWDP 4.750"x2.5" 92.51 ft<br>HE jars 4.812"x2.5" 29.25 ft<br>45 jts 4" HWDP 4.750"x2.5" 1387.33 ft<br>Total------2575.67 ft |
| 11:00 - 13:00 | 2.00 | DRILL | TRIP | P | PROD1 | Work with crew- operators on push-pull machine, running BHA in hole 1068 ft. Teaco & Parker operation of push-pull machine was good. |
| 13:00 - 13:30 | 0.50 | DRILL | TRIP | P | PROD1 | TIH to 1188 ft, through push-pull machine, maintain in drill string in heavy mode. |
| 13:30 - 14:00 | 0.50 | DRILL | TRIP | P | PROD1 | RD- move push- pull machine to side of drill floor. |
| 14:00 - 16:00 | 2.00 | DRILL | TRIP | P | PROD1 | TIH w/ 5 7/8" Dir drilling assy to 7698 ft. |
| 16:00 - 18:00 | 2.00 | DRILL | SURD | P | PROD1 | RU install landing sub, PU Geo Com probe, RIH set tool( 7698 ft WL), do verification surveys, POOH w/ wireline. |
| 18:00 - 21:00 | 3.00 | DRILL | TRIP | P | PROD1 | Trip in hole w/ 5 7/8" dir assy to to 12,999 ft. Install float sub. |
| 21:00 - 21:30 | 0.50 | DRILL | RIGS | P | PROD1 | Cut drilling line. |
| 21:30 - 00:00 | 2.50 | DRILL | CIRC | P | PROD1 | Break circulation, pressure up wellbore with N2 at 2200 scf/ 30 gpm foam |
| 00:00 - 00:30 | 0.50 | DRILL | TRIP | P | PROD1 | TIH w/ 5 7/8" Dir drilling assy. Install drill pipe float at 13469 ft. |
| 00:30 - 05:30 | 5.00 | DRILL | DRLD | P | PROD1 | Dir drill 5 7/8" hole f/ 13514-13593 ft w/ 2200 scf N2, 30 gpm foam/ 960 psi standpipe/ 40 psi annulas. |
| 05:30 - 06:00 | 0.50 | DRILL | SURD | P | PROD1 | Run survey and evaluate.<br><br>Gas Analysis:<br><br>TOTAL GAS (INJECTED & PRODUCED)<br>Daily Gas= 1,190,000 SCF<br>Total Gas= 15,417,606 SCF |

| | |
|---|---|
| Current Status: | Drilling 5 7/8" hole at 13593 ft. |
| 24hr Summary: | CHG-TIH w/ BHA,RUN Gyro antenna,test TIH w/ Dir assy. DRILL |
| 24hr Forecast: | Drill 5 7/8" hole in slide mode in Nugget. |

BP AMOCO



# DAILY DRILLING REPORT

Well Name: ARE W #31-04 Date: 09/14/99 Report: 21 DFS: 17.00 DOL: 33.00
Event Name: RE ENTER Start: 07/16/99 End:

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 05:30 - 06:00 | 0.50 | DRILL | SURD | P PROD1 | TOTAL GAS VENTED: (N2 & METHANE)<br>Daily Gas Vented= 00 SCF<br>Total Gas Vented= 3,130,576 SCF<br><br>TOTAL SALES LINE GAS:<br><br>Daily sales line gas= 1,190,000 SCF<br>Total Sales Line Gas= 12,287,030 SCF<br><br>NET RESERVOIR GAS PRODUCED TO PLANT<br><br>Daily Net N2 & Methane To Plant= 00 SCF<br>Net Gas Methane Comp (est) = 70%<br>Daily Methane to Plant= 00 SCF<br>Total Methane to Plant= 907,750 SCF |

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/14/99 Report: 21 DFS: 17.00 DOL: 33.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 6 | 5 |
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | HTC | HTC |
| Type | STR-DS50FD | STR-DS50FD |
| Serial No. | S49YS | R32YY |
| TFA (in²) | | |
| Depth In (ft) | 13,623.0 | 13,514.0 |
| Depth Out (ft) | | 13,623.0 |
| Cum. Depth | | 109.0 |
| Cum. Hours | | 6.50 |
| WOB (Min) | | 2 |
| WOB (Max) | | 15 |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | 2/A/2/A |
| Cond (BGOR) | | E/ I/NO/ IN |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 09:15 / PIT | | Ca+ (mg/L) | 999 | |
| Depth (ft) | 13,154.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.45 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 37 | | Sand (%) | | |
| PV (cp) | 8 | | Tot. Solids | | |
| YP (lb/100ft²) | 8 | | % Oil | | |
| GELS (lb/100ft²) | 2 / 2 / | | % H2O | | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 11.00 | | | | |
| Pm (mL) | | | | | |
| Pf/Mf (mL / mL) | 0.4 / 0.8 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Drl Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit | 1 | 0.75 | NM DC | 2 | 61.68 |
| Dog sub | 1 | | XO | 1 | 3.11 |
| Mud motor at 1.5 deg | 1 | 20.57 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.25 |
| Cent Sub | 1 | 3.96 | 4" HWDP | 45 | 1,387.33 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,628.30 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 15,704 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| Type | HRS |
|---|---|
| | |
| | |
| | |
| | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | |

Printed: 09/15/99 6:17:47 AM

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/14/99 Report: 21 DFS: 17.00 DOL: 33.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | 7,200 | | | | | | |
| Received | 7,200 | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Cool-clear 45 deg. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 08/30/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/08/99 | Incident Report Sent Y/N | |

## Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 13,545.00 | 89.400 | 152.200 | 13,284.22 | -857.89 | 744.94 | -857.89 | 19.30 | 17.83 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/15/99 8:17:47 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/13/99 | Report: | 20 | DFS: 16.00 | DOL: 32.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,514.0 (ft) | TVD: | 13,352.0 (ft) | Progress: | 26.0 (ft) |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: | |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: | |
| Daily Cost: | 48,755 | Cumm. Cost: | 1,802,418 | | | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 09:00 | 3.00 | DRILL | DRLD P | PROD1 | Continue to Dir Drill 5 7/8" hole in slide mode f/ 13488-13514 ft w/ 2200 scf N2/ 30 gpm foam/ 2-10,000 lb WOB. |
| 09:00 - 09:30 | 0.50 | DRILL | CIRC P | PROD1 | Blow drill pipe dry of foam, bleed off drill pipe of N2. |
| 09:30 - 11:30 | 2.00 | DRILL | TRIP P | PROD1 | TOOH 6 std of 4" drill pipe to 13001 ft. |
| 11:30 - 12:00 | 0.50 | DRILL | CIRC P | PROD1 | Bleed off N2 below drill pipe float sub. |
| 12:00 - 13:00 | 1.00 | DRILL | TRIP P | PROD1 | TOOH w/ 5 7/8" Dir drill assy 8480 ft. |
| 13:00 - 15:30 | 2.50 | DRILL | CIRC P | PROD1 | Bleed off N2 below drill pipe float. |
| 15:30 - 16:00 | 0.50 | DRILL | SURD P | PROD1 | Pull 1 std, RU-RIH with wireline to 4714 ft, latch on to Geo Com probe. POOH, LD probe assy, tie back wireline. Shut in casing. Well built to 400 psi in 1.0 hr. |
| 16:00 - 00:30 | 8.50 | RIGU | RU P | PROD1 | PU-RU push-pull machine, make adjustments. Pull out f/ 1066-975 ft. Change out to Parker elevator bails. |
| 00:30 - 06:00 | 5.50 | DRILL | TRIP P | PROD1 | Pull out hole w/ push- pull machine f/ 975 ft -surface. prepare to break out bit. |

Gas Analysis:

TOTAL GAS (INJECTED & PRODUCED)
Daily Gas= 1,458,797 SCF
Total Gas= 15,686,403 SCF

TOTAL GAS VENTED: (N2 & METHANE)
Daily Gas Vented= 844,476 SCF
Total Gas Vented= 3,975,052 SCF

TOTAL SALES LINE GAS:

Daily sales line gas= 614,321 SCF
Total Sales Line Gas= 11,711,351 SCF

NET RESERVOIR GAS PRODUCED TO PLANT

Daily Net N2 & Methane To Plant= 227,553 SCF
Net Gas Methane Comp (est) = 70%
Daily Methane to Plant= 159,287 SCF
Total Methane to Plant= 907,750 SCF

| | |
|---|---|
| Current Status: | Shut blind rams, vent off gas. |
| 24hr Summary: | Continue to Dir Drill 5 7/8" hole, build angle to Horizontal, TOOH. |
| 24hr Forecast: | TIH w/ BHA, RU- RUN Gyro antenna,test TIH w/ Dir assy. |

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/13/99 Report: 20 DFS: 16.00 DOL: 32.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 5 | 4 |
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | HTC | Smith |
| Type | STR-DS50FD | F57ODP |
| Serial No. | R32YY | LT3047 |
| TFA (in²) | | |
| Depth In (ft) | 13,514.0 | 13,282.0 |
| Depth Out (ft) | 13,623.0 | 13,514.0 |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | 2/2/NO/A | 7/H/7/H |
| Cond (BGOR) | E/ I/NO/ IN | E/ I/WT/ IN |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 09:15 / PIT | | Ca+ (mg/L) | 999 | |
| Depth (ft) | 13,514.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.50 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 29 | | Sand (%) | | |
| PV (cp) | 3 | | Tot. Solids | | |
| YP (lb/100ft²) | 2 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.40 | | | | |
| Pm (mL) | | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.3 | | | | |
| Comment1: | | | 2: | | |

### BHA Description:

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit #5 | | | | | |
| Dog Sub | | | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

### Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

### Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 15,704 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/15/99 8:16:48 AM

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/13/99 Report: 20 DFS: 16.00 DOL: 32.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Cool-clear 38 deg. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 08/30/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/06/99 | Incident Report Sent Y/N | |

## Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 13,453.00 | 73.000 | 145.300 | 13,270.18 | -780.42 | 698.06 | -780.42 | 17.87 | 16.88 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/15/99 8:16:48 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 API # 43-043-30165 | | Date: | 09/08/99 | Report: | 15 | DFS: 11.00 | DOL: 27.00 |
| Event Name: | RE ENTER | | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,115.0 (ft) | TVD: | Progress: 111.0 (ft) |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 52,119 | Cumm. Cost: | 1,547,309 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 06:00 | 24.00 | DRILL | DRLD P | PROD1 | Drill 5 7/8" hole in slide mode f/ 13004-13115 ft, w/ 2000 scf N2, 40 gpm foam, WOB- 5-15k. Stand pipe 950-1050 psi, casing pressure 40 - 60 psi.<br><br>Gas Analysis:<br><br>TOTAL GAS (INJECTED-PRODUCED)<br>Daily Gas= 3,119,454 SCF<br>Total Gas= 5,007,768 SCF<br><br>TOTAL GAS VENTED: (N2 & METHANE)<br>Daily Gas Vented= 0 SCF<br>Total Gas Vented= 1,888,314 SCF<br><br>TOTAL SALES LINE GAS:<br><br>Daily sales line gas= 3,119,454 SCF<br>Total Sales Line Gas= 3,119,454 SCF<br>Methane Composition= ??? %<br><br>TOTAL METHANE PRODUCED (CALC)<br><br>Daily Methane to Plant= ?? SCF<br>Total Methane to Plant= ?? SCF |

| | |
|---|---|
| Current Status: | Dir Drilling at 13115 ft |
| 24hr Summary: | Dir drill ahead, south lateral w/ 5 7/8" bit. |
| 24hr Forecast: | Continue to directional drill S- Lateral, circ, TOOH f/ bit. |

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/08/99 Report: 15 DFS: 11.00 DOL: 27.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| Bit No. | 3 | 2 |
|---|---|---|
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | Smith | Smith |
| Type | F57ODP | F57DDPD |
| Serial No. | LT3049 | lt4164 |
| TFA (in²) | | |
| Depth In (ft) | 13,120.0 | 13,002.0 |
| Depth Out (ft) | | 13,120.0 |
| Cum. Depth | | 113.0 |
| Cum. Hours | | 24.50 |
| WOB (Min) | | 5 |
| WOB (Max) | | 24 |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | 2/A/2/A |
| Cond (BGOR) | | E/ I/NO/ PR |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| Type 1: | WATER/BRINE | | 2: | | |
|---|---|---|---|---|---|
| Time/Loc | 09:30 / PIT | | Ca+ (mg/L) | 320 | |
| Depth (ft) | 13,002.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.40 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 32 | | Sand (%) | | |
| PV (cp) | 3 | | Tot. Solids | | |
| YP (lb/100ft²) | 6 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.00 | | | | |
| Pm (mL) | | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.2 | | | | |
| Comment1: | | | 2: | | |

### BHA Description: 6 7/8" Dir ASSY

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Strokes | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

### Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

### Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | 660 |
| Cumulative | 12,909 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | |

Printed: 09/09/99 8:35:07 AM

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/08/99 Report: 15 DFS: 11.00 DOL: 27.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| | DIESEL |
|---|---|
| Unit | Gals. |
| On Hand | |
| Used | |
| Received | |
| Returned | |
| Adjusted | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Cool-clear 40 deg. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| SMITH | 2 |
| Anadrill | 2 |
| Norward | 2 |
| | |
| | |
| Other: | |
| Total: | 41 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 08/30/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/07/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 13,046.00 | 16.300 | 131.900 | 12,993.98 | -578.82 | 509.25 | -578.82 | 16.75 | 9.72 |
| 13,077.00 | 22.000 | 132.400 | 13,023.25 | -585.65 | 516.78 | -585.65 | 18.39 | 18.39 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/09/99 8:35:07 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/09/99 | Report: | 16 | DFS: 12.00 | DOL: 28.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,130.0 (ft) | TVD: | Progress: 15.0 (ft) |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 54,091 | Cumm. Cost: | 1,601,400 | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 07:00 | 1.00 | DRILL | DRLD | P | PROD1 | Drill 5 7/8" hole in slide mode f/ 13115-13120 ft, w 2000 scf N2, 40 gpm foam, 15-20, 000 lb on bit. Drill string hanging up, necessay to work every few feet. Stand pipe 1050 psi, annulas pressure 40 psi. |
| 07:00 - 07:30 | 0.50 | DRILL | CIRC | P | PROD1 | Dry drill pipe of foam, bleed down drill pipe, perform survey. |
| 07:30 - 08:00 | 0.50 | DRILL | TRIP | P | PROD1 | TOOH w/ 3 std of 4" drill pipe to 12903 ft. |
| 08:00 - 09:00 | 1.00 | DRILL | CIRC | P | PROD1 | Bleed off N2 from top of drill pipe float. |
| 09:00 - 12:00 | 3.00 | DRILL | TRIP | P | PROD1 | Trip out hole to 4773 ft, bleed off drill pipe float, remove. |
| 12:00 - 14:00 | 2.00 | DRILL | SURD | P | PROD1 | RU-RIH w/ wireline to 4773 ft, latch on to antenna assy, POOH with wireline and GYRO probe. |
| 14:00 - 16:00 | 2.00 | DRILL | TRIP | | PROD1 | Trip out hole with 5 7/8" Dir Drilling assy. |
| 16:00 - 19:00 | 3.00 | DRILL | BHA | P | PROD1 | Laydown Anadrill A475M 4 3/4" motor, STC 5 7/8" bit. Surface indications mud motor rough in bearing section.<br>Bit Grade: 2-2-WT-A<br>E-I-NO- PR<br><br>PU new STC 5 7/8" bit, new Mud motor w/ 1.83 deg setting, align MWD- Motor and verify setting.<br><br>BHA as follows:<br>Bit - STC-- F57ODP 5.875" s/n LT3049 .75 ft<br>Dog sub --STC 5.875" x 1.5" .55 ft<br>Motor w/ float 1.83 deg 4.75 " x 3" 20.62 ft<br>Float sub 4.75" x 2" 3.08 ft<br>UBHO sub 4.625" x 2.5" 3.09 ft<br>tool carrier 4.687" x 2.5" 19.69 ft<br>Cent sub 4.687" x 2.5" 3.96 ft<br>NMDC 4.75" x 2.5" 30.65 ft<br>NMDC 4.75" x 2.5" 31.03 ft<br>x-over sub 4.875" x 2.5" 3.11 ft<br>1 jt HWDP 4.750"x 2.5" 30.81 ft<br>10 std S135 4" DP 4.875"x 2.5" 919.27 ft<br>3 jt 4" HWDP 4.750'x2.5' 92.51 ft<br>HE jars 4.812"x2.5" 29.25 ft<br>45 jts 4" HWDP 4.750'x2.5" 1387.33 ft<br>24 std 4" DP 4.875'x2.5" 2220.57 ft<br>Hangoff sub 4.750"x2.5" 4.20 ft<br>Total-------4600.47 ft |
| 19:00 - 21:00 | 2.00 | DRILL | TRIP | P | PROD1 | Trip in hole w/ dir drill assy to 4600 ft to set GYRO antenna. |
| 21:00 - 23:00 | 2.00 | DRILL | SURD | P | PROD1 | PU-RU Geo Corn Gyro probe, RIH on wireline, set probe. Perform test to verify signal. |
| 23:00 - 23:30 | 0.50 | DRILL | RIGS | P | PROD1 | Service rig, fuction test both lower and upper Drill pipe rams. |

| | |
|---|---|
| Current Status: | Dir Drilling in Slide mode at 13130 ft. |
| 24hr Summary: | Continue to directional drill S-Lateral, TOOH f/ bit., PU new BHA, TIH |
| 24hr Forecast: | Dir Drill 5 7/8" hole S- Lateral, survey, DRL. |

BP AMOCO



# DAILY DRILLING REPORT

Well Name: ARE W #31-04 Date: 09/09/99 Report: 16 DFS: 12.00 DOL: 28.00
Event Name: RE ENTER Start: 07/16/99 End:

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 23:30 - 02:00 | 2.50 | DRILL | TRIP P | PROD1 | Trip in the hole with 5 7/8" Dir assy to 13001 ft, install drill pipe float. |
| 02:00 - 04:00 | 2.00 | DRILL | CIRC P | PROD1 | Break circulation w/ N2 w 2000 scf N2, 35 gpm foam injection. |
| 04:00 - 04:30 | 0.50 | DRILL | REAM P | PROD1 | Wash last 120 ft to bottom ( 13000-13120 ft) w/ 2000 scf N2, 35 gpm foam injection. |
| 04:30 - 06:00 | 1.50 | DRILL | DRLD P | PROD1 | Drill 5 7/8" hole in slide mode f/ 13120-13130 ft, w/ 2000 scf N2, 35 gpm foam, WOB-5-12k. Stand pipe 940 psi, casing pressure 45 psi. |
| | | | | | Gas Analysis: |
| | | | | | TOTAL GAS ( INJECTED-PRODUCED) |
| | | | | | Daily Gas= 760450 SCF |
| | | | | | Total Gas= 5788218 SCF |
| | | | | | TOTAL GAS VENTED: (N2 & METHANE) |
| | | | | | Daily Gas Vented= 413450 SCF |
| | | | | | Total Gas Vented= 2301784 SCF |
| | | | | | TOTAL SALES LINE GAS: |
| | | | | | Daily sales line gas= 367000 SCF |
| | | | | | Total Sales Line Gas= 3486454 SCF |
| | | | | | Methane Composition= ??? % |
| | | | | | TOTAL METHANE PRODUCED (CALC) |
| | | | | | Daily Methane to Plant= ?? SCF |
| | | | | | Total Methane to Plant= ?? SCF |
| - | | | | PROD1 | |
| - | | | | PROD1 | |

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/09/99 Report: 16 DFS: 12.00 DOL: 28.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 3 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | Smith | |
| Type | F57ODP | |
| Serial No. | LT3049 | |
| TFA (in²) | | |
| Depth In (ft) | 13,120.0 | |
| Depth Out (ft) | | |
| Cum. Depth (ft) | 10.0 | |
| Cum. Hours | 1.50 | |
| WOB (Min) (Klb) | 5 | |
| WOB (Max) (Klb) | 12 | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 09:30 / PIT | | Ca+ (mg/L) | 800 | |
| Depth (ft) | 13,120.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.45 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 31 | | Sand (%) | | |
| PV (cp) | 3 | | Tot. Solids | | |
| YP (lb/100ft²) | 5 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 9.50 | | | | |
| Pm (mL) | | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.3 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: 6 7/8" Dir ASSY

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | |
| DP OD | (in) | |
| String Rot Weight | (lbs) | 255,000 |
| Pick-Up Weight | (lbs) | 275,000 |
| Slack Off Weight | (lbs) | 228,000 |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 12,909 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/10/99 6:12:56 AM

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/09/99 Report: 16 DFS: 12.00 DOL: 28.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Cool-clear 40 deg. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 08/30/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/06/99 | Incident Report Sent Y/N | |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/10/99 8:12:58 AM

BP AMOCO Page 1 of 2

# Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/10/99 | Report: | 17 | DFS: 13.00 | DOL: 29.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,258.0 (ft) | TVD: | 136,191.0 (ft) | Progress: | 128.0 (ft) |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: | |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: | |
| Daily Cost: | 54,067 | Cumm. Cost: | 1,655,467 | | | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 06:00 | 24.00 | DRILL | DRLD P | PROD1 | Directional drill 5 7/8" hole in slide mode f/ 13130-13258 ft, w/ 1600-2200 scf N2-annulas 50-70 psi, 35 gpm foam, WOB 2-25,000 lb. Make attempt to optimize ROP w/ variation.<br><br>Gas Analysis:<br><br>TOTAL GAS ( INJECTED-PRODUCED)<br>Daily Gas= 3,063,421 SCF<br>Total Gas= 8,851,639 SCF<br><br>TOTAL GAS VENTED: (N2 & METHANE)<br>Daily Gas Vented= 0 SCF<br>Total Gas Vented= 2,301,764 SCF<br><br>TOTAL SALES LINE GAS:<br><br>Daily sales line gas= 3,063,421 SCF<br>Total Sales Line Gas= 6,549,875 SCF<br>Methane Composition= ??? %<br><br>TOTAL METHANE PRODUCED (CALC)<br><br>Daily Methane to Plant= ?? SCF<br>Total Methane to Plant= ?? SCF |

| | |
|---|---|
| Current Status: | Dir Drilling in slide mode at 13,258 ft. |
| 24hr Summary: | Dir Drill 5 7/8" hole S- Lateral, survey, DRL. |
| 24hr Forecast: | Cont.to Dir Drill 5 7/8" hole, circ,TOH f/ bit,TIH w/new bit |

Printed: 09/10/99 8:14:00 AM

# BP AMOCO
# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/10/99 Report: 17 DFS: 13.00 DOL: 29.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 3 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | Smith | |
| Type | F57ODP | |
| Serial No. | LT3049 | |
| TFA (in²) | | |
| Depth In (ft) | 13,120.0 | |
| Depth Out (ft) | | |
| Cum. Depth (ft) | 138.0 | |
| Cum. Hours | 25.50 | |
| WOB (Min) (Klb) | 2 | |
| WOB (Max) (Klb) | 24 | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / PIT | | Ca+ (mg/L) | 800 | |
| Depth (ft) | 13,120.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.45 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 31 | | Sand (%) | | |
| PV (cp) | 3 | | Tot. Solids | | |
| YP (lb/100ft²) | 5 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 9.50 | | | | |
| Pm (mL) | | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.3 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: 6 7/8" Dir ASSY

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | |
| DP OD | (in) | |
| String Rot Weight | (lbs) | 265,000 |
| Pick-Up Weight | (lbs) | 275,000 |
| Slack Off Weight | (lbs) | 250,000 |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 12,909 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/10/99 6:14:00 AM

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/10/99 Report: 17 DFS: 13.00 DOL: 29.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | 7,200 | | | | | | |
| Received | 7,200 | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Cool-clear 40 deg. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 08/30/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/08/99 | Incident Report Sent Y/N | |

## Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 13,109.00 | 27.400 | 125.300 | 13,052.32 | -593.95 | 527.23 | -593.95 | 19.23 | 16.88 |
| 13,141.00 | 31.700 | 126.700 | 13,080.15 | -603.24 | 539.98 | -603.24 | 13.61 | 13.44 |
| 13,174.00 | 35.000 | 127.500 | 13,107.71 | -614.18 | 554.45 | -614.18 | 10.09 | 10.00 |
| 13,205.00 | 39.100 | 134.400 | 13,132.46 | -626.45 | 568.50 | -626.45 | 18.82 | 13.23 |

Printed: 09/10/99 8:14:00 AM

# BP AMOCO
## Daily Drilling Report



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/10/99 | Report: | 17 | DFS: 13.00 | DOL: 29.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,258.0 (ft) | TVD: | 136,191.0 (ft) |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | |
| Daily Cost: | 54,067 | Cumm. Cost: | 1,855,467 | | |

Progress: 128.0 (ft)
Hole Size:
Shoe TVD:

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 06:00 | 24.00 | DRILL | DRLD P | PROD1 | Directional drill 5 7/8" hole in slide mode f/ 13130-13258 ft, w/ 1600-2200 scf N2-annulus 50-70 psi, 35 gpm foam, WOB 2-25,000 lb. Make attempt to optimize ROP w/ variation.<br><br>Gas Analysis:<br><br>TOTAL GAS ( INJECTED-PRODUCED)<br>Daily Gas= 3,063,421 SCF<br>Total Gas= 8,851,639 SCF<br><br>TOTAL GAS VENTED: (N2 & METHANE)<br>Daily Gas Vented= 0 SCF<br>Total Gas Vented= 2,301,764 SCF<br><br>TOTAL SALES LINE GAS:<br><br>Daily sales line gas= 3,063,421 SCF<br>Total Sales Line Gas= 6,549,875 SCF<br>Methane Composition= ??? %<br><br>TOTAL METHANE PRODUCED (CALC)<br><br>Daily Methane to Plant= ?? SCF<br>Total Methane to Plant= ?? SCF |

| | |
|---|---|
| Current Status: | Dir Drilling in slide mode at 13,258 ft. |
| 24hr Summary: | Dir Drill 5 7/8" hole S- Lateral, survey, DRL. |
| 24hr Forecast: | Cont.to Dir Drill 5 7/8" hole, circ,TOH f/ bit,TIH w/new bit |

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 09/10/99 Report: 17 DFS: 13.00 DOL: 29.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 3 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | Smith | |
| Type | F57ODP | |
| Serial No. | LT3049 | |
| TFA (in²) | | |
| Depth In (ft) | 13,120.0 | |
| Depth Out (ft) | 13,282.0 | |
| Cum. Depth (ft) | 138.0 | |
| Cum. Hours | 25.50 | |
| WOB (Min) (Klb) | 2 | |
| WOB (Max) (Klb) | 24 | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | 4/4/FC/H | |
| Cond (BGOR) | E/ I/WT/ IN | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / PIT | | Ca+ (mg/L) | 800 | |
| Depth (ft) | 13,120.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.45 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 31 | | Sand (%) | | |
| PV (cp) | 3 | | Tot. Solids | | |
| YP (lb/100ft²) | 5 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 9.50 | | | | |
| Pm (mL) | | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.3 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: 5 7/8" Dir ASSY

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | |
| DP OD | (in) | |
| String Rot Weight | (lbs) | 265,000 |
| Pick-Up Weight | (lbs) | 275,000 |
| Slack Off Weight | (lbs) | 250,000 |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 12,909 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/11/99 8:11:24 AM

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/10/99 Report: 17 DFS: 13.00 DOL: 29.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | 7,200 | | | | | | |
| Received | 7,200 | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Cool-clear 40 deg. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 08/30/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/06/99 | Incident Report Sent Y/N | |

## Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 13,109.00 | 27.400 | 125.300 | 13,052.32 | -593.95 | 527.23 | -593.95 | 19.23 | 16.88 |
| 13,141.00 | 31.700 | 126.700 | 13,080.15 | -603.24 | 539.98 | -603.24 | 13.61 | 13.44 |
| 13,174.00 | 35.000 | 127.500 | 13,107.71 | -614.18 | 554.45 | -614.18 | 10.09 | 10.00 |
| 13,205.00 | 39.100 | 134.400 | 13,132.46 | -626.45 | 568.50 | -626.45 | 16.62 | 13.23 |

Printed: 09/11/99 8:11:24 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/11/99 | Report: | 16 | DFS: 14.00 | DOL: 30.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,282.0 (ft) | TVD: | 13,202.0 (ft) Progress: 24.0 (ft) |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 54,455 | Cumm. Cost: | 1,709,922 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P/U | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 10:00 | 4.00 | DRILL | DRLD | P | PROD1 | Drill 5 7/8" hole f/ 13,258-13282 ft in slide mode w/ 2000 scf/ annulas 55-60 psi/ 35 gpm foam, 2-18,000 lb WOB. last survey at not enough build. |
| 10:00 - 11:00 | 1.00 | DRILL | CIRC | P | PROD1 | While circulation at 2000 scf, reduce foam injection to 20 gpm. Bleed down N2 from drill string. |
| 11:00 - 11:30 | 0.50 | DRILL | TRIP | P | PROD1 | TOOH to top of 1st float sub(12998 ft). Bleed drill string down. |
| 11:30 - 13:30 | 2.00 | DRILL | TRIP | P | PROD1 | TOOH w/ 46 std (8480 ft) to drill pipe float sub. Bleed down drill pipe. |
| 13:30 - 15:00 | 1.50 | DRILL | TRIP | P | PROD1 | TOOH to 4831 ft. To drill pipe float. Bleed drill string down. pull 1 std to antenna hangoff sub. |
| 15:00 - 16:00 | 1.00 | DRILL | SURD | P | PROD1 | RU wireline, RIH with retrieval connector, latch on to anntenna at 4800 ft. Release antenna-probe. POOH, LD probe and rig back wireline. Shut in well. Casing build to 60 psi ion 1.0 hr. |
| 16:00 - 17:30 | 1.50 | DRILL | TRIP | P | PROD1 | TOOH w/ drill string-BHA to 21 ft. |
| 17:30 - 18:00 | 0.50 | DRILL | BHA | P | PROD1 | LD Anadrill A475M mud motor, 5 7/8" bit.<br>Bit Grade:<br>4-4-FC -H<br>E-I-WT-IN |
| 18:00 - 19:00 | 1.00 | DRILL | BHA | P | PROD1 | Pickup new Anadrill A475M 4 3/4" motor set at 2.12 deg, PU new STC 5 7/8" bit F57ODP Check and verify alignment on MWD and mule shoe.<br><br>BHA as follows:<br>Bit - STC-- F57ODP 5.875" s/n LT3047 .75 ft<br>Dog sub –STC 5.875" x 1.5" .55 ft<br>Motor w/ float 2.12 deg 4.75 " x 3" 20.59 ft<br>Float sub 4.75" x 2" 3.08 ft<br>UBHO sub 4.625" x 2.5" 3.09 ft<br>tool carrier 4.687" x 2.5" 19.69 ft<br>Cent sub 4.687" x 2.5" 3.96 ft<br>NMDC 4.75" x 2.5" 30.65 ft<br>NMDC 4.75" x 2.5" 31.03 ft<br>x-over sub 4.675" x 2.5" 3.11 ft<br>1 jt HWDP 4.750"x 2.5" 30.81 ft<br>10 std S135 4" DP 4.875"x 2.5" 919.27 ft<br>3 jt 4" HWDP 4.750"x2.5" 92.51 ft<br>HE jars 4.612"x2.5" 29.25 ft<br>45 jts 4" HWDP 4.750"x2.5" 1387.33 ft<br>24 std 4" DP 4.875"x2.5" 2220.57 ft<br>Hangoff sub 4.750"x2.5" 4.20 ft<br>Total------4600.47 ft |

| | |
|---|---|
| Current Status: | Bleed Drill Pipe down, make connection. |
| 24hr Summary: | Cont.to Dir Drill 5 7/8" hole, circ,TOH f/ bit,TIH w/new bit |
| 24hr Forecast: | Dir Drill 5 7/8" hole to a horz |

BP AMOCO



# DAILY DRILLING REPORT

Well Name: ARE W #31-04 Date: 09/11/99 Report: 16 DFS: 14.00 DOL: 30.00
Event Name: RE ENTER Start: 07/16/99 End:

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 19:00 - 21:00 | 2.00 | DRILL | CIRC | P PROD1 | Change out top element on Dual annular, w/ modified element. Old element 60%, show signs of wear on metal top finger. Function test- view check dual annular. Reposition turn buckles on BOP stack, and align. |
| 21:00 - 23:30 | 2.50 | DRILL | TRIP | P PROD1 | TIH with remaining BHA and 4" drill pipe to 4714 ft. |
| 23:30 - 00:30 | 1.00 | DRILL | SURD | P PROD1 | RU- RIH with Geo Com probe and antenna on wireline, seat in landing sub. Check tool signal. POOH with wireline. |
| 00:30 - 03:00 | 2.50 | DRILL | TBMV | P PROD1 | Trip in hole 5 7/8" dir assy, place drill pipe floats at 8480, 4295, 281 ft f/ surface. |
| 03:00 - 05:00 | 2.00 | DRILL | CIRC | P PROD1 | Break circulation, pressure up drill pipe- annulus w/ 2000 scf N2, 35 gpm foam. |
| 05:00 - 06:00 | 1.00 | DRILL | REAM | P PROD1 | Wash to bottom 13241- 13282 ft as precaution w/ 2000 scf/ 30 gpm foam. Prepare to make connection. |

Gas Analysis:

TOTAL GAS ( INJECTED-PRODUCED)
Daily Gas= 1,218,812 SCF
Total Gas= 10,070,451,451 SCF

TOTAL GAS VENTED: (N2 & METHANE)
Daily Gas Vented= 828,812 SCF
Total Gas Vented= 3,130,576 SCF

TOTAL SALES LINE GAS:

Daily sales line gas= 390,000 SCF
Total Sales Line Gas= 6,939,875 SCF
Methane Composition= ??? %

TOTAL METHANE PRODUCED (CALC)

Daily Methane to Plant= ?? SCF
Total Methane to Plant= ?? SCF

# BP AMOCO
## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/11/99 Report: 18 DFS: 14.00 DOL: 30.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 4 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | Smith | |
| Type | F57ODP | |
| Serial No. | LT3047 | |
| TFA (in²) | | |
| Depth In (ft) | 13,282.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | |
|---|---|---|
| Type 1: | WATER/BRINE | |
| Time/Loc | 09:30 / PIT | |
| Depth (ft) | 13,280.00 | |
| Temp (°F) | | |
| Density (ppg) | 8.45 | |
| ECD (ppg) | | |
| Viscosity (s/qt) | 31 | |
| PV (cp) | 3 | |
| YP (lb/100ft²) | 5 | |
| GELS (lb/100ft²) | 1 / 1 / | |
| API WL (cc/30min) | | |
| HTHP WL (cc/30min | | |
| API FC (/32") | | |
| MBT (ppb) | | |
| Lime (ppb) | | |
| pH | 10.50 | |
| Pm (mL) | | |
| Pf/Mf (mL / mL) | 0.2 / 0.3 | |
| Comment1: | | |

| 2: | | |
|---|---|---|
| Ca+ (mg/L) | 999 | |
| K+ (mg/L) | | |
| Polymer (ppb) | | |
| CaCl2 (%) | | |
| NaCl (%) | | |
| Sand (%) | | |
| Tot. Solids | | |
| % Oil | | |
| % H2O | | |
| Oil/H2O | / | |
| HGSolid (ppb) | | |
| LGSolid (ppb) | | |
| ES (mV) | | |
| Oil Ret (%) | | |
| | | |
| | | |
| 2: | | |

### BHA Description: 6 7/8" Dir ASSY

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

### Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

### Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | 1,905 |
| Cumulative | 14,814 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | |

Printed: 09/13/99 8:46:53 AM

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/11/99 Report: 18 DFS: 14.00 DOL: 30.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Cool-clear 40 deg. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 08/30/98 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/06/99 | Incident Report Sent Y/N | |

## Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 13,236.00 | 40.900 | 144.200 | 13,156.23 | -641.53 | 581.43 | -641.53 | 21.12 | 5.81 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/13/99 8:48:59 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/11/99 | Report: | 18 | DFS: 14.00 | DOL: 30.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,282.0 (ft) | TVD: | 13,202.0 (ft) | Progress: | 24.0 (ft) |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: | |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: | |
| Daily Cost: | 54,455 | Cumm. Cost: | 1,709,922 | | | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 10:00 | 4.00 | DRILL | DRLD | P | PROD1 | Drill 5 7/8" hole f/ 13,258-13282 ft in slide mode w/ 2000 scf/ annulas 55-60 psi/ 35 gpm foam, 2-16,000 lb WOB. last survey at not enough build. |
| 10:00 - 11:00 | 1.00 | DRILL | CIRC | P | PROD1 | While circulation at 2000 scf, reduce foam injection to 20 gpm. Bleed down N2 from drill string. |
| 11:00 - 11:30 | 0.50 | DRILL | TRIP | P | PROD1 | TOOH to top of 1st float sub(12998 ft). Bleed drill string down. |
| 11:30 - 13:30 | 2.00 | DRILL | TRIP | P | PROD1 | TOOH w/ 46 std (8480 ft) to drill pipe float sub. Bleed down drill pipe. |
| 13:30 - 15:00 | 1.50 | DRILL | TRIP | P | PROD1 | TOOH to 4831 ft. To drill pipe float. Bleed drill string down. pull 1 std to antenna hangoff sub. |
| 15:00 - 16:00 | 1.00 | DRILL | SURD | P | PROD1 | RU wireline, RIH with retrieval connector, latch on to anntenna at 4800 ft. Release antenna-probe. POOH, LD probe and rig back wireline. Shut in well. Casing build to 60 psi ion 1.0 hr. |
| 16:00 - 17:30 | 1.50 | DRILL | TRIP | P | PROD1 | TOOH w/ drill string-BHA to 21 ft. |
| 17:30 - 18:00 | 0.50 | DRILL | BHA | P | PROD1 | LD Anadrill A475M mud motor, 5 7/8" bit.<br>Bit Grade:<br>4-4-FC -H<br>E-I-WT-IN |
| 18:00 - 19:00 | 1.00 | DRILL | BHA | P | PROD1 | Pickup new Anadrill A475M 4 3/4" motor set at 2.12 deg, PU new STC 5 7/8" bit F57ODP Check and verify alignment on MWD and mule shoe.<br><br>BHA as follows: |

| | | |
|---|---|---|
| Bit - STC-- F57ODP | 5.875" s/n LT3047 | .75 ft |
| Dog sub --STC | 5.875" x 1.5" | .55 ft |
| Motor w/ float 2.12 deg | 4.75 " x 3" | 20.59 ft |
| Float sub | 4.75" x 2" | 3.08 ft |
| UBHO sub | 4.625" x 2.5" | 3.09 ft |
| tool carrier | 4.687" x 2.5" | 19.69 ft |
| Cent sub | 4.687" x 2.5" | 3.96 ft |
| NMDC | 4.75" x 2.5" | 30.65 ft |
| NMDC | 4.75" x 2.5" | 31.03 ft |
| x-over sub | 4.875" x 2.5" | 3.11 ft |
| 1 jt HWDP | 4.750"x 2.5" | 30.81 ft |
| 10 std S135 4" DP | 4.875"x 2.5" | 919.27 ft |
| 3 jt 4" HWDP | 4.750"x2.5" | 92.51 ft |
| HE jars | 4.812"x2.5" | 29.25 ft |
| 45 jts 4" HWDP | 4.750"x2.5" | 1387.33 ft |
| 24 std 4" DP | 4.875"x2.5" | 2220.57 ft |
| Hangoff sub | 4.750"x2.5" | 4.20 ft |
| | Total------ | 4800.47 ft |

| | |
|---|---|
| Current Status: | Bleed Drill Pipe down, make connection. |
| 24hr Summary: | Cont.to Dir Drill 5 7/8" hole, circ,TOH f/ bit,TIH w/new bit |
| 24hr Forecast: | Dir Drill 5 7/8" hole to a horz |

BP AMOCO

# DAILY DRILLING REPORT

Well Name: ARE W #31-04 Date: 09/11/99 Report: 16 DFS: 14.00 DOL: 30.00
Event Name: RE ENTER Start: 07/16/99 End:

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 19:00 - 21:00 | 2.00 | DRILL | CIRC | P PROD1 | Change out top element on Dual annular, w/ modified element. Old element 60%, show signs of wear on metal top finger. Function test- view check dual annular. Reposition turn buckles on BOP stack, and align. |
| 21:00 - 23:30 | 2.50 | DRILL | TRIP | P PROD1 | TIH with remaining BHA and 4" drill pipe to 4714 ft. |
| 23:30 - 00:30 | 1.00 | DRILL | SURD | P PROD1 | RU- RIH with Geo Com probe and antenna on wireline, seat in landing sub. Check tool signal. POOH with wireline. |
| 00:30 - 03:00 | 2.50 | DRILL | TBMV | P PROD1 | Trip in hole 5 7/8" dir assy, place drill pipe floats at 8480, 4295, 281 ft f/ surface. |
| 03:00 - 05:00 | 2.00 | DRILL | CIRC | P PROD1 | Break circulation, pressure up drill pipe- annulus w/ 2000 scf N2, 35 gpm foam. |
| 05:00 - 06:00 | 1.00 | DRILL | REAM | P PROD1 | Wash to bottom 13241- 13282 ft as precaution w/ 2000 scf/ 30 gpm foam. Prepare to make connection. |

Gas Analysis:

TOTAL GAS ( INJECTED-PRODUCED)
Daily Gas= 1,218,812 SCF
Total Gas= 10,070,451,451 SCF

TOTAL GAS VENTED: (N2 & METHANE)
Daily Gas Vented= 828,812 SCF
Total Gas Vented= 3,130,576 SCF

TOTAL SALES LINE GAS:

Daily sales line gas= 390,000 SCF
Total Sales Line Gas= 6,939,875 SCF
Methane Composition= ??? %

TOTAL METHANE PRODUCED (CALC)

Daily Methane to Plant= ?? SCF
Total Methane to Plant= ?? SCF

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 09/11/99 Report: 16 DFS: 14.00 DOL: 30.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 4 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | Smith | |
| Type | F57ODP | |
| Serial No. | LT3047 | |
| TFA (in²) | | |
| Depth In (ft) | 13,282.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 09:30 / PIT | | Ca+ (mg/L) | 999 | |
| Depth (ft) | 13,280.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.45 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 31 | | Sand (%) | | |
| PV (cp) | 3 | | Tot. Solids | | |
| YP (lb/100ft²) | 5 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.50 | | | | |
| Pm (mL) | | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.3 | | | | |
| Comment1: | | | 2: | | |

## BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 12,909 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | |

Printed: 09/11/99 8:10:26 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/11/99 Report: 16 DFS: 14.00 DOL: 30.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | | Barom |
| Weather | Cool-clear 40 deg. | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | VDL | | Riser Tension | | Riser Angle/Dir | |
|---|---|---|---|---|---|---|---|

| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 08/30/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/06/99 | Incident Report Sent Y/N | |

### Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 13,236.00 | 40.900 | 144.200 | 13,156.23 | -641.53 | 581.43 | -641.53 | 21.12 | 5.81 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/11/99 8:10:26 AM

# BP AMOCO
## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/12/99 | Report: | 19 | DFS: 15.00 | DOL: 31.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,488.0 (ft) | TVD: | 13,326.0 (ft) | Progress: | 205.0 (ft) |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: | |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: | |
| Daily Cost: | 43,741 | Cumm. Cost: | 1,753,663 | | | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 06:00 | 24.00 | RIGU | DRLD P | PROD1 | Continue to dir drill 5 7/8" hole f/ 13282-13488 ft in slide mode to mainatin build- slight turn. With 2200 scf/ 30 gpm foam/ 8-10,000 lb WOB. Standpipe 870-925 psi/ annulas 82-100 psi.<br><br>Gas Analysis:<br><br>TOTAL GAS (INJECTED & PRODUCED)<br>Daily Gas= 4,157,155 SCF<br>Total Gas= 14,227,606 SCF<br><br>TOTAL GAS VENTED: (N2 & METHANE)<br>Daily Gas Vented= 0 SCF<br>Total Gas Vented= 3,130,576 SCF<br><br>TOTAL SALES LINE GAS:<br><br>Daily sales line gas= 4,157,155 SCF<br>Total Sales Line Gas= 11,097,030 SCF<br><br>NET RESERVOIR GAS PRODUCED<br><br>Daily Net Gas To Plant= 1,059,233 SCF<br>Net Gas Methane Comp (est) = 70%<br>Daily Methane to Plant= 748,463 SCF<br>Total Methane to Plant= 748,463 SCF |

| | |
|---|---|
| Current Status: | Dir Drill 5 7/8" hole at 13488 ft |
| 24hr Summary: | Continue to Dir Drill 5 7/8" hole to a horz. |
| 24hr Forecast: | Continue to Dir Drill 5 7/8" hole, build angle to Horizontal |

Printed: 09/12/99 9:45:06 AM

# BP AMOCO

## Daily Drilling Report



Well Name: ARE W #31-04 Date: 09/12/99 Report: 19 DFS: 15.00 DOL: 31.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 4 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | Smith | |
| Type | F57ODP | |
| Serial No. | LT3047 | |
| TFA (in²) | | |
| Depth In (ft) | 13,282.0 | |
| Depth Out (ft) | | |
| Cum. Depth (ft) | 206.0 | |
| Cum. Hours | 24.00 | |
| WOB (Min) (Klb) | 5 | |
| WOB (Max) (Klb) | 10 | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 10:00 / PIT | | Ca+ (mg/L) | 999 | |
| Depth (ft) | 13,322.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.45 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 31 | | Sand (%) | | |
| PV (cp) | 3 | | Tot. Solids | | |
| YP (lb/100ft²) | 4 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min) | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 9.60 | | | | |
| Pm (mL) | | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.3 | | | | |
| Comment1: | | | 2: | | |

### BHA Description: 6 7/8" Dir ASSY

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

### Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

### Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | |
| DP OD | (in) | |
| String Rot Weight | (lbs) | 265,000 |
| Pick-Up Weight | (lbs) | 275,000 |
| Slack Off Weight | (lbs) | 255,000 |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | 890 |
| Cumulative | 13,799 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | |

Printed: 09/12/99 9:45:06 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/12/99 Report: 19 DFS: 15.00 DOL: 31.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | | Barom |
| Weather | Cool-clear 45 deg. | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | VDL | | Riser Tension | | Riser Angle/Dir | |
|---|---|---|---|---|---|---|---|

| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 08/30/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/06/99 | Incident Report Sent Y/N | |

### Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 13,266.00 | 46.300 | 135.400 | 13,177.96 | -657.25 | 594.82 | -657.25 | 27.05 | 18.00 |
| 13,297.00 | 51.100 | 138.000 | 13,198.42 | -674.20 | 610.77 | -674.20 | 16.71 | 15.48 |
| 13,328.00 | 56.700 | 138.200 | 13,216.68 | -692.84 | 627.49 | -692.84 | 18.07 | 18.06 |
| 13,359.00 | 61.400 | 138.300 | 13,232.62 | -712.67 | 645.18 | -712.67 | 15.16 | 15.16 |
| 13,391.00 | 64.400 | 140.800 | 13,247.19 | -734.35 | 663.65 | -734.35 | 11.67 | 9.38 |
| 13,421.00 | 67.800 | 143.300 | 13,259.40 | -755.96 | 680.50 | -755.96 | 13.10 | 10.67 |

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 09/13/99 | Report: | 20 | DFS: 16.00 | DOL: 32.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,514.0 (ft) | TVD: | 13,352.0 (ft) Progress: |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 48,755 | Cumm. Cost: | 1,802,418 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P/U | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 09:00 | 3.00 | DRILL | DRLD | P | PROD1 | Continue to Dir Drill 5 7/8" hole in slide mode f/ 13488-13514 ft w/ 2200 scf N2/ 30 gpm foam/ 2-10,000 lb WOB. |
| 09:00 - 09:30 | 0.50 | DRILL | CIRC | P | PROD1 | Blow drill pipe dry of foam, bleed off drill pipe of N2. |
| 09:30 - 11:30 | 2.00 | DRILL | TRIP | P | PROD1 | TOOH 6 std of 4" drill pipe to 13001 ft. |
| 11:30 - 12:00 | 0.50 | DRILL | CIRC | P | PROD1 | Bleed off N2 below drill pipe float sub. |
| 12:00 - 13:00 | 1.00 | DRILL | TRIP | P | PROD1 | TOOH w/ 5 7/8" Dir drill assy 8480 ft. |
| 13:00 - 15:30 | 2.50 | DRILL | CIRC | P | PROD1 | Bleed off N2 below drill pipe float. |
| 15:30 - 16:00 | 0.50 | DRILL | SURD | P | PROD1 | Pull 1 std, RU-RIH with wireline to 4714 ft, latch on to Geo Com probe. POOH, LD probe assy, tie back wireline. Shut in casing. Well built to 400 psi in 1.0 hr. |
| 16:00 - 00:30 | 8.50 | RIGU | RU | P | PROD1 | PU-RU push-pull machine, make adjustments. Pull out f/ 1066-975 ft. Change out to Parker elevator bails. |
| 00:30 - 06:00 | 5.50 | DRILL | TRIP | P | PROD1 | Pull out hole w/ push- pull machine f/ 975 ft -surface. prepare to break out bit. |

Gas Analysis:

TOTAL GAS (INJECTED & PRODUCED)
Daily Gas= 1,458,797 SCF
Total Gas= 15,686,403 SCF

TOTAL GAS VENTED: (N2 & METHANE)
Daily Gas Vented= 844,476 SCF
Total Gas Vented= 3,975,052 SCF

TOTAL SALES LINE GAS:

Daily sales line gas= 614,321 SCF
Total Sales Line Gas= 11,711,351 SCF

NET RESERVOIR GAS PRODUCED

Daily Net Gas To Plant= 227,553 SCF
Net Gas Methane Comp (est) = 70%
Daily Methane to Plant= 159,287 SCF
Total Methane to Plant= 907,750 SCF

| | |
|---|---|
| Current Status: | Shut blind rams, vent off gas. |
| 24hr Summary: | Continue to Dir Drill 5 7/8" hole, build angle to Horizontal, TOOH. |
| 24hr Forecast: | TIH w/ BHA, RU- RUN Gyro antenna,test TIH w/ Dir assy. |

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/13/99 Report: 20 DFS: 16.00 DOL: 32.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 4 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | Smith | |
| Type | F57ODP | |
| Serial No. | LT3047 | |
| TFA (in²) | | |
| Depth In (ft) | 13,282.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | |
|---|---|---|
| Type 1: | WATER/BRINE | |
| Time/Loc | 09:15 / PIT | |
| Depth (ft) | 13,514.00 | |
| Temp (°F) | | |
| Density (ppg) | 8.50 | |
| ECD (ppg) | | |
| Viscosity (s/qt) | 29 | |
| PV (cp) | 3 | |
| YP (lb/100ft²) | 2 | |
| GELS (lb/100ft²) | 1 / 1 / | |
| API WL (cc/30min | | |
| HTHP WL (cc/30min | | |
| API FC (/32") | | |
| MBT (ppb) | | |
| Lime (ppb) | | |
| pH | 8.40 | |
| Pm (mL) | | |
| Pf/Mf (mL / mL) | 0.2 / 0.3 | |
| Comment1: | | |

| | | |
|---|---|---|
| 2: | | |
| Ca+ (mg/L) | 999 | |
| K+ (mg/L) | | |
| Polymer (ppb) | | |
| CaCl2 (%) | | |
| NaCl (%) | | |
| Sand (%) | | |
| Tot. Solids | | |
| % Oil | | |
| % H2O | | |
| Oil/H2O | / | |
| HGSolid (ppb) | | |
| LGSolid (ppb) | | |
| ES (mV) | | |
| Oil Ret (%) | | |
| | | |
| | | |
| 2: | | |

## BHA Description: 6 7/8" Dir ASSY

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | Press | |
| Pump | Press | |
| Pump | Press | |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | |
| DP OD | (in) | |
| String Rot Weight | (lbs) | 265,000 |
| Pick-Up Weight | (lbs) | 275,000 |
| Slack Off Weight | (lbs) | 255,000 |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 15,704 |

## Shaker

| | Mesh Size: | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/13/99 8:49:52 AM

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 09/13/99 Report: 20 DFS: 16.00 DOL: 32.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | | Barom |
| Weather | Cool-clear 38 deg. | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 08/30/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/06/99 | Incident Report Sent Y/N | |

## Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 13,453.00 | 73.000 | 145.300 | 13,270.18 | -780.42 | 698.06 | -780.42 | 17.87 | 16.88 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

# BP AMOCO

## Daily Drilling Report

Page 1 of 2

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | 43-043-30165 Sec 31 T41N R8E | Date: | 09/08/99 | Report: | 15 | DFS: 11.00 | DOL: 27.00 |
| Event Name: | RE ENTER | | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,115.0 (ft) | TVD: | Progress: 111.0 (ft) |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 100,287 | Cumm. Cost: | 1,595,477 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 18:00 | 12.00 | DRILL | DRLD | P PROD1 | Drill 5 7/8" hole in slide mode f/ 13004-13115 ft, w/ 2000 scf N2, 40 gpm foam. WOB- 5-15k. Stand pipe 950-1050 psi, casing pressure 40 - 60 psi.<br><br>Gas Analysis:<br><br>TOTAL GAS (INJECTED-PRODUCED)<br>Daily Gas= 3,119,454 SCF<br>Total Gas= 5,007,768 SCF<br><br>TOTAL GAS VENTED: (N2 & METHANE)<br>Daily Gas Vented= 0 SCF<br>Total Gas Vented= 1,888,314 SCF<br><br>TOTAL SALES LINE GAS:<br><br>Daily sales line gas= 3,119,454 SCF<br>Total Sales Line Gas= 3,119,454 SCF<br>Methane Composition= ??? %<br><br>TOTAL METHANE PRODUCED (CALC)<br><br>Daily Methane to Plant= ?? SCF<br>Total Methane to Plant= ?? SCF |

| | |
|---|---|
| Current Status: | Dir Drilling at 13115 ft |
| 24hr Summary: | Dir drill ahead, south lateral w/ 5 7/8" bit. |
| 24hr Forecast: | Continue to directional drill S- Lateral, circ, TOOH f/ bit. |

Printed: 09/08/99 8:26:04 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/08/99 Report: 15 DFS: 11.00 DOL: 27.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 2 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | Smith | |
| Type | F57DDPD | |
| Serial No. | lt4164 | |
| TFA (in²) | | |
| Depth In (ft) | 13,002.0 | |
| Depth Out (ft) | | |
| Cum. Depth (ft) | 113.0 | |
| Cum. Hours | 24.50 | |
| WOB (Min) (Klb) | 5 | |
| WOB (Max) (Klb) | 24 | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 09:30 / PIT | | Ca+ (mg/L) | 320 | |
| Depth (ft) | 13,002.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.40 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 32 | | Sand (%) | | |
| PV (cp) | 3 | | Tot. Solids | | |
| YP (lb/100ft²) | 6 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | | | Oil/H2O / | | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.00 | | | | |
| Pm (mL) | | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.2 | | | | |
| Comment1: | | | 2: | | |

### BHA Description:

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| | | | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | |
| DP OD | (in) | |
| String Rot Weight | (lbs) | 255,000 |
| Pick-Up Weight | (lbs) | 275,000 |
| Slack Off Weight | (lbs) | 245,000 |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

### Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

### Mud Cost

| | |
|---|---|
| Daily | 660 |
| Cumulative | 12,909 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | |

Printed: 09/08/99 8:28:04 AM

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/08/99 Report: 15 DFS: 11.00 DOL: 27.00

Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | | Barom |
| Weather | Cool-clear 40 deg. | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| SMITH | 2 |
| Anadrill | 2 |
| Norward | 2 |
| | |
| | |
| Other: | |
| Total: | 41 |

## Anchoring

| Rig Heading | | VDL | | Riser Tension | | Riser Angle/Dir | |
|---|---|---|---|---|---|---|---|

| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 08/30/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/07/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

# Fax Cover Sheet

**Please Deliver to:**

JARVIS, DAN

Fax #: 818013593940
Company:

---

**From:**

CURT SCHNAKENBERG

Fax #: 281-366-7585
Phone: 281-366-7705

---

**Pages: 4**

**Message:**

**FAX FOR ARE W #31-04**

This fax was sent using Castelle's FaxPress network fax server.

# BP AMOCO

## Daily Drilling Report

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 43-043-30165 | Date: | 09/07/99 | Report: | 14 | DFS: | 10.00 | DOL: 26.00 |
| Event Name: | RE ENTER Sec 3 / 04N R08E | Start: | 07/16/99 | End: | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,004.0 (ft) | TVD: | Progress: 2.0 (ft) |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 99,520 | Cumm. Cost: | 1,495,190 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 07:30 | 1.50 | SIDETR | TRIP | P PROD1 | Continue to TIH with window dressing assy to 12985 ft. |
| 07:30 - 09:00 | 1.50 | SIDETR | CIRC | P PROD1 | Circ hole w/ N2 at 2000 scf, w/ foam additions at 35 gpm. |
| 09:00 - 10:00 | 1.00 | SIDETR | REAM | P PROD1 | Ream through casing window area 12985-12993.5 ft w/ 2000 scf, 35 gpm foam, 75 rpm on rotary, window are in good shape. |
| 10:00 - 10:30 | 0.50 | SIDETR | CIRC | P PROD1 | Bleed of N2 f/ drill pipe and annulus. |
| 10:30 - 14:30 | 4.00 | SIDETR | TRIP | P PROD1 | TOH with window dressing assy to BHA. |
| 14:30 - 17:00 | 2.50 | SIDETR | INSP | P PROD1 | Conduct mag partical inspection on each stand of 4" HWDP p/b connections, all found to be in good condition. |
| 17:00 - 17:30 | 0.50 | SIDETR | BHA | P PROD1 | Laydown drilling jars, 1- jt 4" driull pipe, x-over subs, watermelon mill, window mill. Mills showed very little wear. |
| 17:30 - 18:00 | 0.50 | SIDETR | MISC | P PROD1 | Inspect dual annular element, condition rating 80%. |
| 18:00 - 20:00 | 2.00 | SIDETR | BHA | P PROD1 | PU-MU directional assy, set motor at 2.12 deg. Check and verify motor alignment to mule shoe. |
| 20:00 - 22:00 | 2.00 | SIDETR | TRIP | P PROD1 | Trip in hole w/ 15 std of 4" HWDP, 28 std of 4" drill pipe of 4773 ft. |
| 22:00 - 02:00 | 4.00 | SIDETR | BHA | P PROD1 | Make up landing sub, PU_MU Geo-Com probe, RIH w/ wireline, seat tool, verify connection, cut install antenna head-connector- test. |

BHA as follows:

| | | |
|---|---|---|
| Bit - STC-- F57DDPD 5.875" s/n LT4164 | | .75 ft |
| Dog sub --STC | 5.875" x 1.5" | .55 ft |
| Motor w/ float | 4.75 " x 3" | 20.58 ft |
| Float sub | 4.75" x 2" | 3.08 ft |
| UBHO sub | 4.625" x 2.5" | 3.09 ft |
| tool carrier | 4.687" x 2.5" | 19.69 ft |
| Cent sub | 4.687" x 2.5" | 3.98 ft |
| NMDC | 4.75" x 2.5" | 30.65 ft |
| NMDC | 4.75" x 2.5" | 31.03 ft |
| x-over sub | 4.875" x 2.5" | 3.11 ft |
| 1 jt HWDP | 4.750"x 2.5" | 30.81 ft |
| 6 std S135 4" DP | 4.875"x 2.5" | 550.03 ft |
| 3 jt 4" HWDP | 4.750"x2.5" | 92.51 ft |
| HE jars | 4.812"x2.5" | 29.25 ft |
| 45 jts 4" HWDP | 4.750"x2.5" | 1387.33 ft |
| 28 std 4" DP | 4.875"x2.5" | 2579.23 ft |
| Hangoff sub | 4.750"x2.5" | 4.20 ft |
| Float sub | 4.937"x2.00 | 3.10 ft |
| | Total------ | 4792.95 ft |

| | | | | | |
|---|---|---|---|---|---|
| 02:00 - 04:30 | 2.50 | SIDETR | TRIP | P PROD1 | Trip in hole w/ 5 7/8" directional assy to 12903 ft. |
| 04:30 - 05:30 | 1.00 | SIDETR | CIRC | P PROD1 | Install float sub at 12903 ft, run drilling assy in hole to 12998 ft, pressure drill pipe and wellbore with 2000 scf N2, 40 gpm foam. |
| 05:30 - 06:00 | 0.50 | DRILL | DRLD | P PROD1 | Directional drilling w/ 5 7/8" assy f/ 13002- 13004 ft w/ 2000 scf, 40 gpm foam in slide mode. |

| | |
|---|---|
| Current Status: | Directional drill 5 7/8" at 13004 ft. |
| 24hr Summary: | Mill- dress up window area, TOOH, PU direction drilling assy, TIH. |
| 24hr Forecast: | Dir drill ahead south lateral w/ 5 7/8" bit. |

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/07/99 Report: 14 DFS: 10.00 DOL: 26.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 2 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | Smith | |
| Type | F57DDPD | |
| Serial No. | lt4164 | |
| TFA (in²) | | |
| Depth In (ft) | 13,002.0 | |
| Depth Out (ft) | | |
| Cum. Depth (ft) | 2.0 | |
| Cum. Hours | 0.50 | |
| WOB (Min) (Klb) | 5 | |
| WOB (Max) (Klb) | 10 | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 09:30 / PIT | | Ca+ (mg/L) | 280 | |
| Depth (ft) | 13,002.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.40 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 30 | | Sand (%) | | |
| PV (cp) | 4 | | Tot. Solids | | |
| YP (lb/100ft²) | 6 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.00 | | | | |
| Pm (mL) | | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.2 | | | | |
| Comment1: | | | 2: | | |

### BHA Description:

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| | | | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

### Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

### Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | |
| DP OD | (in) | |
| String Rot Weight | (lbs) | 255,000 |
| Pick-Up Weight | (lbs) | 265,000 |
| Slack Off Weight | (lbs) | 245,000 |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | 1,160 |
| Cumulative | 12,249 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/07/99 8:40:09 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/07/99 Report: 14 DFS: 10.00 DOL: 26.00

Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL |
|---|---|
| Unit | Gals. |
| On Hand | |
| Used | 7,684 |
| Received | 7,684 |
| Returned | |
| Adjusted | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Cool-clear 40 deg. | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| SMITH | 2 |
| Anadrill | 2 |
| Norward | 2 |
| | |
| | |
| Other: | |
| Total: | 41 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
| Tensions | | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| | | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (P) | 08/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Test (F) | 08/30/99 | Last Rig Check | | Loss Control Incident | |
| Last BOP Drill | | Last Safety Meeting | 09/06/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 12,996.00 | 11.440 | 161.100 | 12,945.39 | -569.43 | 502.41 | 0.00 | 0.00 | 0.00 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/07/99 8:40:09 AM

# Fax Cover Sheet

**Please Deliver to:**

JARVIS, DAN

Fax #: 818013593940
Company:

---

**From:**

CURT SCHNAKENBERG

Fax #: 281-366-7585
Phone: 281-366-7705

---

**Pages: 4**

**Message:**

**FAX FOR ARE W #31-04**

This fax was sent using Castelle's FaxPress network fax server.

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 43-043-30165
Event Name: RE ENTER Sec 3 T04.2' R08E
Date: 09/06/99 Report: 13 DFS: 9.00 DOL: 25.00
Start: 07/16/99 End:

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,002.0 (ft) | TVD: | Progress: |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 39,241 | Cumm. Cost: | 1,395,670 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 07:30 | 1.50 | SIDETR | TRIP | P PROD1 | Continue to TOOH w/ fishing assy. No success. Check fishing tools, no marks. |
| 07:30 - 09:30 | 2.00 | SIDETR | WAIT | P PROD1 | Wait on additional fishing equipment. |
| 09:30 - 10:00 | 0.50 | SIDETR | BHA | P PROD1 | MU fishing assy as follows:<br>Overshot 5 1/2" w/ spiral grapple- packoff= 1.89 ft (w/ cut lip guide)<br>1pup jt of 3 1/2" drill pipe = 15.15 ft<br>x-over sub 4.75 x 2.5 = 3.09 ft<br>1 jt of 4 " drill pipe = 31.64 ft<br>x-over sub 4.75 x 2.5 = 3.09 ft<br>bumper sub 4.75 x 2.125 = 7.85 ft<br>fishing jars 4.75 x 2 = 11.14 ft<br>x-over sub 4.875 x 2.5 = 3.52 ft<br>float subs (2) 4.875 x 2.0 = 6.19 ft<br>49 jt 4 " HWDP 4.75 x 2.5 = 1510.68 ft<br>Total = 1594.24 ft |
| 10:00 - 14:00 | 4.00 | SIDETR | TRIP | P PROD1 | Trip in hole with fishing assy to 12985 ft. |
| 14:00 - 15:30 | 1.50 | SIDETR | WRKP | P PROD1 | Trip in slowly f/ 12985 ft to top of fish 12993 ft, rotate over fish, set down 25,000 lh. Start N2, work fish uphole 2 ft with max overpull of 100,000 lbs, slackoff 25,000 lb-down, pickup- fish free. pull fish up into casing. |
| 15:30 - 16:30 | 1.00 | SIDETR | CIRC | P PROD1 | Bleed down drill pipe, and annulas. |
| 16:30 - 22:00 | 5.50 | SIDETR | TRIP | P PROD1 | Trip out of hole w/ fishing assy, fish. |
| 22:00 - 00:00 | 2.00 | SIDETR | BHA | P PROD1 | Breakout, laydown fish and fishing tools. Bottom starter mill 1/16" UG, dress mill was 1/8" UG. |
| 00:00 - 01:00 | 1.00 | SIDETR | MISC | P PROD1 | Cut drill line. |
| 01:00 - 02:00 | 1.00 | SIDETR | MISC | P PROD1 | Service Tesco topdrive system, change out saver subs. |
| 02:00 - 03:00 | 1.00 | SIDETR | BHA | P PROD1 | Make up window milling assy as follows:<br>MU fishing assy as follows:<br>Window mill 5.875 = 1.67 ft<br>Watermelon mill 5.875 x 1.5 = 4.11 ft<br>x-over sub 4.75 x 2 = 1.61 ft<br>x-over sub 4.75 x 2.5 = 3.11 ft<br>1 jt of 4 " drill pipe = 31.64 ft<br>float subs (2) 4.875 x 2.0 = 6.19 ft<br>3 jts 4" HWDP = 92.45 ft<br>HE drilling jars = 29.25 ft<br>46 jt 4 " HWDP 4.75 x 2.5 = 1418.20 ft<br>Total = 1588.23 ft |
| 03:00 - 06:00 | 3.00 | SIDETR | TRIP | P PROD1 | Trip in the hole w/ window milling assy, at rpt time 9485 ft. |

Current Status: TIH w/ window milling assy, at rpt time 9485 ft.

24hr Summary: POOH with fish, PU new mill assy, TIH, mill window area.

24hr Forecast: Mill- dress up window area, TOOH, PU direction drilling assy

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 09/06/99 Report: 13 DFS: 9.00 DOL: 25.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 2 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | Smith | |
| Type | F57DDPD | |
| Serial No. | lt4164 | |
| TFA (in²) | | |
| Depth In (ft) | 13,002.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 09:30 / PIT | | Ca+ (mg/L) | 280 | |
| Depth (ft) | 13,002.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.40 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 30 | | Sand (%) | | |
| PV (cp) | 3 | | Tot. Solids | | |
| YP (lb/100ft²) | 4 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.50 | | | | |
| Pm (mL) | | | | | |
| Pf/Mf (mL / mL) | 0.3 / 0.3 | | | | |
| Comment1: | | | 2: | | |

## BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | | |
|---|---|---|
| Min ID | | |
| DC OD | | |
| DC | | |
| HWDP OD | | |
| HWDP | | |
| BHA | | |
| DP OD | | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | 44 |
| Cumulative | 11,089 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/07/99 8:41:08 AM

# BP AMOCO

## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/06/99 Report: 13 DFS: 9.00 DOL: 25.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Cool-clear 40 deg. | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| BAKER | 1 |
| POI | 2 |
| SMITH | 1 |
| | |
| | |
| Other: | |
| Total: | 37 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| | | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (P) | 08/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Test (F) | 08/30/99 | Last Rig Check | | Loss Control Incident | |
| Last BOP Drill | | Last Safety Meeting | 09/01/99 | Incident Report Sent Y/N | |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/07/99 8:41:08 AM

# Fax Cover Sheet

**Please Deliver to:**

JARVIS, DAN

Fax #: 818013593940
Company:

---

**From:**

CURT SCHNAKENBERG

Fax #: 281-366-7585
Phone: 281-366-7705

---

**Pages: 4**

**Message:**

**FAX FOR ARE W #31-04**

This fax was sent using Castelle's FaxPress network fax server.

# BP AMOCO



## Daily Drilling Report

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | 43-043-30165 | Date: | 09/05/99 | Report: | 12 | DFS: | 8.00 | DOL: 24.00 |
| Event Name: | RE ENTER | Sec 3 T4N' R8E | Start: | 07/16/99 | End: | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 13,002.0 (ft) | TVD: | | Progress: | |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: | |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: | |
| Daily Cost: | 50,956 | Cumm. Cost: | 1,356,429 | | | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 07:00 | 1.00 | SIDETR | TRIP | P PROD1 | Bleed drill string, annulas down of N2. |
| 07:00 - 11:30 | 4.50 | SIDETR | TRIP | P PROD1 | Trip out hole w/ window mill assy. Window mill, x-over sub left in hole= total 8.77 ft. Pin failer on bottom of 4" HWDP. |
| 11:30 - 20:30 | 9.00 | FISH | WAIT | P PROD1 | Wait on fishing tools to arrive. |
| 20:30 - 21:30 | 1.00 | FISH | BHA | P PROD1 | MU fishing assy as follows.<br>Overshot 5 1/2" w/ spiral grapple- packoff= 1.89 ft<br>x-over sub 4.75 x 2.5 = 3.11 ft<br>1 jt of 4" drill pipe = 31.64 ft<br>x-over sub 4.75 x 2.5 = 3.09 ft<br>bumper sub 4.75 x 2.125 = 7.85 ft<br>fishing jars 4.75 x 2 = 11.14 ft<br>x-over sub 4.875 x 2.5 = 3.52 ft<br>float subs (2) 4.875 x 2.0 = 6.19 ft<br>49 jt 4 " HWDP 4.75 x 2.5 = 1510.68 ft<br>Total = 1579.11 ft |
| 21:30 - 01:30 | 4.00 | FISH | TRIP | P PROD1 | Trip in the hole w/ fishing assy to 12980 ft. |
| 01:30 - 02:30 | 1.00 | FISH | TRIP | P PROD1 | Slowly trip in, pass top of whipstock at 12,985 ft no problem. Set down on top of fish at 12993 ft w/ 15,000 lb string wt. Pickup 15 ft, set down 20,000 lb string wt, pickup 2,000 lb extra drag. |
| 02:30 - 06:00 | 3.50 | FISH | TRIP | P PROD1 | Trip out of the hole with fishing assy and, fish. At rpt time 3051 ft. |

| | |
|---|---|
| Current Status: | Trip out hole w/ overshot- fish. |
| 24hr Summary: | mill window,circ, hole clean,TOH, lost mill in hole. WO fish tools,TIH |
| 24hr Forecast: | POOH with fish, PU new mill assy, TIH, mill window area. |

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/05/99 Report: 12 DFS: 8.00 DOL: 24.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 1 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | Smith | |
| Type | Mill | |
| Serial No. | | |
| TFA (in²) | | |
| Depth In (ft) | 12,985.0 | |
| Depth Out (ft) | 13,002.0 | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 09:30 / PIT | | Ca+ (mg/L) | 280 | |
| Depth (ft) | 13,002.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.40 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 30 | | Sand (%) | | |
| PV (cp) | 3 | | Tot. Solids | | |
| YP (lb/100ft²) | 3 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 9.50 | | | | |
| Pm (mL) | | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.2 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: whipstock assy

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | Press | |
| Pump | Press | |
| Pump | Press | |

## Mud Cost

| | |
|---|---|
| Daily | 3,107 |
| Cumulative | 11,045 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/07/99 8:41:59 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/05/99 Report: 12 DFS: 8.00 DOL: 24.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | | Barom |
| Weather | Cool-clear 40 deg. | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 3 |
| BAKER | 1 |
| POI | 2 |
| SMITH | 1 |
| BAKER WIRELINE | 3 |
| | |
| | |
| Other: | |
| Total: | 41 |

### Anchoring

| Rig Heading | | VDL | | Riser Tension | | Riser Angle/Dir | |
|---|---|---|---|---|---|---|---|

| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 08/30/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/01/99 | Incident Report Sent Y/N | |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/07/99 8:41:59 AM

# Fax Cover Sheet

**Please Deliver to:**

JARVIS, DAN

Fax #: 818013593940
Company:

---

**From:**

CURT SCHNAKENBERG

Fax #: 281-366-7585
Phone: 281-366-7705

---

**Pages: 4**

**Message:**

**FAX FOR ARE W #31-04**

This fax was sent using Castelle's FaxPress network fax server.

# BP AMOCO



## Daily Drilling Report

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 43-043-30165 | Date: | 09/03/99 | Report: | 10 | DFS: | 6.00 | DOL: 22.00 |
| Event Name: | RE ENTER Sec 3 T04N R08E | Start: | 07/16/99 | End: | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | TVD: | Progress: | |
| Rig Super: | Smith/Pedersen 435-880-3208 | Rot. Hours: | AV ROP: | Hole Size: | |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | Shoe TMD: | Shoe TVD: | |
| Daily Cost: | 65,299 | Cumm. Cost: 1,235,907 | | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 07:00 | 1.00 | DRILL | TRIP | P | PROD1 | POOH w/ BHI-Atlas WL with bridge plug setting tool. |
| 07:00 - 11:30 | 4.50 | SIDETR | BHA | P | PROD1 | PU-MU side door entry sub assy. PU-MU Smith 7" whipstock assy. Orient- check orientation of whipstock- muleshoe sub. |
| 11:30 - 13:30 | 2.00 | SIDETR | TRIP | P | PROD1 | Trip in the hole to 5000 ft w/whipstock assy. |
| 13:30 - 15:30 | 2.00 | SIDETR | CIRC | P | PROD1 | Unload hole with N2. |
| 15:30 - 17:00 | 1.50 | SIDETR | TRIP | P | PROD1 | Trip in hole to 8725 ft w/whipstock assy. |
| 17:00 - 19:00 | 2.00 | SIDETR | CIRC | P | PROD1 | Unload hole with N2. |
| 19:00 - 22:00 | 3.00 | SIDETR | TRIP | P | PROD1 | Trip in hole w/ 7" whipstock very slowly, took weight at 13019.9 ft 3-5000 lb,picked up and tried to lower several times without success, drag whipstock uphole to 13001.64 ft( bottom of whipstock packer). |
| 22:00 - 02:30 | 4.50 | SIDETR | CIRC | P | PROD1 | Unload hole with N2. |
| 02:30 - 03:30 | 1.00 | SIDETR | CIRC | P | PROD1 | Bleed down drill string of N2. |
| 03:30 - 05:30 | 2.00 | SIDETR | TBMV | P | PROD1 | PU side entry, 2 jt 4 " dp, Ru WL forGyro directional survey. |
| 05:30 - 06:00 | 0.50 | SIDETR | SURD | P | PROD1 | RIH w/ Gyro directional suvey tools to verify tool face/ direction at report time. |

| | |
|---|---|
| Current Status: | RIH WI dirctional survey tool. |
| 24hr Summary: | set B- plug, POOH, PU-Run Smith whipstock, disp hole to N2, run WL log |
| 24hr Forecast: | Run CCI/ GR log, prepare to mills window. |

# BP AMOCO

## Daily Drilling Report



Well Name: ARE W #31-04 Date: 09/03/99 Report: 10 DFS: 6.00 DOL: 22.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 1 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | Smith | |
| Type | Mill | |
| Serial No. | | |
| TFA (in²) | | |
| Depth In (ft) | 12,985.0 | |
| Depth Out (ft) | 13,002.0 | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / PIT | | Ca+ (mg/L) | 280 | |
| Depth (ft) | 13,078.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.33 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.00 | | | | |
| Pm (mL) | | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.2 | | | | |
| Comment1: | | | 2: | | |

### BHA Description: whipstock assy

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| | | | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Strokes | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

### Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 6,815 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | |

Printed: 09/07/99 12:08:54 PM

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/03/99 Report: 10 DFS: 6.00 DOL: 22.00

Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & warm | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 3 |
| BAKER | 1 |
| POI | 2 |
| SMITH | 1 |
| BAKER WIRELINE | 3 |
| | |
| | |
| Other: | |
| Total: | 41 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 08/30/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/01/99 | Incident Report Sent Y/N | |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/07/99 12:06:54 PM

# Fax Cover Sheet

**Please Deliver to:**

JARVIS, DAN

Fax #: 818013593940
Company:

**From:**

CURT SCHNAKENBERG

Fax #: 281-366-7585
Phone: 281-366-7705

**Pages:** 4

**Message:**

**FAX FOR ARE W #31-04**

This fax was sent using Castelle's FaxPress network fax server.

# BP AMOCO



## Daily Drilling Report

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 43-043-30165 | | Date: 09/04/99 | Report: | 11 | DFS: 7.00 | DOL: 23.00 | |
| Event Name: | RE ENTER Sec 3 T04N R08E | | Start: 07/16/99 | End: | | | | |
| Rig Name: | Parker | | TMD: 13,002.0 (ft) | TVD: | | Progress: 17.0 (ft) | | |
| Rig Super: | Smith/Pedersen 435-880-3208 | | Rot. Hours: | AV ROP: | | Hole Size: | | |
| Wellsite Eng: | Tim Anderson 281-366-5861 | | Last Casing: | Shoe TMD: | | Shoe TVD: | | |
| Daily Cost: | 69,567 | | Cumm. Cost: 1,305,473 | | | | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P/U | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 09:00 | 3.00 | SIDETR | TRIP | P | PROD1 | RIH w/ BHI Gyro tool to verify tool face on whipstock assy. Established toll face to be 205 deg. Attempted to move assy up- down holw w/ MAX 10,000 lb, no success. Put 90 deg right hand torque in string. Work up-down w/ MAx 10,000 lb. No success. ( shear valve on whipstock bolt 25,000 lbs.) POOH w/ gyro tool. |
| 09:00 - 10:00 | 1.00 | SIDETR | TRIP | P | PROD1 | POOH w/ wirelineBreak out and LD Gyro tool, LD side entry sub, 2= jt 4" DP. |
| 10:00 - 12:00 | 2.00 | SIDETR | TRIP | P | PROD1 | PU-RIH w/ CCL/ GR tool. Take wt at mule shoe sub.Corr GR to depth. Establish pickup and confirm bottom of whipstock at 12,994.55 ft(WL) Variation Driller-WL 7.29 ft. To of whipstock 12985.65 ft. |
| 12:00 - 15:00 | 3.00 | SIDETR | WAIT | P | PROD1 | Time to evaluate setting of whipstock with approprate parties. |
| 15:00 - 18:00 | 3.00 | SIDETR | MILL | P | PROD1 | set down on whipstock 30,000 lb, pull up to 25,000 lb to shear off starting mill. set down 10,000 bl to confirm set. OK.<br>Whipstock assy:<br>Smith whipstock= 14.35 ft at 5. 375 in OD<br>Mill assy = 6.23 ft 5.875 in OD 1.75 in ID<br>xo sub = 2.54 ft 4.75 In OD 2.00 In ID<br>1 jt 4" HWDP = 30.81 ft 4.75 In OD 2.00 In ID<br>float sub = 3.09 ft 4.875 In OD 2.00 In ID<br>float sub = 3.10 ft 4.875 In OD 2.5 In ID<br>xo sub = 3.09 ft 4.875 In OD 2.5 In ID<br>UBHO sub = 3.34 ft 4.750 In OD 2.5 In ID<br>ox sub = 3.11 ft 4.875 In OD 2.5 In ID<br>49 jy 4" HWDP =1510.68 ft 4.750 In OD 2.5 In ID<br>Total = 1580.34 ft |
| 18:00 - 06:00 | 12.00 | SIDETR | MILL | P | PROD1 | Mill window from 12985- 13002 ft, In 7" casing w/ 1750-1850 SCF N2, pump 36-40 gph foam, 75-80 rpm on rotary, 5-10k on mill. Dress up window w/ mill. prepare to TOOH. |

| | |
|---|---|
| Current Status: | Bleed well down, prepare to TOOH. |
| 24hr Summary: | Run CCl/ GR log, unload hole to N2, mill window. |
| 24hr Forecast: | mill window, circ, hole clean,TOH for another mill |

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/04/99 Report: 11 DFS: 7.00 DOL: 23.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 1 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | Smith | |
| Type | Mill | |
| Serial No. | | |
| TFA (in²) | | |
| Depth In (ft) | 12,985.0 | |
| Depth Out (ft) | 13,002.0 | |
| Cum. Depth (ft) | 17.0 | |
| Cum. Hours | 11.00 | |
| WOB (Min) (Klb) | 5 | |
| WOB (Max) (Klb) | 12 | |
| RPM (Min) | 70 | |
| RPM (Max) | 75 | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 09:30 / PIT | | Ca+ (mg/L) | 280 | |
| Depth (ft) | 13,078.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.33 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 32 | | Sand (%) | | |
| PV (cp) | 3 | | Tot. Solids | | |
| YP (lb/100ft²) | 6 | | % Oil | | |
| GELS (lb/100ft²) | 1 / 1 / | | % H2O | | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.00 | | | | |
| Pm (mL) | | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.2 | | | | |
| Comment1: | | | 2: | | |

### BHA Description: whipstock assy

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| | | | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

### Slow Pump

| | |
|---|---|
| Pump | Press |
| Pump | Press |
| Pump | Press |

### Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | 1,124 |
| Cumulative | 7,938 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 09/07/99 12:08:06 PM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 09/04/99 Report: 11 DFS: 7.00 DOL: 23.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL |
|---|---|
| Unit | Gals. |
| On Hand | |
| Used | |
| Received | |
| Returned | |
| Adjusted | |

### Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | Barom | |
| Weather | Cool- rain 30 deg. | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 3 |
| BAKER | 1 |
| POI | 2 |
| SMITH | 1 |
| BAKER WIRELINE | 3 |
| | |
| | |
| Other: | |
| Total: | 41 |

### Anchoring

| Rig Heading | | VDL | | Riser Tension | | Riser Angle/Dir | |
|---|---|---|---|---|---|---|---|

| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 08/22/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 08/30/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 09/01/99 | Incident Report Sent Y/N | |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 09/07/99 12:08:06 PM

# Fax Cover Sheet

Please Deliver to:

JARVIS, DAN

Fax #: 818013593940
Company:

From:

CURT SCHNAKENBERG

Fax #: 281-366-7585
Phone: 281-366-7705

Pages: 4

Message:

FAX FOR ARE W #31-04

This fax was sent using Castelle's FaxPress network fax server.

FORM 9 STATE OF UTAH

DIVISION OF OIL, GAS AND MINING

5. Lease Designation and Serial Number: FEE

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name: ANSCHUTZ RANCH EAST

8. Well Name and Number: A.R.E. W31-04B

9. API Well Number: 4304330165O

10. Field and Pool, or Wildcat: ANSCHUTZ RANCH EAST

# SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

1. Type of Well: OIL ☐ GAS ☑ OTHER:

2. Name of Operator: AMOCO PRODUCTION COMPANY

3. Address and Telephone Number: PH. 281-366-2036
P.O. BOX 3092, HOUSTON, TEXAS, 77253-3092

4. Location of Well
Footages: 111'FNL x 737'FWL
QQ, Sec., T., R., M.: SEC. 31 TWP: 4N RGE: 8E
County: SUMMIT
State: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| NOTICE OF INTENT (Submit in Duplicate) | | SUBSEQUENT REPORT (Submit Original Form Only) | |
|---|---|---|---|
| ☐ Abandon | ☐ New Construction | ☐ Abandon * | ☐ New Construction |
| ☐ Repair Casing | ☐ Pull or Alter Casing | ☐ Repair Casing | ☐ Pull or Alter Casing |
| ☐ Change of Plans | ☐ Recomplete | ☐ Change of Plans | ☐ Reperforate |
| ☐ Convert to Injection | ☐ Reperforate | ☐ Convert to Injection | ☐ Vent or Flare |
| ☐ Fracture Treat or Acidize | ☐ Vent or Flare | ☐ Fracture Treat or Acidize | ☐ Water Shut-Off |
| ☐ Multiple Completion | ☐ Water Shut-Off | ☐ Other | |
| ☑ Other SQUEEZE PERFORATIONS | | | |
| Approximate date work will start JULY 12, 1999 | | Date of work completion AUG 1, 1999 | |

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

THE EXISTING PERFORATIONS ARE TO BE SQUEEZED USING A WORKOVER RIG IN PREPARATION FOR MOVING IN A DRILLING RIG (JULY 15TH) TO BEGIN THE DRILLING OF MULTI-LATERAL HORIZONTAL SECTIONS TO ENHANCE PRODUCTIVITY.

- THIS SUNDRY IS TO REQUEST APPROVAL TO SQUEEZE PERFORATION.

(SEE THE ATTACHED PROCEDURE)

13.

Name & Signature: Terry McLeod Title: PETROLEUM ENGR. Date: 7/1/99

(This space for State use only)

**APPROVED**

(4/94) The Utah Division of Oil, Gas and Mining
Robert J. Krueger, PE, Petroleum Engineer (See Instructions on Reverse Side)

Date: 11-15-99

# BP AMOCO
## Daily Drilling Report



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | | Date: | 11/14/99 | Report: | 82 | DFS: 77.00 | DOL: 90.00 |
| Event Name: | RE ENTER | 43-043-30165 | Start: | 07/16/99 | End: | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Rig Name: | Parker | Sec. 31 T04N R08E | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) | Progress: |
| Rig Super: | Tom Nordeen | 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: |
| Wellsite Eng: | Tim Anderson | 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: |
| Daily Cost: | 12,480 | | Cumm. Cost: | 5,347,632 | | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 18:00 | 12.00 | RIGD | RD | P PROD1 | Rig down & prepare for building reserve pit. |

| | |
|---|---|
| Current Status: | Build Reserve pit |
| 24hr Summary: | Rig down |
| 24hr Forecast: | Clean mud tanks & Release rig |

# BP AMOCO
# Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/14/99 Report: 82 DFS: 77.00 DOL: 90.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 15 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS 50 | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / FLW | | Ca+ (mg/L) | 1,800 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.70 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

## BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 33,318 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 11/14/99 1:13:54 PM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/14/99 Report: 82 DFS: 77.00 DOL: 90.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | 30 deg, clear,cool. | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| POI | 2 |
| Western Chemical | 1 |
| | |
| | |
| | |
| | |
| | |
| | |
| Other: | |
| Total: | 33 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 11/12/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 11/12/99 | Incident Report Sent Y/N | |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 11/14/99 1:13:54 PM

# BP AMOCO

## Daily Drilling Report



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | | Date: | 11/11/99 | Report: | 79 | DFS: 74.00 | DOL: 87.00 |
| Event Name: | RE ENTER | | Start: | 07/16/99 | End: | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Rig Name: | Parker | | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) | Progress: |
| Rig Super: | Pedersen | 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: |
| Wellsite Eng: | Tim Anderson | 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: |
| Daily Cost: | 17,669 | | Cumm. Cost: | 5,244,649 | | | |

### Operations Summary

| Phase - To | Hours | Code | Sub Code | | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 17:30 | 11.50 | CASE | TBMV | P | PROD1 | Wait on Schmid casing cleaners. Rig up Casper Equipment casing crew. |
| 17:30 - 03:30 | 10.00 | CASE | TRIP | P | PROD1 | Pickup and run 3 1/2" 12.7# tubing |
| 03:30 - 05:00 | 1.50 | CASE | WAIT | P | PROD1 | Change out lay down truck. Fast line frayed and in bad shape. |
| 05:00 - 06:00 | 1.00 | CASE | TRIP | P | PROD1 | Pickup and run tubing |

| | |
|---|---|
| Current Status: | Trip in with 3 1/2" tubing |
| 24hr Summary: | Wait on cleaners, run tubing |
| 24hr Forecast: | Run & land tubing, clean mud tanks, prepare to rig down |

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/11/99 Report: 79 DFS: 74.00 DOL: 87.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 15 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS 50 | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / FLW | | Ca+ (mg/L) | 1,800 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.70 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

### BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

### Slow Pump

| | |
|---|---|
| Pump | Press |
| Pump | Press |
| Pump | Press |

### Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot | |
| Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

### Mud Volume

| | |
|---|---|
| Hole Vol (bbl) | |
| Pit 1 | |
| Pit 2 | |
| Pit 3 | |
| Pit 4 | |
| Total Mud Vol (bbl) | |
| Vol Built Day (bbl) | |
| Vol Built Cum | |
| Vol Lost Surf Day (bbl) | |
| Vol Lost Surf Cum | |
| Vol Lost Hole Day (bbl) | |
| Vol Lost Hole Tot | |
| Vol Dumped Day (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 33,318 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 11/11/99 7:50:29 AM

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/11/99 Report: 79 DFS: 74.00 DOL: 87.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | 30 deg, clear,cool. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| POI | 2 |
| Western Chemical | 1 |
| | |
| | |
| | |
| | |
| | |
| | |
| Other: | |
| Total: | 33 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 11/10/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 11/11/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 11/11/99 7:50:29 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 11/13/99 | Report: | 61 | DFS: 76.00 | DOL: 89.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Tom Nordeen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 27,437 | Cumm. Cost: | 5,335,152 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 06:00 | 24.00 | RIGD | RD P | PROD1 | Haul fluid off of mud tanks. Rig down rotary tools.<br>Prepare to for pit construction.<br><br>*Recieved Verbal approval from Gil Hunt w/Utah Oil & Gas on 11/12/99 to construct a small lined reserve pit to hold solids from the mud tanks. |

| | |
|---|---|
| Current Status: | Rig down & Clean tanks |
| 24hr Summary: | Rig down, build small reserve pit, clean tanks |
| 24hr Forecast: | Build pit & Rig down |

Printed: 11/13/99 10:18:03 AM

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/13/99 Report: 81 DFS: 76.00 DOL: 89.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 15 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS 50 | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / FLW | | Ca+ (mg/L) | 1,800 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.70 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

## BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

## Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 33,318 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,060.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 11/13/99 10:18:03 AM

# BP AMOCO

## Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/13/99 Report: 81 DFS: 76.00 DOL: 89.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | 30 deg, clear,cool. | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| POI | 2 |
| Western Chemical | 1 |
| | |
| | |
| | |
| | |
| | |
| Other: | |
| Total: | 33 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 11/12/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 11/12/99 | Incident Report Sent Y/N | |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 11/13/99 10:16:03 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 11/12/99 | Report: | 60 | DFS: 75.00 | DOL: 88.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Tom Nordeen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 53,881 | Cumm. Cost: | 5,307,715 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 16:30 | 10.50 | CASE | CSG | P | PROD1 | Run 407 jts of 3 1/2", 12.7# L80 tubing. Screw into fish @ 12860' and land tubing in tubing head. Otis R profile nipple with plug set @ 325' KB. |
| 16:30 - 17:30 | 1.00 | CASE | CSG | P | PROD1 | Close & lock Top Blind Rams<br>Rig down Casper Equipment Tools. |
| 17:30 - 06:00 | 12.50 | RIGD | RD | P | PROD1 | Rig down Tesco Dual Annular & Top Drive.<br>Prepare to clean mud tanks.<br>Release all rig rental equipment. |

| | |
|---|---|
| Current Status: | Rig down & clean mud tanks |
| 24hr Summary: | Run & land 3 1/2" tubing, Rig down Tesco top drive |
| 24hr Forecast: | Clean mud tanks, Release rig, & Rig down |

Printed: 11/12/99 8:06:59 AM

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/12/99 Report: 80 DFS: 75.00 DOL: 88.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 15 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS 50 | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / FLW | | Ca+ (mg/L) | 1,800 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.70 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

## BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 33,318 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## Gas Readings

| | | |
|---|---|---|
| Conn Avg/Max | (ppm) | |
| Bkgr Avg/Max | (ppm) | |
| Trip Avg/Max | (ppm) | |
| H2S | (ppm) | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

Printed: 11/12/99 8:08:59 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/12/99 Report: 80 DFS: 75.00 DOL: 88.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | | Barom |
| Weather | 30 deg, clear,cool. | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| POI | 2 |
| Western Chemical | 1 |
| | |
| | |
| | |
| | |
| | |
| Other: | |
| Total: | 33 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 11/12/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 11/12/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 11/12/99 8:08:59 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 11/11/99 | Report: | 79 | DFS: 74.00 | DOL: 87.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Tom Nordsen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 26,854 | Cumm. Cost: | 5,253,834 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 17:30 | 11.50 | CASE | CSG | P | PROD1 | Wait on Schmid casing cleaners. Rig up Casper Equipment casing crew. |
| 17:30 - 03:30 | 10.00 | CASE | CSG | P | PROD1 | Pickup and run 3 1/2" 12.7# tubing |
| 03:30 - 05:00 | 1.50 | CASE | WAIT | P | PROD1 | Change out lay down truck. Fast line frayed and in bad shape. |
| 05:00 - 06:00 | 1.00 | CASE | CSG | P | PROD1 | Pickup and run tubing |

| | |
|---|---|
| Current Status: | Trip in with 3 1/2" tubing |
| 24hr Summary: | Wait on cleaners, run tubing |
| 24hr Forecast: | Run & land tubing, clean mud tanks, prepare to rig down |

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/11/99 Report: 79 DFS: 74.00 DOL: 87.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 15 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS 50 | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / FLW | | Ca+ (mg/L) | 1,800 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.70 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

## BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 33,318 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 11/12/99 8:07:57 AM

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/11/99 Report: 79 DFS: 74.00 DOL: 87.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | 30 deg, clear,cool. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| POI | 2 |
| Western Chemical | 1 |
| | |
| | |
| | |
| | |
| | |
| | |
| Other: | |
| Total: | 33 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
| Tensions | | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 11/10/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 11/11/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 11/12/99 8:07:57 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | | Date: | 11/10/99 | Report: | 78 | DFS: 73.00 | DOL: 86.00 |
| Event Name: | RE ENTER | | Start: | 07/16/99 | End: | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) | Progress: |
| Rig Super: | Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: |
| Daily Cost: | 33,828 | Cumm. Cost: | 5,226,980 | | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 07:00 | 1.00 | DRILL | TBMV | P | PROD1 | Laydown remain 200 ft of 4 " drill pipe. RD laydown machine. |
| 07:00 - 08:00 | 1.00 | DRILL | TRIP | P | PROD1 | Trip in hole, set bridge plug at 930 ft. |
| 08:00 - 09:00 | 1.00 | DRILL | TRIP | P | PROD1 | Test to 2000 psi-OK. TOH w/ drill pipe. |
| 09:00 - 17:30 | 8.50 | WHEAD | BOPD | P | PROD1 | ND BOP, pickup BOP, ND tubing spool, remove install reconditioned tubing spool. Test connection to 5000 psi f/ 15 min-OK. Test BOP connection to plug to 2000 psi-OK. |
| 17:30 - 18:00 | 0.50 | WHEAD | TRIP | P | PROD1 | Trip in hole, latch on to bridge plug. |
| 18:00 - 19:00 | 1.00 | WHEAD | TRIP | P | PROD1 | Trip out hole w/ bridge plug. LD. |
| 19:00 - 03:30 | 8.50 | CASE | MISC | P | PROD1 | Unload 3 1/2" NU Vam tubing, remove protectors, strap tubing. |
| 03:30 - 06:00 | 2.50 | CASE | WAIT | P | PROD1 | W/O tubing cleaning crew. |

| | |
|---|---|
| Current Status: | W/O TUBING CLEANING CREW. |
| 24hr Summary: | SET PACKER IN CSG, CHG OUT TUBING SPOOL, TEST CONNECTION. |
| 24hr Forecast: | RU-RUN 3 1/2" TUBING, SCREW IN TO 4" DP, INSTALL HANGER |

Printed: 11/10/99 7:51:19 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/10/99 Report: 78 DFS: 73.00 DOL: 86.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 15 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS 50 | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / FLW | | Ca+ (mg/L) | 1,800 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.70 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

### BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

### Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

### Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 33,318 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 11/10/99 7:51:19 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/10/99 Report: 78 DFS: 73.00 DOL: 86.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | 30 deg, clear,cool. | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| POI | 2 |
| Western Chemical | 1 |
| | |
| | |
| | |
| | |
| | |
| | |
| Other: | |
| Total: | 33 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/27/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 11/09/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 11/10/99 7:51:19 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 11/09/99 | Report: | 77 | DFS: 72.00 | DOL: 85.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 98,934 | Cumm. Cost: | 5,193,152 | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 13:30 | 7.50 | FISH | WIRE P | PROD1 | RIH w/ Free point tool, run check shots f/ 13378- 13034 ft, indicate possiblew free at 13066 ft, POH change tension on free point tool. RIH- work drill string 250k-175k each interval, took check shot f/ 13035-13312 ft, showed free at 13157 ft. |
| 13:30 - 15:00 | 1.50 | FISH | WRKP P | PROD1 | RIH w/ string shot, set drill string 200k, put 15 rnd right torque, let out, 10 rnd left, let out, put 8 rnd left torque, place shot at 12864 ft back string off at 12864 FT WL. |
| 15:00 - 16:30 | 1.50 | FISH | WRKP P | PROD1 | Break out side door sub, pump in sub, x-overs, wireline equipment. |
| 16:30 - 19:00 | 2.50 | DRILL | WAIT P | PROD1 | Wait on laydown machine. |
| 19:00 - 20:00 | 1.00 | DRILL | TBMV P | PROD1 | RU laydown machine, conduct safety meeting w/ rig crews- LD crew. |
| 20:00 - 06:00 | 10.00 | DRILL | TBMV P | PROD1 | POOH, LD 4" drill pipe- 4" HWDP from hole and derrick. RPT 200 ft remaining. |

| | |
|---|---|
| Current Status: | LD LAST 200 FT 4" DRILL PIPE. |
| 24hr Summary: | RUN FREE POINT, BACKOFF, TOH, RU LD MACHINE, LD DP- HWDP. |
| 24hr Forecast: | SET PACKER IN CSG, CHG OUT TUBING SPOOL, TEST CONNECTION. |

Printed: 11/09/99 2:36:20 PM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/09/99 Report: 77 DFS: 72.00 DOL: 85.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 15 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS 50 | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / FLW | | Ca+ (mg/L) | 1,800 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.70 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

### BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

### Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

### Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 33,318 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 11/09/99 2:35:20 PM

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/09/99 Report: 77 DFS: 72.00 DOL: 85.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | 30 deg, cool. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| POI | 2 |
| Western Chemical | 1 |
| | |
| | |
| | |
| | |
| | |
| | |
| Other: | |
| Total: | 33 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/27/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 11/08/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 11/09/99 2:36:20 PM

# BP AMOCO

## Daily Drilling Report



Well Name: ARE W #31-04 43-043-30165
Event Name: RE ENTER
Date: 11/09/99 Report: 77 DFS: 72.00 DOL: 85.00
Start: 07/16/99 End:

Rig Name: Parker
Rig Super: Pedersen 435-880-3208
Wellsite Eng: Tim Anderson 281-366-5861
Daily Cost: 132,954

TMD: 14,478.0 (ft) TVD: 13,206.0 (ft) Progress:
Rot. Hours: AV ROP: Hole Size:
Last Casing: Shoe TMD: Shoe TVD:
Cumm. Cost: 5,227,172

S31 T04N R08E

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 13:30 | 7.50 | FISH | WIRE P | PROD1 | RIH w/ Free point tool, run check shots f/ 13378- 13034 ft, indicate possiblew free at 13066 ft, POH change tension on free point tool. RIH- work drill string 250k-175k each interval, took check shot f/ 13035-13312 ft, showed free at 13157 ft. |
| 13:30 - 15:00 | 1.50 | FISH | WRKP P | PROD1 | RIH w/ string shot, set drill string 200k, put 15 rnd right torque, let out, 10 rnd left, let out, put 8 rnd left torque, place shot at 12864 ft back string off at 12864 FT WL. |
| 15:00 - 16:30 | 1.50 | FISH | WRKP P | PROD1 | Break out side door sub, pump in sub, x-overs, wireline equipment. |
| 16:30 - 19:00 | 2.50 | DRILL | WAIT P | PROD1 | Wait on laydown machine. |
| 19:00 - 20:00 | 1.00 | DRILL | TBMV P | PROD1 | RU laydown machine, conduct safety meeting w/ rig crews- LD crew. |
| 20:00 - 06:00 | 10.00 | DRILL | TBMV P | PROD1 | POOH, LD 4" drill pipe- 4" HWDP from hole and derrick. RPT 200 ft remaining. |

Current Status: LD LAST 200 FT 4" DRILL PIPE.

24hr Summary: RUN FREE POINT, BACKOFF, TOH, RU LD MACHINE, LD DP- HWDP.

24hr Forecast: SET PACKER IN CSG, CHG OUT TUBING SPOOL, TEST CONNECTION.

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/09/99 Report: 77 DFS: 72.00 DOL: 85.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | |
|---|---|
| Bit No. | 15 |
| Run | |
| Size (in) | 5.875 |
| Manu. | HTC |
| Type | STR-DS 50 |
| Serial No. | S59YJ |
| TFA (in²) | |
| Depth In (ft) | 13,244.0 |
| Depth Out (ft) | |
| Cum. Depth | |
| Cum. Hours | |
| WOB (Min) | |
| WOB (Max) | |
| RPM (Min) | |
| RPM (Max) | |
| Cond (IODL) | |
| Cond (BGOR) | |
| Jets 1/2/3 | |
| Jets 4/5/6 | |

## Mud Check

| | |
|---|---|
| Type 1: | WATER/BRINE |
| Time/Loc | / FLW |
| Depth (ft) | 14,419.00 |
| Temp (°F) | |
| Density (ppg) | 8.70 |
| ECD (ppg) | |
| Viscosity (s/qt) | 27 |
| PV (cp) | |
| YP (lb/100ft²) | |
| GELS (lb/100ft²) | |
| API WL (cc/30min) | |
| HTHP WL (cc/30min | |
| API FC (/32") | |
| MBT (ppb) | |
| Lime (ppb) | |
| pH | 8.00 |
| Pm (mL) | 0.1 |
| Pf/Mf (mL / mL) | 0.1 / 0.4 |
| Comment1: | |

| 2: | |
|---|---|
| Ca+ (mg/L) | 1,800 |
| K+ (mg/L) | |
| Polymer (ppb) | |
| CaCl2 (%) | |
| NaCl (%) | |
| Sand (%) | |
| Tot. Solids | |
| % Oil | |
| % H2O | 97.0 |
| Oil/H2O | / |
| HGSolid (ppb) | |
| LGSolid (ppb) | 15.3 |
| ES (mV) | |
| Oil Ret (%) | |
| 2: | |

## BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | |
|---|---|
| Pump | Press |
| Pump | Press |
| Pump | Press |

## Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

## Mud Volume

| | |
|---|---|
| Hole Vol (bbl) | |
| Pit 1 | |
| Pit 2 | |
| Pit 3 | |
| Pit 4 | |
| Total Mud Vol (bbl) | |
| Vol Built Day (bbl) | |
| Vol Built Cum | |
| Vol Lost Surf Day (bbl) | |
| Vol Lost Surf Cum | |
| Vol Lost Hole Day (bbl) | |
| Vol Lost Hole Tot | |
| Vol Dumped Day (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 33,318 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 11/09/99 8:20:37 AM

# BP AMOCO
# Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/09/99 Report: 77 DFS: 72.00 DOL: 85.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | | Barom |
| Weather | 30 deg, cool. | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| POI | 2 |
| Western Chemical | 1 |
| | |
| | |
| | |
| | |
| | |
| | |
| Other: | |
| Total: | 33 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/27/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 11/08/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 11/09/99 8:20:37 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/08/99 Report: 76 DFS: 71.00 DOL: 84.00
Event Name: RE ENTER Start: 07/16/99 End:

Rig Name: Parker TMD: 14,478.0 (ft) TVD: 13,206.0 (ft) Progress:
Rig Super: Pedersen 435-880-3208 Rot. Hours: AV ROP: Hole Size:
Wellsite Eng: Tim Anderson 281-366-5861 Last Casing: Shoe TMD: Shoe TVD:
Daily Cost: 62,569 Cumm. Cost: 5,094,218

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 07:30 | 1.50 | DRILL | TRIP | P PROD1 | TIH with 4 1/4" Baker "Pay Zone Packer" through 5-8k deflection in string wt f/ 13560-13700 ft, packer continue in hole to 14000 ft(top packer element). |
| 07:30 - 08:00 | 0.50 | DRILL | RIGS | P PROD1 | Rig service. |
| 08:00 - 10:30 | 2.50 | DRILL | WAIT | P PROD1 | Wait on Dowel to arrive on loc. |
| 10:30 - 14:00 | 3.50 | CEMT | CMTP | P PROD1 | PU-RU cement lines, spot equipment, function test, conduct safety meeting w/ drill crews, service personnel. |
| 14:00 - 20:30 | 6.50 | CEMT | CMTP | P PROD1 | Presure test line to 3000 psi, pump 10 bbls FW, drop 1.844" dart followed by 10 bbls Class G cement at 15.8 ppg w/ .3 % D65, .25% D167, .3% D800 pump total of 60 bbls produced water at 1.5 bpm in 10 bbls increments, waiting 5 min between each, then pump 40 bbls at 1 bpm, wait 5 min, pump 25 bbls at 1 bpm. Shut down , check DP, well on suction. Start pumping for Inj rate at 4 bpm-0 psi, after 17 bbl pressure inc to 2000 psi at 1/2 bpm( shear ruptur disc), preasur go to ) psi. Check setting of Baker packer, Pickup 10k- slack off 5k, confirm set. Bach mix cement, pump 60 bbls Class G cement at 15.8 ppg w/ .3% D65, .25% D167, .3% D800. Drop plug. displace w/ 20 bbls FW, followed by 106 bbl produced water at 4 bpm, reduced to 3 bpm last 20 bbls, no pressure inc, pump extra 35 bbl. Shut down chk cement head f/ dart-gone. Pump 40 bbl 9 1/2 bpm to attend to get hydraulic relees to activate, no good. Break off cement cap install 2ND plug, pump down at 7-9 bpm for 168 bbl(22 bbls over displacement)- no good. |
| 20:30 - 22:00 | 1.50 | FISH | WRKP | P PROD1 | Work drill string to 375k a few time, reduce to 350k. work string f/ 350k down to 175k. torque drill string 1600 psi(8800 ft-lbs) to max of 2100 psi (13,400 ft-lbs), attempt to strip 2 7/8 EUE thread off top Baker packer (2880 ft-lbs)- no good. |
| 22:00 - 03:00 | 5.00 | FISH | WAIT | P PROD1 | Wait on wireline truck and fishing tool hand. |
| 03:00 - 05:30 | 2.50 | FISH | WRKP | P PROD1 | RU wireline, PU side-entry sub,pump in sub, x-over, sub, PU install WL tools to perform free point. |
| 05:30 - 06:00 | 0.50 | FISH | WRKP | P PROD1 | RIH w/ free point tool, rpt time 6600 ft. |

Current Status: RIH W/ WL FREE POINT TOOL. RPT TIME 6600 FT

24hr Summary: GYRO, RIH, RU CEMENT,STUCK, WORK PIPE, WO EQUIP, RU WL.

24hr Forecast: RUN FREE POINT, BACKOFF, TOH, PU JARS, RIH, JAR PIPE.

Printed: 11/08/99 7:21:55 AM

# BP AMOCO

## Daily Drilling Report



Well Name: ARE W #31-04 Date: 11/08/99 Report: 76 DFS: 71.00 DOL: 84.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 15 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS 50 | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / FLW | | Ca+ (mg/L) | 1,800 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.70 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

### BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

### Mud Volume

| | |
|---|---|
| Hole Vol (bbl) | |
| Pit 1 | |
| Pit 2 | |
| Pit 3 | |
| Pit 4 | |
| Total Mud Vol (bbl) | |
| Vol Built Day (bbl) | |
| Vol Built Cum | |
| Vol Lost Surf Day (bbl) | |
| Vol Lost Surf Cum | |
| Vol Lost Hole Day (bbl) | |
| Vol Lost Hole Tot | |
| Vol Dumped Day (bbl) | |

### Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

### Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 33,318 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 11/08/99 7:21:55 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04
Event Name: RE ENTER
Date: 11/08/99 Report: 76 DFS: 71.00 DOL: 84.00
Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

| Bulks | DIESEL |
|---|---|
| Unit | Gals. |
| On Hand | |
| Used | |
| Received | |
| Returned | |
| Adjusted | |

### Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | Barom | |
| Weather | 30 deg, cool. | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| POI | 2 |
| Anadrill | 2 |
| Western Chemical | 1 |
| | |
| | |
| | |
| | |
| Other: | |
| Total: | 36 |

### Anchoring

| Rig Heading | | VDL | | Riser Tension | | Riser Angle/Dir | |
|---|---|---|---|---|---|---|---|

| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/27/98 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 11/07/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 11/08/99 7:21:55 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 11/07/99 | Report: | 75 | DFS: 70.00 | DOL: 83.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Rig Name: | Parker | | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) | Progress: |
| Rig Super: | Pedersen | 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: |
| Wellsite Eng: | Tim Anderson | 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: |
| Daily Cost: | 38,743 | | Cumm. Cost: | 5,031,649 | | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 08:30 | 2.50 | DRILL | SURD | P | PROD1 | RU-RIH w/ gyro survey make check shot, verify in North Lateral. POH, DD. |
| 08:30 - 10:00 | 1.50 | DRILL | CIRC | P | PROD1 | Pressure up drill string w/ N2 at 2200 scf. |
| 10:00 - 11:00 | 1.00 | DRILL | TRIP | P | PROD1 | TIH took 20 k wt at 13565- 13655 ft , PU ream through sectionw/ 45 rpm on top drive, 1100-1200 psi( 4400-5200 ft-lb), TIH to 14205 ft. |
| 11:00 - 13:00 | 2.00 | DRILL | TRIP | P | PROD1 | TOH, pull tight at 13656 ft backream and cleanup to 13377 ft, toh to 13223 ft |
| 13:00 - 14:00 | 1.00 | DRILL | CIRC | P | PROD1 | Bleed down drill pipe of N2, breakout and LD float sub. |
| 14:00 - 18:00 | 4.00 | DRILL | TRIP | P | PROD1 | TOH w/ 5 7/8" cleanout assy, pump 100 bbls water down annualr at 2644 ft. |
| 18:00 - 19:00 | 1.00 | DRILL | MISC | P | PROD1 | Inspect Tesco dual annular element. |
| 19:00 - 19:30 | 0.50 | DRILL | BHA | P | PROD1 | PU-MU Baker packer assy; |
| 19:30 - 23:30 | 4.00 | DRILL | TRIP | P | PROD1 | TIH w/ Baker packer assy, slowly, SLM drill string. |
| | | | | | | 2 7/8" X- shoe 1.53 ft |
| | | | | | | (1) jt 2 7/8" tubing 31.47 ft |
| | | | | | | 2 7/8" landing collar .66 ft |
| | | | | | | x-over .86 ft |
| | | | | | | 2 7/8"x 4 1/4" " Baker pay zone Packer 23.25 ft |
| | | | | | | x-over 1.32 ft |
| | | | | | | 2 7/8" landing collar 1.15 ft |
| | | | | | | Hydraulic release 2.15 ft |
| | | | | | | 2 7/8" x 10 ft sub 10.00 ft |
| | | | | | | x-over sub 1.60 ft |
| | | | | | | (1) jt of 3 1/2" Dp 32.44 ft |
| | | | | | | x-over to HT 38 3.10 ft |
| | | | | | | TOTAL 109.73 ft |
| 23:30 - 00:00 | 0.50 | DRILL | CIRC | P | PROD1 | Pump 15 bbl produced water at 8700 ft. |
| 00:00 - 00:30 | 0.50 | DRILL | TRIP | P | PROD1 | TIH w/ Baker packer assy, slowly. |
| 00:30 - 01:00 | 0.50 | DRILL | CIRC | P | PROD1 | Pump 15 bbl produced water at 10400 ft. |
| 01:00 - 02:00 | 1.00 | DRILL | TRIP | P | PROD1 | TIH w/ Baker packer assy, slowly. |
| 02:00 - 02:30 | 0.50 | DRILL | CIRC | P | PROD1 | Pump 15 bbl produced water at 11614 ft. |
| 02:30 - 03:30 | 1.00 | DRILL | TRIP | P | PROD1 | TIH w/ Baker packer assy, slowly to 13394 ft, slight indication going through sidetrack window. |
| 03:30 - 05:30 | 2.00 | DRILL | SURD | P | PROD1 | RU-RIH w/ gyro survey, run check shot, verify in North Lateral, TOH, RD tools. |
| 05:30 - 06:00 | 0.50 | DRILL | CIRC | P | PROD1 | Pump 15 bbl produced water at 13394 ft. |

| | |
|---|---|
| Current Status: | PUMP 15 BBLS WATER, TIH AT 13394 FT. |
| 24hr Summary: | SURVEY,CLN OUT TO 14,100 FT,TOH, PU PACKER, TIH, SET- CEMENT |
| 24hr Forecast: | TOH W/ SETTING TOOL, toh W/ PACKER, CHG OUT TBG SPOOL, TEST |

# BP AMOCO

## Daily Drilling Report



Well Name: ARE W #31-04 Date: 11/07/99 Report: 75 DFS: 70.00 DOL: 83.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 15 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS 50 | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | |
|---|---|---|
| Type 1: | WATER/BRINE | |
| Time/Loc | / FLW | |
| Depth (ft) | 14,419.00 | |
| Temp (°F) | | |
| Density (ppg) | 8.70 | |
| ECD (ppg) | | |
| Viscosity (s/qt) | 27 | |
| PV (cp) | | |
| YP (lb/100ft²) | | |
| GELS (lb/100ft²) | | |
| API WL (cc/30min | | |
| HTHP WL (cc/30min | | |
| API FC (/32") | | |
| MBT (ppb) | | |
| Lime (ppb) | | |
| pH | 8.00 | |
| Pm (mL) | 0.1 | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | |
| Comment1: | | |

| 2: | | |
|---|---|---|
| Ca+ (mg/L) | 1,800 | |
| K+ (mg/L) | | |
| Polymer (ppb) | | |
| CaCl2 (%) | | |
| NaCl (%) | | |
| Sand (%) | | |
| Tot. Solids | | |
| % Oil | | |
| % H2O | 97.0 | |
| Oil/H2O / | | |
| HGSolid (ppb) | | |
| LGSolid (ppb) | 15.3 | |
| ES (mV) | | |
| Oil Ret (%) | | |
| 2: | | |

### BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

### Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

### Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 33,318 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

Printed: 11/08/99 8:31:18 AM

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/07/99 Report: 75 DFS: 70.00 DOL: 83.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | 35 deg. cool. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| POI | 2 |
| Anadrill | 2 |
| Western Chemical | 1 |
| | |
| | |
| | |
| | |
| Other: | |
| Total: | 36 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/18/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/27/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 11/06/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 11/08/99 6:31:18 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | | Date: | 11/06/99 | Report: | 74 | DFS: 69.00 | DOL: 82.00 |
| Event Name: | RE ENTER | | Start: | 07/16/99 | End: | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) | Progress: |
| Rig Super: | Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: |
| Daily Cost: | 37,231 | Cumm. Cost: | 4,994,906 | | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 14:30 | 8.50 | FISH | REAM | P | PROD1 | Ream to top of fish w/ 5 3/4" box tap f/ 13946-14270 ft w/ 40 rpm w/ 1100-1200 psi(4400-5200 ft-lb torque) attempt to slide assy in hole each std, but to much resistance. |
| 14:30 - 15:30 | 1.00 | FISH | REAM | P | PROD1 | Tag fish at 14270 ft, PU rotate down slowly w/ 1200 psi(5200 psi) 40 rpm on topdrive ,as tap fish torque inc to 1600-1700 psi(8600-9400 ft-lbs torque),set down max 18k st-wt. Perform this procedure several time to assure good makeup. |
| 15:30 - 23:00 | 7.50 | FISH | TRIP | P | PROD1 | TOH w/ 5 3/4" box tap assy, off bottom 260k up wt. at 13762 ft started to rotate sting intermintatly, due to slow progress working string out hole. Hard reaming out f/ 13596-13493 ft, after this point, TOH. |
| 23:00 - 23:30 | 0.50 | FISH | CIRC | P | PROD1 | Pump 100 bbls down annulas to minimize gas migration. |
| 23:30 - 00:00 | 0.50 | FISH | TRIP | P | PROD1 | Trip out hole w/ 5 3/4" bob tap. |
| 00:00 - 00:30 | 0.50 | FISH | BHA | P | PROD1 | No fish, break out and LD 5 3/4" box tap and inspect. Inspected showed leading edge cracked, edge roll in to 4 3/4", indication fish had contacted 1/3 edge of box tap. |
| 00:30 - 01:30 | 1.00 | FISH | BHA | P | PROD1 | Laydown remain fishing string, and tools. consult with drilling engineer as course of action. |
| 01:30 - 06:00 | 4.50 | DRILL | TRIP | P | PROD1 | PU 5 7/8" cleanout assy., TIH, pump 50 bbls produced water down Dp at 9130 ft, TIH to 13223 ft. Prepare to run gyro survey. |

| | |
|---|---|
| Current Status: | TIH w/ CLEANOUT ASSY, RP TIME 13223 FT. |
| 24hr Summary: | REAM TO FIFH, LATCH ON FISH, TOH, NO FISH,PU BIT, RIH. |
| 24hr Forecast: | SURVEY,CLN OUT TO 14,100 FT,TOH, PU PACKER, TIH, SET- CEMENT |

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 11/06/99 Report: 74 DFS: 69.00 DOL: 82.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 15 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS 50 | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / FLW | | Ca+ (mg/L) | 1,800 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.70 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

## BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 33,318 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 11/08/99 6:32:27 AM

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/06/99 Report: 74 DFS: 69.00 DOL: 82.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | 35 deg, cool. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| POI | 2 |
| Anadrill | 2 |
| Western Chemical | 1 |
| | |
| | |
| | |
| | |
| Other: | |
| Total: | 36 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/27/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 11/05/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 11/08/99 6:32:27 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | | Date: | 11/05/99 | Report: | 73 | DFS: 66.00 | DOL: 81.00 |
| Event Name: | RE ENTER | | Start: | 07/16/99 | End: | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) | Progress: |
| Rig Super: | Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: |
| Daily Cost: | 44,027 | Cumm. Cost: | 4,957,675 | | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 08:00 | 2.00 | FISH | SURD | P | PROD1 | Continue to RIh w/ gyro tool, verify in North Lateral, POOH, RD. |
| 08:00 - 08:30 | 0.50 | FISH | TRIP | P | PROD1 | TIH w/ inside spear fishing assy f/ 13285-14270 ft. Tool went in hole good. |
| 08:30 - 13:30 | 5.00 | FISH | TRIP | P | PROD1 | Tag fish at 14270 ft. Pickup and set down on fish w/ 18k string wt, three time. Unable to tell any change in string wt dus to limited amount fish/high angle.<br>TOH at 13530 ft observed 5k drag more than previous runs, at 1672 ft pump 100 bbls down annulas minimize gas migration. |
| 13:30 - 14:30 | 1.00 | FISH | BHA | P | PROD1 | No fish. Break out, LD inside spear assy. Inspect spear indicated that grapple was egg shape, out of round, and was cracked. Didn't appear to have been in fish, possible beside. |
| 14:30 - 15:00 | 0.50 | FISH | BHA | P | PROD1 | Pickup box tap fishing assy.<br><br>Box Tap 5 3/4" OD 2.10<br>X-Over 1.02<br>X-Over 3.10<br>Float Sub 3.09<br>Float sub 3.10<br>48 Jts. Drill Pipe 1550.00<br>HE drilling jar 29.28<br>48 Jts. HWDP 1479.84 |
| 15:00 - 18:00 | 3.00 | FISH | TRIP | P | PROD1 | TIH w/ 5 3/4" box Tap fishing assy to 9833 ft. |
| 18:00 - 19:00 | 1.00 | FISH | CIRC | P | PROD1 | Pump 50 bbls produced water down drill pipe. |
| 19:00 - 19:30 | 0.50 | FISH | TRIP | P | PROD1 | TIH w/ 5 3/4" box Tap fishing assy to13287 ft. |
| 19:30 - 22:00 | 2.50 | FISH | SURD | P | PROD1 | RU-RIH w/ gyro , verify fishing assy is in North Lateral, POOH, RD. |
| 22:00 - 22:30 | 0.50 | FISH | TRIP | P | PROD1 | TIH w/ 5 3/4" box Tap fishing assy to13505 ft. Drill string took wt. |
| 22:30 - 06:00 | 7.50 | FISH | REAM | P | PROD1 | Ream f/ 13505- 13946 ft w/ 40-50 rpm, top drive rotary torque 1100 psi(4420 ft-lb) to 1300 psi(6100 ft-lb). |

| | |
|---|---|
| Current Status: | Ream to top of fish, rpt time 13946 ft. |
| 24hr Summary: | TIH W/ INSIDE SPEAR,LATCH FISH,TOH W/ FISH,NO FISH,PU BOX TAP |
| 24hr Forecast: | LATCH ON FISH, TOH, LD FISH,PU PACKER, RIH, SET, CEMENT. |

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/05/99 Report: 73 DFS: 66.00 DOL: 81.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 15 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS 50 | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / FLW | | Ca+ (mg/L) | 1,600 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.70 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

## BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 33,318 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge #

| | | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

Printed: 11/05/99 7:39:21 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/05/99 Report: 73 DFS: 68.00 DOL: 81.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | 35 deg, cool. | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| POI | 2 |
| Anadrill | 2 |
| Western Chemical | 1 |
| | |
| | |
| | |
| | |
| Other: | |
| Total: | 36 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/27/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Lose Control Incident | |
| | | Last Safety Meeting | 11/04/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 11/05/99 7:39:21 AM

P.01

TRANSACTION REPORT

NOV-05-99 THU 08:48 AM

SEND(M)

| DATE START | RECEIVER | TX TIME | PAGES | TYPE | NOTE | M# | DP |
|---|---|---|---|---|---|---|---|
| NOV-05 08:48 AM | 18002539722 | **'** | 0 | SEND | ( M) BUSY | 003 | |

TOTAL OS PAGES: 0


TRACI PETERSON
242 East 9670 South, Sandy, Utah 84070
Office phone: 801-538-5280 • Office fax: 801-359-3940
Home phone & fax: 801-495-0680


# FACSIMILE COVER SHEET

**DATE:** 11-5 99

**FAX #:** 1-800-253-9722

**ATTN:**

**COMPANY:** IHS ENERGY GROUP

**DEPARTMENT:**

**NUMBER OF PAGES: (INCLUDING THIS ONE)** 29

# BP AMOCO



## Daily Drilling Report

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | | Date: | 11/04/99 | Report: | 72 | DFS: 67.00 | DOL: 80.00 |
| Event Name: | RE ENTER | | Start: | 07/16/99 | End: | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) | Progress: |
| Rig Super: | Pedersen 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: |
| Daily Cost: | 58,408 | Cumm. Cost: | 4,913,648 | | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | P/NP | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 08:00 | 2.00 | FISH | TRIP | P | PROD1 | Continue to trip in hole w/ 5 7/8" milltooth bit to 13264 ft. |
| 08:00 - 10:00 | 2.00 | FISH | WIRE | P | PROD1 | RU-RIH w/ gyro survey tool, confirm in North Lateral, POOH w/ WL, RD. |
| 10:00 - 10:30 | 0.50 | FISH | TRIP | P | PROD1 | TIH slowly, tag fish at 14270 ft. |
| 10:30 - 13:00 | 2.50 | FISH | CIRC | P | PROD1 | Pressure up drill string w/ N2 at 1900 scf. |
| 13:00 - 15:30 | 2.50 | FISH | REAM | P | PROD1 | Ream f/ 14208-14270 ft, w/1900-2000 scf N2, 40 rpm on rotary, clean up on top of fish, attempt to pull up full stand, tight, work string out of hole w/ 65k over string wt. Ream back to bottom,several time to cleanup. |
| 15:30 - 16:00 | 0.50 | FISH | CIRC | P | PROD1 | Blow down drill string of N2. |
| 16:00 - 18:00 | 2.00 | FISH | TRIP | P | PROD1 | TOH w/ 5 7/8" cleanout bit f/ 14270- 14264 ft, tight at 13660-13563 ft took 65k over string wt to pass through, ream through this section, clean up. |
| 18:00 - 19:00 | 1.00 | FISH | CIRC | P | PROD1 | Blow down drill string of N2, remove float sub. |
| 19:00 - 22:30 | 3.50 | FISH | TRIP | P | PROD1 | TOH w/ 5 7/8" cleanout milltooth bit, pump 50 bbls of produced water down annulas at 1521 ft due to gas migration.<br>bit Grade : 6--2-- BT--I<br>E--I--No--PTD<br>Inner rows had several broken teeth, indication running on iron. |
| 22:30 - 00:30 | 2.00 | FISH | MISC | P | PROD1 | Inspect and change out Tesco IBOP element due to wear, 112000 ft of service. |
| 00:30 - 01:00 | 0.50 | FISH | BHA | P | PROD1 | PU-MU fishing assy as follows:<br><br>Bowen spear dressed to catch 2 1/2" to 2/15/16" ID.<br><br>Spear 1.75<br>X-Over .67<br>X-Over 3.00<br>Drain sub 2.06<br>X-Over 3.10<br>Float sub 3.10<br>48 Jts. Drill Pipe 1550.00<br>HE drilling jar 29.28<br>48 Jts. HWDP 1479.84 |
| 01:00 - 01:30 | 0.50 | FISH | CIRC | P | PROD1 | Pump 50 bbls down annulas due to gas migration. |
| 01:30 - 03:30 | 2.00 | FISH | TRIP | P | PROD1 | Trip in hole w/ fishing assy to 9000 ft. |
| 03:30 - 04:00 | 0.50 | FISH | CIRC | P | PROD1 | Pump 50 bbls produced water down drill pipe. |
| 04:00 - 05:30 | 1.50 | FISH | TRIP | P | PROD1 | Trip in hole to 13264 ft, slowly through sidetrack. |
| 05:30 - 06:00 | 0.50 | FISH | WIRE | P | PROD1 | PU- RIH w/ Gyro survey at rpt time 3500 ft to verify North Lateral. |

| | |
|---|---|
| Current Status: | RUN IN HOLE W/ GYRO TOOL, RPT TIME 3500 FT. |
| 24hr Summary: | TIH W/ MILLTOOTH BIT, CLEANOUT TO BTM, TOH F/ INSIDE SPEAR. |
| 24hr Forecast: | TIH W/ INSIDE SPEAR, LATCH FISH, TOH W/ FISH. |

Printed: 11/05/99 7:36:13 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/04/99 Report: 72 DFS: 67.00 DOL: 80.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| Bit No. | 20 | 15 |
|---|---|---|
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | Smith | HTC |
| Type | FV | STR-DS 50 |
| Serial No. | YF0810 | S59YJ |
| TFA (in²) | | |
| Depth In (ft) | 14,478.0 | 13,244.0 |
| Depth Out (ft) | 14,478.0 | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | 6/2/BT/M | |
| Cond (BGOR) | E/ I/NO/ PT | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| Type 1: | WATER/BRINE | | 2: | | |
|---|---|---|---|---|---|
| Time/Loc | / FLW | | Ca+ (mg/L) | 1,800 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.70 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

### BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

### Slow Pump

| | | |
|---|---|---|
| Pump | Press | |
| Pump | Press | |
| Pump | Press | |

### Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 33,318 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 11/05/99 7:36:13 AM

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/04/99 Report: 72 DFS: 67.00 DOL: 80.00

Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | 26 deg, cool. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| POI | 2 |
| Anadrill | 2 |
| Western Chemical | 1 |
| | |
| | |
| | |
| Other: | |
| Total: | 36 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/27/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 11/03/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 11/05/99 7:36:13 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 11/03/99 | Report: | 71 | DFS: 66.00 | DOL: 79.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Pedersen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 44,686 | Cumm. Cost: | 4,855,240 | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | | Phase | Brief Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 10:30 | 4.50 | FISH | REAM | P | PROD1 | Ream f/ 13747-13639 ft w/ 1700-1800 scf, 35 rpm, experiencing dificultied lifting water out of hole w/ 1400 psi on standpipe, 23-25 psi on csg. |
| 10:30 - 11:00 | 0.50 | FISH | TRIP | P | PROD1 | Trip out hole f/ 13839- 13409 ft. |
| 11:00 - 13:30 | 2.50 | FISH | CIRC | P | PROD1 | Circulate N2, at 1800 scf, standpipe at 1100-1440 psi, 23-180 psi csg, well slugging water, not steady state. Discuss options with Drilling staff. |
| 13:30 - 14:00 | 0.50 | FISH | TRIP | P | PROD1 | Trip in hole f/ 13409-13839 ft, hole is in good shape. |
| 14:00 - 20:00 | 6.00 | FISH | REAM | P | PROD1 | Ream f/ 13839-14270 ft w/ 1800 scf N2, set down wt at 14168 ft, PU ream through with 12-15000 lb, 50 rpm, 1200 ( 4640 ft-lbs)psi w/ max 1500 psi( 7070 ft-lbs) @2 ft, continue to ream to fish at 14270 ft, took wieght, work drill string at this point w/ max 18-20k wob, 35rpm on rotary, several time would not drill off, only torque would inc f/ 1300(6700 ft-lb) to 1600( 9200 ft-lb) psi value, verify pipe measurement were correct. |
| 20:00 - 20:30 | 0.50 | FISH | CIRC | P | PROD1 | Blow pipe dry, bleed off drill pipe to first float. |
| 20:30 - 21:00 | 0.50 | FISH | TRIP | P | PROD1 | Trip out hole f/ 14270- 13283 ft, tight spot at 13540 ft took 20-25 k drag. |
| 21:00 - 22:00 | 1.00 | FISH | CIRC | P | PROD1 | Bleed down drill pipe float and remove. |
| 22:00 - 02:00 | 4.00 | FISH | TRIP | P | PROD1 | Trip out hole w/ clean out assy. |
| 02:00 - 03:00 | 1.00 | FISH | BHA | P | PROD1 | breakout bit, dog sub, float subs- change out floats.Discuss options w/ Drilling Eng. Bit appear to have been running on something as metal on #2-3 cones had been distorted around cone, w/ slight on #1 cone, no buttons were broken on this bit. |
| 03:00 - 06:00 | 3.00 | FISH | TRIP | P | PROD1 | Pump 50 bbl produced water down annulas due to slight blow. PU 5 7/8" milltooth bit, Trip in hole at rpt time 6745 ft. |

Daily Produced Water= 26 bbls.
Total Produced Water= 5612 bbls.

| | |
|---|---|
| Current Status: | tih W/ MILLTOOTH BIT, RPT TIME 6745 ft. |
| 24hr Summary: | REAM TO FISH TOP, CIRCULATE, TOH FOR FISHING TOOLS. |
| 24hr Forecast: | TIH FOR FISHING TOOLS, CATCH FISH, TOH. |

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/03/99 Report: 71 DFS: 66.00 DOL: 79.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 20 | 15 |
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | Smith | HTC |
| Type | FV | STR-DS 50 |
| Serial No. | YF0810 | S59YJ |
| TFA (in²) | | |
| Depth In (ft) | 14,478.0 | 13,244.0 |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / FLW | | Ca+ (mg/L) | 1,800 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.70 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

### BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

### Mud Volume

| | |
|---|---|
| Hole Vol (bbl) | |
| Pit 1 | |
| Pit 2 | |
| Pit 3 | |
| Pit 4 | |
| Total Mud Vol (bbl) | |
| Vol Built Day (bbl) | |
| Vol Built Cum | |
| Vol Lost Surf Day (bbl) | |
| Vol Lost Surf Cum | |
| Vol Lost Hole Day (bbl) | |
| Vol Lost Hole Tot | |
| Vol Dumped Day (bbl) | |

### Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

### Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 33,318 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| # | | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 11/03/99 7:37:49 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/03/99 Report: 71 DFS: 66.00 DOL: 79.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL |
|---|---|
| Unit | Gals. |
| On Hand | |
| Used | |
| Received | |
| Returned | |
| Adjusted | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | 28 deg, cool. | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| POI | 2 |
| Anadrill | 2 |
| Western Chemical | 1 |
| | |
| | |
| | |
| | |
| Other: | |
| Total: | 38 |

### Anchoring

| Rig Heading | | VDL | | Riser Tension | | Riser Angle/Dir | |
|---|---|---|---|---|---|---|---|

| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/27/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 11/02/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 11/03/99 7:37:43 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 11/02/99 | Report: | 70 | DFS: 65.00 | DOL: 78.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Pedersen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 45,168 | Cumm. Cost: | 4,810,554 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 08:00 | 2.00 | FISH | TRIP | P PROD1 | Finish TOH. |
| 08:00 - 09:00 | 1.00 | FISH | WAIT | P PROD1 | Conference call, planning with drilling engineer. |
| 09:00 - 10:00 | 1.00 | FISH | BHA | P PROD1 | Lay down fishing tools, pick up bit, make up BHA. |
| 10:00 - 13:00 | 3.00 | FISH | TRIP | P PROD1 | TIH W/Bit to 9019'. |
| 13:00 - 14:00 | 1.00 | FISH | CIRC | P PROD1 | Break circulation, unload hole from 9019'. |
| 14:00 - 15:00 | 1.00 | FISH | TRIP | P PROD1 | TIH to 11060'. |
| 15:00 - 17:00 | 2.00 | FISH | CIRC | P PROD1 | Break circulation, unload hole from 11060'. |
| 17:00 - 19:00 | 2.00 | FISH | REAM | P PROD1 | Attempting to ream and work bit into N. Lateral. (Depth 13255). Stop for Gyro survey. |
| 19:00 - 21:00 | 2.00 | FISH | WIRE | P PROD1 | Run Gyro survey to determine location of bit. Found bit in S. Lateral. POOH, rig down wire line survey equipment. |
| 21:00 - 22:00 | 1.00 | FISH | WRKP | P PROD1 | Pull two stands, work pipe trying to get in N. Lateral. |
| 22:00 - 00:00 | 2.00 | FISH | WIRE | P PROD1 | Run Gyro survey, determined bit is in N. Lateral. Start out of hole with Gyro. Stuck Gyro @ 13060'. Work Gyro free, TOH. All bow springs and allen screws still on tools. Couldn't see visible reason for tool getting stuck. (Might possibly be cement scale). |
| 00:00 - 02:30 | 2.50 | FISH | CIRC | P PROD1 | Break circulation @ 13283'. |
| 02:30 - | | FISH | REAM | P PROD1 | Reaming from 13283' to 13747' W/ 2100-2200 SCF N2, 15 gpm fluid . |

Gas Analysis::

Total produced Gas ( INJECTED- PRODUCED)

| | | |
|---|---|---|
| Daily gas = | 1,635,033 | scf |
| Total Cumulative Gas | 102,827,477 | scf |

Total Gas Vented (N2- Methane)

| | | |
|---|---|---|
| Daily gas vented= | 1,635,033 | scf |
| Total Gas Vented= | 31,623,636 | scf |

Total Sales Line Gas

| | | |
|---|---|---|
| Daily sales Line Gas= | 0 | scf |
| Total Sales Line Gas= | 72,836,880 | scf |

Net Reservior Gas Produced

| | | |
|---|---|---|
| Daily Net Gas To Plant= | 0 | scf |
| Net Gas Methane Comp (est)= | 47 | % |
| Daily Methane to Plant= | 0 | scf |
| Total Methane to Plant= | 16,808,258 | scf |

Water Production (Start North lateral)

| | | |
|---|---|---|
| Daily Produced Water= | 232 | bbls. |
| Total Produced Water= | 5566 | bbls. |

| | |
|---|---|
| Current Status: | REAMING |
| 24hr Summary: | FINISH TOH, LD FISHING TOOLS, PU BIT, TIH, LOCATE,CIRC, REAM |
| 24hr Forecast: | REAM TO FISH TOP, CIRCULATE, TOH FOR FISHING TOOLS. |

BP AMOCO



# DAILY DRILLING REPORT

Well Name: ARE W #31-04 Date: 11/02/99 Report: 70 DFS: 65.00 DOL: 78.00

Event Name: RE ENTER Start: 07/16/99 End:

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 02:30 - | | FISH | REAM | P PROD1 | |

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/02/99 Report: 70 DFS: 65.00 DOL: 78.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 15 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS 50 | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | |
|---|---|---|---|
| Type 1: | WATER/BRINE | | |
| Time/Loc | / FLW | | |
| Depth (ft) | 14,419.00 | | |
| Temp (°F) | | | |
| Density (ppg) | 8.70 | | |
| ECD (ppg) | | | |
| Viscosity (s/qt) | 27 | | |
| PV (cp) | | | |
| YP (lb/100ft²) | | | |
| GELS (lb/100ft²) | | | |
| API WL (cc/30min | | | |
| HTHP WL (cc/30min | | | |
| API FC (/32") | | | |
| MBT (ppb) | | | |
| Lime (ppb) | | | |
| pH | 8.00 | | |
| Pm (mL) | 0.1 | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | |
| Comment1: | | | |

| | | | |
|---|---|---|---|
| 2: | | | |
| Ca+ (mg/L) | 1,800 | | |
| K+ (mg/L) | | | |
| Polymer (ppb) | | | |
| CaCl2 (%) | | | |
| NaCl (%) | | | |
| Sand (%) | | | |
| Tot. Solids | | | |
| % Oil | | | |
| % H2O | 97.0 | | |
| Oil/H2O | / | | |
| HGSolid (ppb) | | | |
| LGSolid (ppb) | 15.3 | | |
| ES (mV) | | | |
| Oil Ret (%) | | | |
| | | | |
| 2: | | | |

## BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 33,318 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 11/02/99 8:38:01 AM

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/02/99 Report: 70 DFS: 65.00 DOL: 78.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/27/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 11/01/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 11/02/99 8:36:01 AM

# BP AMOCO
## Daily Drilling Report



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 11/01/99 | Report: | 69 | DFS: 64.00 | DOL: 77.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Pedersen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 42,763 | Cumm. Cost: | 4,765,386 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P/U | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 07:00 | 1.00 | FISH | TRIP | P | PROD1 | TOH, Pump 100 bbls. water down annulus. |
| 07:00 - 08:00 | 1.00 | FISH | RIGS | P | PROD1 | Slip and cut drilling line. |
| 08:00 - 08:30 | 0.50 | FISH | RIGS | P | PROD1 | Service rig. |
| 08:30 - 09:00 | 0.50 | FISH | RIGS | P | PROD1 | Service top drive. |
| 09:00 - 13:30 | 4.50 | FISH | TRIP | P | PROD1 | Finish TOH. |
| 13:30 - 14:30 | 1.00 | FISH | BHA | P | PROD1 | Lay down overshot, pick up Spear.<br><br>Fishing assembly;<br>Bowen spear dressed to catch 2 1/2" to 2/15/16" ID.<br><br>Spear 1.75<br>X-Over .67<br>X-Over 3.00<br>Drain sub 2.06<br>X-Over 3.10<br>Float sub 3.10<br>46 Jts. Drill Pipe 1550.00<br>HE drilling jar 29.28<br>46 Jts. HWDP 1479.84 |
| 14:30 - 21:00 | 6.50 | FISH | TRIP | P | PROD1 | TIH, Set down @ 14162', set down several times, checked and rechecked pipe tally and joint count on location. Confirmed depth to be correct. |
| 21:00 - 22:00 | 1.00 | FISH | WAIT | P | PROD1 | Wait for Scientific crew to arrive. |
| 22:00 - 00:30 | 2.50 | FISH | WIRE | P | PROD1 | Run Gyro survey, confirmed fishing tools are in North Lateral. |
| 00:30 - 01:00 | 0.50 | FISH | WRKP | P | PROD1 | Work pipe again, cannot go deeper, Try rotating, still no progress. Tag is 116' high to fish top. |
| 01:00 - 01:30 | 0.50 | FISH | CIRC | P | PROD1 | Gas on casing, pump 100 bbls down annulus. |
| 01:30 - 06:00 | 4.50 | FISH | TRIP | P | PROD1 | TOH W/Fishing tools. |

| | |
|---|---|
| Current Status: | TOH |
| 24hr Summary: | TOH, PICK UP SPEAR, TIH, RUN GYRO, IN N. LAT. TAG HIGH. |
| 24hr Forecast: | TOH, LOOK AT TOOLS, PLANNING MEETING, TIH. |

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/01/99 Report: 69 DFS: 64.00 DOL: 77.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 15 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS 50 | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / FLW | | Ca+ (mg/L) | 1,800 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.70 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

## BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 33,318 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | | |
|---|---|---|
| Conn Avg/Max | (ppm) | |
| Bkgr Avg/Max | (ppm) | |
| Trip Avg/Max | (ppm) | |
| H2S | (ppm) | |

Printed: 11/01/99 7:30:58 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 11/01/99 Report: 69 DFS: 64.00 DOL: 77.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | VDL | | Riser Tension | | Riser Angle/Dir | |
|---|---|---|---|---|---|---|---|

| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/27/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/31/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 11/01/99 7:30:58 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/31/99 | Report: | 66 | DFS: 63.00 | DOL: 76.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) | Progress: | |
| Rig Super: | Pedersen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: | |
| Wellsite Eng: | Tim Anderson 281-365-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: | |
| Daily Cost: | 42,364 | Cumm. Cost: | 4,722,623 | | | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | P/U | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 17:30 | 11.50 | FISH | TRIP | P | PROD1 | Rig down wire line, Trip back down hole with overshot, string weight just above window 232 K, 2 K increase just past window. Tight spot @ 13100'. 6K to 8K additional weight spike. Top of fish @ 13513'. String weight up 246 K, string weight down 236 K, rotate string after tag @ 900 PSI (3300 ft.#'s). Slack of 1/2' to 1' each time, @ 4 ft. in hole no increase in torque. Set down 10 K on fish, weight went back to zero, slack off 10 K, weight stayed. Fish slide in grapple. Pick up, string weight 252 K, pick up 30', slack off 10'. Took 10 K weight. String weight 256 K, (3 K more than previous run) POOH 12 stands to 12430', Rig up wire line with sinker bar, RIH to 12885', no fish. POOH with wire line, pump 50 bbls water down annulus. Trip back down with overshot, (run No. 3). Took weight @ 13500. Pick up, rotate string, slack off 20 K, weight returned to zero. Set back down to 13513', @ 15 K to 18 K weight returned to zero. Continue to chase fish down hole, no noticable increase in down weight. Top of fish @ 14285'. Logging tools tagged on bottom of hole. Pick up, set down string weight 10 K to 12 K, rotate string @ free weight, torque 900 PSI (4300 ft.#'s). Slack off one foot each time, rotating, total of 5'. Torque increased to 1200 PSI (6900 ft.#'s) on bottom. Pick up off bottom 8', torque off bottom 1100 PSI, (6000 ft.#'s). TOH, unable to indicate any weight increase. Tight spots @ 13775 - 13800 (25 K to 30 K) over string weight. TOH, @ 8369 set gas alarm off on floor, pump 200 bbls. down annulus & 100 bbls. down drill pipe. |
| 17:30 - 21:30 | 4.00 | FISH | TRIP | P | PROD1 | TOH, no recovery. Very small marks on leading edge of overshot guide, marks slightly to inside edge of guide, possible indication tool joint slightly larger than ID of guide. (Overshot was 5 3/4" OD, turned down to 5 5/8"OD, W/4 3/4" ID Grapple). |
| 21:30 - 22:30 | 1.00 | WHEAD | WKIL | P | PROD1 | Change top element in Tesco Annular. |
| 22:30 - 23:30 | 1.00 | FISH | WAIT | P | PROD1 | Planning discussion with drilling engineer, conference call with drilling formen and fisherman. |
| 23:30 - 01:00 | 1.50 | FISH | BHA | P | PROD1 | Pick up fishing tools, make up same, pick up 20 joint drill pipe to replace pipe on bottom of hole.<br><br>This Overshot: 5 7/8" OD, 4 7/8" ID Grapple. (Overshot guide capable of going over 5" OD fish.<br><br>Assembly;<br><br>Overshot 3.62<br>X-Over 3.10<br>Float sub 3.10<br>16 jts. Drill Pipe 1550.00<br>HE Drilling Jar 29.26<br>48 Jts. HWDP 1479.84 |
| 01:00 - 02:00 | 1.00 | FISH | TRIP | P | PROD1 | TIH w/fishing tools. |
| 02:00 - | | FISH | TRIP | P | PROD1 | Day light savings time change. |
| 02:00 - 03:00 | 1.00 | FISH | TRIP | P | PROD1 | TIH to 9000'. |
| 03:00 - 03:30 | 0.50 | FISH | CIRC | P | PROD1 | Pump 50 bbls. water to reduce differential on float. |
| 03:30 - 04:00 | 0.50 | FISH | TRIP | P | PROD1 | TIH to window, check string weight, 230 K. |
| 04:00 - 05:00 | 1.00 | FISH | WRKP | P | PROD1 | Work pipe down hole to North Lateral @ 13130'. Set down slow, set down 30 K. Couldn't get overshot to slide further. Pick up, rotate free pipe, torque 900 PSI (3300 ft.#'s) @ 29 RPM. |

| | |
|---|---|
| Current Status: | TRIPPING OUT OF HOLE. |
| 24hr Summary: | FISHING,TRIPPING, FISHING, TRIPPING OUT. |
| 24hr Forecast: | FINISH TOH, CHANGE FISHING TOOLS. |

BP AMOCO

# DAILY DRILLING REPORT

Well Name: ARE W #31-04 Date: 10/31/99 Report: 66 DFS: 63.00 DOL: 76.00
Event Name: RE ENTER Start: 07/16/99 End:

## Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 04:00 - 05:00 | 1.00 | FISH | WRKP | PROD1 | Set down, stalled rotation. String weight up increased to 275 K. Tripped drilling jar. Pipe come free. Set down 30 K again. String weight 275 K. Tripped drilling jar. Pipe come free. Work three stands out of hole slow pulling @ string weight (230 K). Cannot get 5 7/8" OD overshot to go below 13130'. Made decision to TOH, could possibly stick overshot if more weight is set on tools. |
| 05:00 - 06:00 | 1.00 | FISH | TRIP | PROD1 | TOH w/fishing tools. |

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/31/99 Report: 66 DFS: 63.00 DOL: 76.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 15 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS 50 | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / FLW | | Ca+ (mg/L) | 1,800 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.70 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

## BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | |
|---|---|
| Pump | Press |
| Pump | Press |
| Pump | Press |

## Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 33,318 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/31/99 7:33:05 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/31/99 Report: 66 DFS: 63.00 DOL: 76.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/27/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/30/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/31/99 7:33:05 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/30/99 | Report: | 67 | DFS: 62.00 | DOL: 75.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Pedersen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 82,131 | Cumm. Cost: | 4,717,799 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P/U | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 07:00 | 1.00 | FISH | HSE | P | PROD1 | Pump 25 bbls water down DP. Hold safety meeting with Scientific Drilling personnel and rig crew. Discuss next operation. |
| 07:00 - 08:00 | 1.00 | FISH | WIRE | P | PROD1 | Rig up Gyro equipment. |
| 08:00 - 16:00 | 8.00 | FISH | WIRE | P | PROD1 | TIH w/DP to 13186 ft. Rig up Gyro, run verification shots, couldn't get past 13093 feet. Survey records of hole deviation indicated same depth. POOH w/Gyro. Check joints on location, had 124 stands and double in hole, not 126, left out one stand of HWDP. Put measurement off 91 feet. TIH to 13278 w/DP. RIH w/Gyro, verified BHA is in North Lateral. POOH w/Gyro. TIH w/DP, Tag fish top @ 13503'. Set down 20 K, Pick up, make up top drive, free rotation @ 900 PSI (3300 ft.#'s)(30 RPM). Tag top of fish, Torque 1000 PSI (4200 ft.#'s)(30 RPM). Top of fish laying @ 85 degrees. String weight up 255 K to 260 K. String weight down 238 K, hole is OK. TOH to window. Pump produced water, 150 bbls. down annulus, 50 bbls. down drill pipe. |
| 16:00 - 20:30 | 4.50 | FISH | TRIP | P | PROD1 | TOH w/bit. (No marks on bit.) |
| 20:30 - 21:00 | 0.50 | FISH | RIGS | P | PROD1 | Change out saver sub on top drive. |
| 21:00 - 21:30 | 0.50 | FISH | BHA | P | PROD1 | Make up Fishing Tools;<br><br>Overshot, 5 3/4"OD, turned down to 5 5/8"OD, 4 3/4" Grapple.<br><br>Overshot 2.87<br>X-Over 3.10<br>45 Jts. Drill pipe 1364.00<br>HE Drg. Jar 29.28<br>48 Jts. HWDP 1479.84 |
| 21:30 - 02:30 | 5.00 | FISH | TRIP | P | PROD1 | TIH W/Fishing tools. Well gas at surface, pumped 50 bbls. down casing & 25 bbls. down drill pipe while tripping in hole. |
| 02:30 - 03:00 | 0.50 | FISH | WRKP | P | PROD1 | Work fishing tools @ fish top (13503'). Fish moved down hole 10 feet before taking 14,000 lbs. weight. Maybe 3,000 extra weight coming up. Very hard to tell with fish laying down. |
| 03:00 - 03:30 | 0.50 | FISH | TRIP | P | PROD1 | Pull 12 stands, appeared to have 3,000 extra weight @ window. |
| 03:30 - 06:00 | 2.50 | FISH | WIRE | P | PROD1 | Gas to surface again, 6 ft. flair on defuser, pump 75 bbls. down casing & 50 bbls. down drill pipe. Rig up wire line with sinker bar. Run depth check. RIH w/wire line to 12630'. Should have tagged fish top @ 12430'. No fish on tools. TOH w/wire line & sinker bar. |

| | |
|---|---|
| Current Status: | TOH W/WIRE LINE DEPTH CHECK. |
| 24hr Summary: | Locate N. Lateral w/Gyro. Locate fish top, TOH/TIH W/Fishing Tools. |
| 24hr Forecast: | TRY TO CATCH FISH. |

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 10/30/99 Report: 67 DFS: 62.00 DOL: 75.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 15 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS 50 | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / FLW | | Ca+ (mg/L) | 1,800 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.70 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

## BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 33,318 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/30/99 9:37:08 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/30/99 Report: 67 DFS: 62.00 DOL: 75.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | | | |
|---|---|---|---|---|
| Rig Heave | | | | |
| Rig Pitch | | | | |
| Rig Roll | | | | |
| Wave Height | | | | |
| Wave Direct | | | | |
| Wave Period | | | | |
| Swell Height | | | | |
| Swell Direct | | | | |
| Wind Speed | | | | |
| Wind Direct | | | | |
| Temp Maximum | | | | |
| Temp Minimum | | | | |
| Visibility | | Barom | | |
| Weather | | | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | VDL | | Riser Tension | | Riser Angle/Dir | |
|---|---|---|---|---|---|---|---|

| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/27/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/27/99 | Incident Report Sent Y/N | |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/30/99 9:37:08 AM

# BP AMOCO
## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/30/99 | Report: | 67 | DFS: 62.00 | DOL: 75.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Pedersen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 44,591 | Cumm. Cost: | 4,680,259 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 07:00 | 1.00 | FISH | HSE P | PROD1 | Pump 25 bbls water down DP. Hold safety meeting with Scientific Drilling personnel and rig crew. Discuss next operation. |
| 07:00 - 08:00 | 1.00 | FISH | WIRE P | PROD1 | Rig up Gyro equipment. |
| 08:00 - 16:00 | 8.00 | FISH | WIRE P | PROD1 | TIH w/DP to 13186 ft. Rig up Gyro, run verification shots, couldn't get past 13093 feet. Survey records of hole deviation indicated same depth. POOH w/Gyro. Check joints on location, had 124 stands and double in hole, not 126, left out one stand of HWDP. Put measurement off 91 feet. TIH to 13278 w/DP. RIH w/Gyro, verified BHA is in North Lateral. POOH w/Gyro. TIH w/DP, Tag fish top @ 13503'. Set down 20 K, Pick up, make up top drive, free rotation @ 900 PSI (3300 ft.#'s)(30 RPM). Tag top of fish, Torque 1000 PSI (4200 ft.#'s)(30 RPM). Top of fish laying @ 85 degrees. String weight up 255 K to 260 K. String weight down 238 K, hole is OK. TOH to window. Pump produced water, 150 bbls. down annulus, 50 bbls. down drill pipe. |
| 16:00 - 20:30 | 4.50 | FISH | TRIP P | PROD1 | TOH w/bit. (No marks on bit.) |
| 20:30 - 21:00 | 0.50 | FISH | RIGS P | PROD1 | Change out saver sub on top drive. |
| 21:00 - 21:30 | 0.50 | FISH | BHA P | PROD1 | Make up Fishing Tools;<br><br>Overshot, 5 3/4"OD, turned down to 5 5/8"OD, 4 3/4" Grapple.<br><br>Overshot 2.87<br>X-Over 3.10<br>45 Jts. Drill pipe 1364.00<br>HE Drg. Jar 29.28<br>48 Jts. HWDP 1479.84 |
| 21:30 - 02:30 | 5.00 | FISH | TRIP P | PROD1 | TIH W/Fishing tools. Well gas at surface, pumped 50 bbls. down casing & 25 bbls. down drll pipe while tripping in hole. |
| 02:30 - 03:00 | 0.50 | FISH | WRKP P | PROD1 | Work fishing tools @ fish top (13503'). Fish moved down hole 10 feet before taking 14,000 lbs. weight. Maybe 3,000 extra weight coming up. Very hard to tell with fish laying down. |
| 03:00 - 03:30 | 0.50 | FISH | TRIP P | PROD1 | Pull 12 stands, appeared to have 3,000 extra weight @ window. |
| 03:30 - 06:00 | 2.50 | FISH | WIRE P | PROD1 | Gas to surface again, 6 ft. flair on defuser, pump 75 bbls. down casing & 50 bbls. down drill pipe. Rig up wire line with sinker bar. Run depth check. RIH w/wire line to 12630'. Should have tagged fish top @ 12430'. No fish on tools. TOH w/wire line & sinker bar. |

| | |
|---|---|
| Current Status: | TOH W/WIRE LINE DEPTH CHECK. |
| 24hr Summary: | Locate N. Lateral w/Gyro. Locate fish top, TOH/TIH W/Fishing Tools. |
| 24hr Forecast: | TRY TO CATCH FISH. |

Printed: 10/30/99 2:36:45 PM

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/30/99 Report: 67 DFS: 62.00 DOL: 75.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 15 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS 50 | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / FLW | | Ca+ (mg/L) | 1,800 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.70 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

## BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 33,318 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/30/99 2:36:45 PM

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/30/99 Report: 67 DFS: 62.00 DOL: 75.00

Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| | | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (P) | 10/19/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Test (F) | 10/27/99 | Last Rig Check | | Loss Control Incident | |
| Last BOP Drill | | Last Safety Meeting | 10/27/99 | Incident Report Sent Y/N | |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/30/99 2:36:45 PM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/28/99 | Report: | 65 | DFS: | 60.00 | DOL: 74.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Pedersen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 41,503 | Cumm. Cost: | 4,584,883 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 09:00 | 3.00 | DRILL | WAIT | P | PROD1 | Wait on logging tools. |
| 09:00 - 11:00 | 2.00 | EVAL | LOG | P | PROD1 | Pick up drill pipe conveyed logging tools. |
| 11:00 - 16:30 | 5.50 | EVAL | TRIP | P | PROD1 | TIH w/drill pipe conveyed logs. Lay down drilling jar. |
| 16:30 - 18:00 | 1.50 | EVAL | LOG | P | PROD1 | Rig up side entry sub. |
| 18:00 - 21:00 | 3.00 | EVAL | LOG | P | PROD1 | TIH w/electric line to latch in. Drill pipe started flowing, pump 50 bbls. produced water down DP. |
| 21:00 - 00:30 | 3.50 | EVAL | LOG | P | PROD1 | TIH w/pipe conveyed logs, set down @ 13940. Work pipe up and down, try rotating 1/4 turn right & 1/4 turn left. Couldn't make progress, try to come up, pull 100 K over string weight several times, worked three joints out of hole six inches at a time. |
| 00:30 - 04:30 | 4.00 | EVAL | LOG | P | PROD1 | Shear line off logging tools w/T-Bar, shear wet connect w/T-Bar, Work electric line out of hole, line appears to be pinching on tool joints above side entry sub. Pulling with unsteady tension. Spooling line very slow operation. |
| 04:30 - 05:00 | 0.50 | EVAL | LOG | P | PROD1 | Rig down Schlumberger, all electric line recovered. |
| 05:00 - 06:00 | 1.00 | EVAL | LOG | P | PROD1 | Working pipe out of hole. String weight 248 K, Rotating pipe and working with torque only. Leaving string weight nutral and working torque from 1000 psi to 1500 psi and letting torque work back down to 1000 psi is working at present time. We are turning string @ 40 RPM. Present depth 13664. |

| | |
|---|---|
| Current Status: | Back reaming pipe out of hole. |
| 24hr Summary: | Wait on logging tools, TIH w/logs, stuck pipe, work pipe. Shear line. |
| 24hr Forecast: | Work pipe through tight hole, TOH. |

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/28/99 Report: 65 DFS: 60.00 DOL: 74.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 15 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS 50 | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / FLW | | Ca+ (mg/L) | 1,800 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.70 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

## BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | |
|---|---|
| Pump | Press |
| Pump | Press |
| Pump | Press |

## Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 31,115 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydroclone

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/30/99 9:36:06 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/28/99 Report: 65 DFS: 60.00 DOL: 74.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & cold | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/27/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/27/99 | Incident Report Sent Y/N | |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

# BP AMOCO

## Daily Drilling Report



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | 43-043-30165 | Date: | 10/27/99 | Report: | 64 | DFS: 60.00 | DOL: 74.00 |
| Event Name: | RE ENTER | | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-365-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 48,369 | Cumm. Cost: | 4,543,380 | Sec 31 T04N R08E | |

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 06:00 | 24.00 | DRILL | WAIT P | PROD1 | Wait on logging tools.<br><br>*Released POI & Norward @ 1800 hrs. on 10/25/99.*<br><br>Gas Analysis:<br>Total produced Gas ( INJECTED- PRODUCED)<br>---<br>Daily gas = 0 scf<br>Total Cumulative Gas= 102,827,477 scf<br><br>Total Gas Vented (N2- Methane)<br>---<br>Daily gas vented= 0 scf<br>Total Gas Vented= 29,988,603 scf<br><br>Total Sales Line Gas<br>---<br>Daily sales Line Gas= 0 scf<br>Total Sales Line Gas= 72,838,880 scf<br><br>Net Reservior Gas Produced<br>---<br>Daily Net Gas To Plant= 0 scf<br>Net Gas Methane Comp (est)= 47 %<br>Daily Methane to Plant= 0 scf<br>Total Methane to Plant= 16,808,258 scf<br><br>Water Production (Start North lateral)<br>---<br>Daily Produced Water= 0 bbls.<br>Total Produced Water= 5354 bbls |

| | |
|---|---|
| Current Status: | WAIT ON LOGGING TOOLS. |
| 24hr Summary: | WAIT ON LOGGING TOOLS. |
| 24hr Forecast: | WAIT ON LOGGING TOOLS, LOG. |

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/27/99 Report: 64 DFS: 60.00 DOL: 74.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 15 | |
| Run | | |
| Size (in) | 5.875 | |
| Manu. | HTC | |
| Type | STR-DS 50 | |
| Serial No. | S59YJ | |
| TFA (in²) | | |
| Depth In (ft) | 13,244.0 | |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / FLW | | Ca+ (mg/L) | 1,800 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.70 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

### BHA Description:

| Item | Jts | Length | Item | Jts | Length |
|---|---|---|---|---|---|
| | | | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Pipe Data

| | |
|---|---|
| Min ID | |
| DC OD | |
| DC | |
| HWDP OD | |
| HWDP | |
| BHA | |
| DP OD | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

### Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 35,845 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/27/99 8:14:45 AM

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/27/99 Report: 64 DFS: 60.00 DOL: 74.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & cold | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/27/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/27/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/27/99 8:14:45 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/26/99 | Report: | 63 | DFS: 59.00 | DOL: 73.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 49,508 | Cumm. Cost: | 4,497,011 | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | P/U | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 15:30 | 9.50 | DRILL | CIRC | P | PROD1 | Circulate & flow test well @ 14476. |
| 15:30 - 16:00 | 0.50 | DRILL | TRIP | P | PROD1 | Bleed down string float. |
| 16:00 - 16:30 | 0.50 | DRILL | TRIP | P | PROD1 | TOH to North Lateral. |
| 16:30 - 17:00 | 0.50 | DRILL | SURD | P | PROD1 | Survey for tool face. |
| 17:00 - 18:00 | 1.00 | DRILL | SURD | P | PROD1 | Orient and wash North Lateral<br>Junction is very rough! |
| 18:00 - 20:00 | 2.00 | DRILL | TRIP | P | PROD1 | TOH. |
| 20:00 - 21:00 | 1.00 | DRILL | TRIP | P | PROD1 | Blow string float down. |
| 21:00 - 00:00 | 3.00 | DRILL | TRIP | P | PROD1 | TOH. |
| 00:00 - 00:30 | 0.50 | DRILL | TRIP | P | PROD1 | Well kicked, made about 7 MMCF for about ten minutes, let csg. blow down. Pump 150 bbls produced water. |
| 00:30 - 01:30 | 1.00 | DRILL | TRIP | P | PROD1 | TOH to BHA. |
| 01:30 - 02:30 | 1.00 | DRILL | BHA | P | PROD1 | Lay down BHA. |
| 02:30 - 06:00 | 3.50 | DRILL | WAIT | P | PROD1 | Wait on logging tools. |
| 06:00 - | | DRILL | | P | PROD1 | Gas Analysis::<br>Total produced Gas ( INJECTED- PRODUCED)<br>---<br>Daily gas = 1,998,692 scf<br>Total Cumulative Gas= 102,827,477 scf<br><br>Total Gas Vented (N2- Methane)<br>---<br>Daily gas vented= 248,692 scf<br>Total Gas Vented= 29,966,603 scf<br><br>Total Sales Line Gas<br>---<br>Daily sales Line Gas= 1,750,000 scf<br>Total Sales Line Gas= 72,838,660 scf<br><br>Net Reservior Gas Produced<br>---<br>Daily Net Gas To Plant= 278,836 scf<br>Net Gas Methane Comp (est)= 47 %<br>Daily Methane to Plant= 114,746 scf<br>Total Methane to Plant= 16,808,258 scf<br><br>Water Production (Start North lateral)<br>---<br>Daily Produced Water= 619 bbls.<br>Total Produced Water= 5354 bbls. |

| | |
|---|---|
| Current Status: | WAITING ON LOGGING TOOLS. |
| 24hr Summary: | FLOW TEST, REAM, TOH, LAY D. BHA, WAIT ON LOGGING TOOLS |
| 24hr Forecast: | WAIT ON LOGGING TOOLS, LOG. |

# BP AMOCO
# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/26/99 Report: 63 DFS: 59.00 DOL: 73.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 19 | 15 |
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | Smith | HTC |
| Type | F57DDPD | STR-DS 50 |
| Serial No. | LS 1985 | S59YJ |
| TFA (in²) | | |
| Depth In (ft) | 14,243.0 | 13,244.0 |
| Depth Out (ft) | 14,478.0 | |
| Cum. Depth (ft) | 235.0 | |
| Cum. Hours | 14.50 | |
| WOB (Min) (Klb) | | |
| WOB (Max) (Klb) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | 1/1/FC/A | |
| Cond (BGOR) | F/ I/EC/ PF | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 11:00 / FLW | | Ca+ (mg/L) | 1,800 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.70 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 8.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit # 19 | 1 | 0.75 | EM sub | 1 | 10.18 |
| Dog sub | 1 | 0.55 | NM DC | 2 | 61.66 |
| Mud motor @ 1.83 deg. | 1 | 17.81 | XO | 1 | 3.10 |
| Float sub | 1 | 2.64 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 45 | 1,379.28 |
| UBHO sub | 1 | 3.10 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.66 | Drilling Jars | 1 | 29.28 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 3,041.76 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | Press | |
| Pump | Press | |
| Pump | Press | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 35,845 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/27/99 8:04:07 AM

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/26/99 Report: 63 DFS: 59.00 DOL: 73.00

Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & cold | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/26/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/26/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/27/99 8:04:07 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/25/99 | Report: | 62 | DFS: 56.00 | DOL: 72.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) Progress: 109.0 (ft) |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 50,323 | Cumm. Cost: | 4,447,503 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 07:30 | 1.50 | DRILL | DRLD | P PROD1 | Orient tool face - Slide f/ 14362 - 14369'. |
| 07:30 - 08:30 | 1.00 | DRILL | DRLD | P PROD1 | Drilling, rotate f/ 14369 - 14385'. |
| 08:30 - 09:00 | 0.50 | DRILL | CIRC | P PROD1 | Make connection, get circulation back. |
| 09:00 - 14:00 | 5.00 | DRILL | DRLD | P PROD1 | Drilling, rotate f/ 14385 - 14478'. |
| 14:00 - 06:00 | 16.00 | DRILL | CIRC | P PROD1 | Circulate nitrogen & flow test.<br>Average gas = .250 MMCF<br>Average water = 57 bbls./hr. (Total = 18 hrs/1021 bbls.) |
| 06:00 - | | DRILL | | P PROD1 | Gas Analysis::<br>Total produced Gas ( INJECTED- PRODUCED)<br>---<br>Daily gas = 3,469,261 scf<br>Total Cumulative Gas= 100,828,784 scf<br><br>Total Gas Vented (N2- Methane)<br>---<br>Daily gas vented= 719,261 scf<br>Total Gas Vented= 29,739,911 scf<br><br>Total Sales Line Gas<br>---<br>Daily sales Line Gas= 2,750,000 scf<br>Total Sales Line Gas= 71,088,880 scf<br><br>Net Reservior Gas Produced<br>---<br>Daily Net Gas To Plant= 615,266 scf<br>Net Gas Methane Comp (est)= 47 %<br>Daily Methane to Plant= 229,259 scf<br>Total Methane to Plant= 16,693,512 scf<br><br>Water Production - (Start North lateral)<br>---<br>Daily Produced Water= 1377 bbls.<br>Total Produced Water= 4735 bbls. |

| | |
|---|---|
| Current Status: | Flow testing. |
| 24hr Summary: | Orient, drill, circulate nitrogen & flow test. |
| 24hr Forecast: | Flow testing, Wait on orders. |

Printed: 10/27/99 8:06:21 AM

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/25/99 Report: 62 DFS: 58.00 DOL: 72.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 19 | 15 |
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | Smith | HTC |
| Type | F57DDPD | STR-DS 50 |
| Serial No. | LS 1985 | S59YJ |
| TFA (in²) | | |
| Depth In (ft) | 14,243.0 | 13,244.0 |
| Depth Out (ft) | 14,478.0 | |
| Cum. Depth (ft) | 235.0 | |
| Cum. Hours | 14.50 | |
| WOB (Min) (Klb) | 10 | |
| WOB (Max) (Klb) | 50 | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | 1/1/FC/A | |
| Cond (BGOR) | F/ I/EC/ PF | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 11:00 / FLW | | Ca+ (mg/L) | 1,680 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.65 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 9.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit # 19 | 1 | 0.75 | EM sub | 1 | 10.18 |
| Dog sub | 1 | 0.55 | NM DC | 2 | 61.66 |
| Mud motor @ 1.83 deg. | 1 | 17.81 | XO | 1 | 3.10 |
| Float sub | 1 | 2.64 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 45 | 1,379.28 |
| UBHO sub | 1 | 3.10 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.66 | Drilling Jars | 1 | 29.28 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 3,041.76 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | Press | |
| Pump | Press | |
| Pump | Press | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 35,845 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

Printed: 10/27/99 8:05:21 AM

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/25/99 Report: 62 DFS: 58.00 DOL: 72.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & cold | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
| Tensions | | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/25/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Lose Control Incident | |
| | | Last Safety Meeting | 10/25/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 14,343.00 | 110.100 | 90.700 | 13,020.45 | -532.24 | 1,597.24 | -532.24 | 5.10 | -1.61 |
| 14,435.00 | 108.300 | 78.000 | 12,990.09 | -523.65 | 1,683.48 | -523.65 | 13.18 | -1.96 |

Printed: 10/27/99 6:05:21 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/24/99 Report: 61 DFS: 57.00 DOL: 71.00
Event Name: RE ENTER Start: 07/16/99 End:

Rig Name: Parker TMD: 14,369.0 (ft) TVD: 13,206.0 (ft) Progress: 126.0 (ft)
Rig Super: Nordeen/McCrea 435-880-3208 Rot. Hours: AV ROP: Hole Size:
Wellsite Eng: Tim Anderson 281-366-5861 Last Casing: Shoe TMD: Shoe TVD:
Daily Cost: 52,314 Cumm. Cost: 4,397,180

### Operations Summary

| From - To | Hours | Code | Sub Code | P | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 10:00 | 4.00 | DRILL | CIRC | P | PROD1 | Circulating to unload water. |
| 10:00 - 11:30 | 1.50 | DRILL | REAM | P | PROD1 | Reaming from 13185 to 13280. |
| 11:30 - 12:00 | 0.50 | DRILL | TRIP | P | PROD1 | TOH TO 13090, Orient and work in North Lateral. |
| 12:00 - 13:00 | 1.00 | DRILL | TRIP | P | PROD1 | Slide into North Lateral from 13090 to 13304. |
| 13:00 - 17:00 | 4.00 | DRILL | CIRC | P | PROD1 | Circulate, ream and work into North Lateral 13304 to 13743. |
| 17:00 - 17:30 | 0.50 | DRILL | TRIP | P | PROD1 | TIH to 14200. |
| 17:30 - 18:30 | 1.00 | DRILL | CIRC | P | PROD1 | Wash and ream from 14200 to 14243. |
| 18:30 - 22:00 | 3.50 | DRILL | DRLD | P | PROD1 | Drilling, rotate from 14243 to 14291'. |
| 22:00 - 00:30 | 2.50 | DRILL | CIRC | P | PROD1 | Made connection, took survey, well loaded up with water, had to swab well in by working drill pipe before returns could be established again. |
| 00:30 - 02:30 | 2.00 | DRILL | DRLD | P | PROD1 | Drilling, slide from 14291 to 14318, started small compressor running @ 1:30 AM. Just barely enough produced gas to keep compressor on line. |
| 02:30 - 05:00 | 2.50 | DRILL | DRLD | P | PROD1 | Drilling, rotate from 14318 to 14362. |
| 05:00 - 06:00 | 1.00 | DRILL | DRLD | P | PROD1 | Drilling, slide from 14362 to 14369. |
| 06:00 - | | DRILL | | P | PROD1 | Gas Analysis:: |

Total produced Gas ( INJECTED- PRODUCED)

Daily gas = 2,875,692 scf
Total Cumulative Gas= 97,359,523 scf

Total Gas Vented (N2- Methane)

Daily gas vented= 2,875,692 scf
Total Gas Vented= 29,020,650 scf

Total Sales Line Gas

Daily sales Line Gas= 0 scf
Total Sales Line Gas= 68,338,880 scf

Net Reservior Gas Produced

Daily Net Gas To Plant= 0 scf
Net Gas Methane Comp (est)= 47 %
Daily Methane to Plant= 0 scf
Total Methane to Plant= 16,464,252 scf

Water Production (Start North lateral)

Daily Produced Water= 973 bbls.
Total Produced Water= 3358 bbls.

Current Status: Trying to establish circulation.

24hr Summary: Circulate, Orient in N. Lateral, Ream to btm. drill, lost circ, drill.

24hr Forecast: Drill ahead & survey

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 10/24/99 Report: 61 DFS: 57.00 DOL: 71.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 19 | 15 |
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | Smith | HTC |
| Type | F57DDPD | STR-DS 50 |
| Serial No. | LS 1985 | S59YJ |
| TFA (in²) | | |
| Depth In (ft) | 14,243.0 | 13,244.0 |
| Depth Out (ft) | 14,478.0 | |
| Cum. Depth (ft) | 126.0 | |
| Cum. Hours | 8.50 | |
| WOB (Min) (Klb) | 10 | |
| WOB (Max) (Klb) | 50 | |
| RPM (Min) | 100 | |
| RPM (Max) | 140 | |
| Cond (IODL) | 1/1/FC/A | |
| Cond (BGOR) | F/ I/EC/ PF | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 11:00 / FLW | | Ca+ (mg/L) | 1,600 | |
| Depth (ft) | 14,243.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.65 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 9.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.2 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit # 19 | 1 | 0.75 | | | |
| Dog sub | 1 | 0.55 | | | |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | | |
|---|---|---|
| Min ID (in) | | 2.500 |
| DC OD (in) | | |
| DC (ft) | | |
| HWDP OD (in) | | |
| HWDP (ft) | | |
| BHA | | 1.30 |
| DP OD (in) | | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol (bbl) | | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol (bbl) | | |
| Vol Built Day (bbl) | | |
| Vol Built Cum | | |
| Vol Lost Surf Day (bbl) | | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day (bbl) | | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day (bbl) | | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 35,845 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/27/99 8:06:26 AM

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 10/24/99 Report: 61 DFS: 57.00 DOL: 71.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL |
|---|---|
| Unit | Gals. |
| On Hand | |
| Used | 7,200 |
| Received | 7,200 |
| Returned | |
| Adjusted | |

## Weather

| | |
|---|---|
| Rig Heave | |
| Rig Pitch | |
| Rig Roll | |
| Wave Height | |
| Wave Direct | |
| Wave Period | |
| Swell Height | |
| Swell Direct | |
| Wind Speed | |
| Wind Direct | |
| Temp Maximum | |
| Temp Minimum | |
| Visibility | Barom |
| Weather | Clear & cold |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | VDL | | Riser Tension | | Riser Angle/Dir | |
|---|---|---|---|---|---|---|---|

| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/24/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/24/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 14,217.00 | 113.000 | 96.900 | 13,067.50 | -524.08 | 1,480.74 | -524.08 | 3.84 | 3.23 |
| 14,248.00 | 113.500 | 95.900 | 13,055.26 | -527.25 | 1,509.04 | -527.25 | 3.37 | 1.61 |
| 14,312.00 | 110.600 | 92.300 | 13,031.23 | -531.48 | 1,568.19 | -531.48 | 6.91 | -4.53 |

# BP AMOCO
## Daily Drilling Report



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/25/99 | Report: | 62 | DFS: 56.00 | DOL: 72.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,478.0 (ft) | TVD: | 13,206.0 (ft) | Progress: | 109.0 (ft) |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: | |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: | |
| Daily Cost: | 50,323 | Cumm. Cost: | 4,395,189 | | | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 07:30 | 1.50 | DRILL | DRLD | P PROD1 | Orient tool face - Slide f/ 14362 - 14369'. |
| 07:30 - 08:30 | 1.00 | DRILL | DRLD | P PROD1 | Drilling, rotate f/ 14369 - 14385'. |
| 08:30 - 09:00 | 0.50 | DRILL | CIRC | P PROD1 | Make connection, get circulation back. |
| 09:00 - 14:00 | 5.00 | DRILL | DRLD | P PROD1 | Drilling, rotate f/ 14385 - 14478'. |
| 14:00 - 06:00 | 16.00 | DRILL | CIRC | P PROD1 | Circulate nitrogen & flow test.<br>Average gas = .250 MMCF<br>Average water = 57 bbls./hr. (Total = 16 hrs/1021 bbls.) |
| 06:00 - | | DRILL | | P PROD1 | Gas Analysis::<br>Total produced Gas ( INJECTED- PRODUCED)<br>---------- |

Daily gas = 3,469,261 scf
Total Cumulative Gas= 100,828,784 scf

Total Gas Vented (N2- Methane)
---
Daily gas vented= 719,261 scf
Total Gas Vented= 29,739,911 scf

Total Sales Line Gas
---
Daily sales Line Gas= 2,750,000 scf
Total Sales Line Gas= 71,088,880 scf

Net Reservior Gas Produced
---
Daily Net Gas To Plant= 615,266 scf
Net Gas Methane Comp (est)= 47 %
Daily Methane to Plant= 229,259 scf
Total Methane to Plant= 16,693,512 scf

Water Production (Start North lateral)
---
Daily Produced Water= 1377 bbls.
Total Produced Water= 4735 bbls.

| | |
|---|---|
| Current Status: | Flow testing. |
| 24hr Summary: | Orient, drill, circulate nitrogen & flow test. |
| 24hr Forecast: | Flow testing, Wait on orders. |

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/25/99 Report: 62 DFS: 56.00 DOL: 72.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| Bit No. | 19 | 15 |
|---|---|---|
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | Smith | HTC |
| Type | F57DDPD | STR-DS 50 |
| Serial No. | LS 1985 | S59YJ |
| TFA (in²) | | |
| Depth In (ft) | 14,243.0 | 13,244.0 |
| Depth Out (ft) | | |
| Curr. Depth (ft) | 235.0 | |
| Cum. Hours | 14.50 | |
| WOB (Min) (Klb) | 10 | |
| WOB (Max) (Klb) | 50 | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| Type 1: WATER/BRINE | | | 2: | | |
|---|---|---|---|---|---|
| Time/Loc | 11:00 / FLW | | Ca+ (mg/L) | 1,680 | |
| Depth (ft) | 14,419.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.65 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.0 | |
| API WL (cc/30min | | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 15.3 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 9.00 | | | | |
| Pm (mL) | 0.1 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.4 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit # 19 | 1 | 0.75 | EM sub | 1 | 10.18 |
| Dog sub | 1 | 0.55 | NM DC | 2 | 61.66 |
| Mud motor @ 1.83 deg. | 1 | 17.81 | XO | 1 | 3.10 |
| Float sub | 1 | 2.64 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 45 | 1,379.28 |
| UBHO sub | 1 | 3.10 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.66 | Drilling Jars | 1 | 29.28 |

## Pump Data

| Pump | | | |
|---|---|---|---|
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| Drill Pipe (ft/min) | |
|---|---|
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| Pump | Press |
|---|---|
| Pump | Press |
| Pump | Press |

## Pipe Data

| Min ID (in) | 2.500 |
|---|---|
| DC OD (in) | |
| DC (ft) | |
| HWDP OD (in) | |
| HWDP (ft) | |
| BHA | 3,041.76 |
| DP OD (in) | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

## Mud Volume

| Hole Vol (bbl) | |
|---|---|
| Pit 1 | |
| Pit 2 | |
| Pit 3 | |
| Pit 4 | |
| Total Mud Vol (bbl) | |
| Vol Built Day (bbl) | |
| Vol Built Cum | |
| Vol Lost Surf Day (bbl) | |
| Vol Lost Surf Cum | |
| Vol Lost Hole Day (bbl) | |
| Vol Lost Hole Tot | |
| Vol Dumped Day (bbl) | |

## Mud Cost

| Daily | |
|---|---|
| Cumulative | 35,845 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| # | | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| Type | HRS |
|---|---|
| | |
| | |
| | |

## Gas Readings

| Conn Avg/Max (ppm) | |
|---|---|
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

Printed: 10/25/99 8:06:38 AM

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/25/99 Report: 62 DFS: 56.00 DOL: 72.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | | Barom |
| Weather | Clear & cold | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/25/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/25/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 14,343.00 | 110.100 | 90.700 | 13,020.45 | -532.24 | 1,597.24 | -532.24 | 5.10 | -1.61 |
| 14,435.00 | 108.300 | 78.000 | 12,990.09 | -523.65 | 1,683.48 | -523.65 | 13.18 | -1.96 |

Printed: 10/25/99 8:06:36 AM

BP AMOCO Page 1 of 2

# Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/23/99 | Report: | 60 | DFS: 56.00 | DOL: 70.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,243.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 49,502 | Cumm. Cost: | 4,344,866 | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | P | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 10:00 | 4.00 | DRILL | TRIP | P | PROD1 | TOH |
| 10:00 - 10:30 | 0.50 | DRILL | BHA | P | PROD1 | Lay down motor & float subs. |
| 10:30 - 12:00 | 1.50 | DRILL | BHA | P | PROD1 | Work on tools, pick up BHA. |
| 12:00 - 16:30 | 4.50 | DRILL | TRIP | P | PROD1 | TIH. Lay down three joints drill pipe. Damaged box & pin. |
| 16:30 - 18:00 | 1.50 | DRILL | RIGS | P | PROD1 | Slip & cut drilling line. |
| 18:00 - 21:30 | 3.50 | DRILL | CIRC | P | PROD1 | Attempt to break circulation @ 13058'. |
| 21:30 - 23:30 | 2.00 | DRILL | TRIP | P | PROD1 | Blow drill string down. TOH to 12163'. |
| 23:30 - 00:00 | 0.50 | DRILL | CIRC | P | PROD1 | Attempt to circulate, preasure stabilized, no return. |
| 00:00 - 02:00 | 2.00 | DRILL | TRIP | P | PROD1 | Blow drill string down. TOH to 10324. |
| 02:00 - 04:30 | 2.50 | DRILL | CIRC | P | PROD1 | Break circulation, unloaded 96 bbls water. |
| 04:30 - 05:30 | 1.00 | DRILL | TRIP | P | PROD1 | TIH 30 stands. |
| 05:30 - 06:00 | 0.50 | DRILL | CIRC | P | PROD1 | Break circulation @ 13057'. |
| 06:00 - | | DRILL | | P | PROD1 | Gas Analysis:: |

Total produced Gas ( INJECTED- PRODUCED)

Daily gas = 1,167,597 scf
Total Cumulative Gas 94,483,831 scf

Total Gas Vented (N2- Methane)

Daily gas vented= 1,167,597 scf
Total Gas Vented= 26,144,958 scf

Total Sales Line Gas

Daily sales Line Gas= 0 scf
Total Sales Line Gas= 68,338,880 scf

Net Reservior Gas Produced

Daily Net Gas To Plant= 0 scf
Net Gas Methane Comp (est)= 47 %
Daily Methane to Plant= 0 scf
Total Methane to Plant= 16,464,252 scf

Water Production (Start North lateral)

Daily Produced Water= - 210 bbls.
Total Produced Water= 2385 bbls.

| | |
|---|---|
| Current Status: | Circulating @ 13057'. |
| 24hr Summary: | TOH, WORK ON BHA, TIH, CUT LINE, ATTEMPT CIRC. SHORT TRIPS CIRC. |
| 24hr Forecast: | Locate notrh lateral, TIH, drill ahead. |

Printed: 10/27/99 8:07:37 AM

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/23/99 Report: 60 DFS: 56.00 DOL: 70.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| Bit No. | 19 | 18 |
|---|---|---|
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | Smith | Smith |
| Type | F57DDPD | F57ODPD |
| Serial No. | LS 1985 | LT4163 |
| TFA (in²) | | |
| Depth In (ft) | 14,243.0 | 14,109.0 |
| Depth Out (ft) | 14,478.0 | 14,243.0 |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | 1/1/FC/A | 2/A/2/A |
| Cond (BGOR) | F/ I/EC/ PF | E/ I/NO/ MW |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| Type 1: | WATER/BRINE | | 2: | | |
|---|---|---|---|---|---|
| Time/Loc | 11:00 / PIT | | Ca+ (mg/L) | 1,320 | |
| Depth (ft) | 14,243.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.50 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.4 | |
| API WL (cc/30min | 28.0 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 23.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.00 | | | | |
| Pm (mL) | 0.2 | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.4 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit # 19 | 1 | 0.75 | EM sub | 1 | 10.18 |
| Dog sub | 1 | 0.55 | NM DC | 2 | 61.66 |
| Mud motor @ 1.83 deg. | 1 | 17.81 | XO | 1 | 3.10 |
| Float sub | 1 | 2.64 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 45 | 1,379.28 |
| UBHO sub | 1 | 3.10 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.66 | Drilling Jars | 1 | 29.26 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Pipe Data

| | | |
|---|---|---|
| Min ID (in) | 2.500 | |
| DC OD (in) | | |
| DC (ft) | | |
| HWDP OD (in) | | |
| HWDP (ft) | | |
| BHA | 3,041.76 | |
| DP OD (in) | | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | |
|---|---|
| Hole Vol (bbl) | |
| Pit 1 | |
| Pit 2 | |
| Pit 3 | |
| Pit 4 | |
| Total Mud Vol (bbl) | |
| Vol Built Day (bbl) | |
| Vol Built Cum | |
| Vol Lost Surf Day (bbl) | |
| Vol Lost Surf Cum | |
| Vol Lost Hole Day (bbl) | |
| Vol Lost Hole Tot | |
| Vol Dumped Day (bbl) | |

## Mud Cost

| | |
|---|---|
| Daily | 1,366 |
| Cumulative | 35,845 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| # | | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| Type | HRS |
|---|---|
| | |
| | |
| | |
| | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/27/99 8:07:37 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/23/99 Report: 60 DFS: 56.00 DOL: 70.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | | Barom |
| Weather | Clear & cold | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/21/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/23/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/27/99 8:07:37 AM

# BP AMOCO

## Daily Drilling Report



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/22/99 | Report: | 59 | DFS: 55.00 | DOL: 69.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,243.0 (ft) | TVD: | 13,206.0 (ft) | Progress: | 134.0 (ft) |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: | |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: | |
| Daily Cost: | 71,000 | Cumm. Cost: | 4,295,364 | | | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P/U | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 08:30 | 2.50 | DRILL | REAM | P | PROD1 | Ream from 14013' to 14109'. |
| 08:30 - 09:00 | 0.50 | DRILL | DRLD | P | PROD1 | Rotate from 14109' to 14111'. |
| 09:00 - 10:00 | 1.00 | DRILL | DRLD | P | PROD1 | Attempt to slide from 14111'. |
| 10:00 - 03:00 | 17.00 | DRILL | DRLD | P | PROD1 | Rotate from 14111' to 14243'. |
| 03:00 - 03:30 | 0.50 | DRILL | CIRC | P | PROD1 | Blow drill string dry. |
| 03:30 - 06:00 | 2.50 | DRILL | TRIP | P | PROD1 | TOH Torque & Penetration Rate. |
| 06:00 - | | DRILL | | P | PROD1 | Gas Analysis:: |

Total produced Gas ( INJECTED- PRODUCED)

Daily gas = 2,905,406 scf
Total Cumulative Gas 93,316,235 scf

Total Gas Vented (N2- Methane)

Daily gas vented= 2,905,406 scf
Total Gas Vented= 24,977,361 scf

Total Sales Line Gas

Daily sales Line Gas= 0 scf
Total Sales Line Gas= 68,338,880 scf

Net Reservior Gas Produced

Daily Net Gas To Plant= 0 scf
Net Gas Methane Comp (est)= 47 %
Daily Methane to Plant= 0 scf
Total Methane to Plant= 16,464,252 scf

Water Production (Start North lateral)

Daily Produced Water= 694 bbls.
Total Produced Water= 2595 bbls.

Total water returned after flshing: 1436 bbls.

| | |
|---|---|
| Current Status: | TOH FOR TORQUE & P-RATE. |
| 24hr Summary: | REAM, DRILL, CIRCULATE, TOH. |
| 24hr Forecast: | TOH, DETERMINE PROBLEM, BIT OR MOTOR, TIH, DRILL. |

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 10/22/99 Report: 59 DFS: 55.00 DOL: 69.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 18 | 15 |
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | Smith | HTC |
| Type | F57ODPD | STR-DS 50 |
| Serial No. | LT4163 | S59YJ |
| TFA (in²) | | |
| Depth In (ft) | 14,109.0 | 13,244.0 |
| Depth Out (ft) | | |
| Cum. Depth (ft) | 134.0 | |
| Cum. Hours | 18.50 | |
| WOB (Min) (Klb) | 10 | |
| WOB (Max) (Klb) | 20 | |
| RPM (Min) | 100 | |
| RPM (Max) | 140 | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 11:00 / PIT | | Ca+ (mg/L) | 1,640 | |
| Depth (ft) | 14,126.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.50 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.4 | |
| API WL (cc/30min | 28.0 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 23.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.00 | | | | |
| Pm (mL) | 0.2 | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.4 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit # 18 | 1 | 0.75 | EM sub | 1 | 10.18 |
| Dog sub | 1 | 0.55 | NM DC | 2 | 61.66 |
| Mud motor @ 1.83 deg. | 1 | 17.62 | XO | 1 | 3.10 |
| Float sub | 1 | 2.64 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 45 | 1,379.28 |
| UBHO sub | 1 | 3.10 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.66 | Drilling Jars | 1 | 29.26 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 3,041.57 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 34,459 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/22/99 6:26:15 AM

# BP AMOCO
## Daily Drilling Report



Well Name: ARE W #31-04 Date: 10/22/99 Report: 59 DFS: 55.00 DOL: 69.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & cold | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/21/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/22/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD (ft) | Incl. | Azimuth | TVD (ft) | N/S (-) (ft) | E/W (-) (ft) | Section | DLS (°/100ft) | BUR (°/100ft) |
|---|---|---|---|---|---|---|---|---|
| 14,064.00 | 110.600 | 92.900 | 13,124.04 | -507.29 | 1,339.62 | -507.29 | 4.47 | 3.57 |
| 14,094.00 | 111.700 | 96.400 | 13,113.22 | -509.56 | 1,367.51 | -509.56 | 11.48 | 3.67 |
| 14,125.00 | 111.400 | 100.200 | 13,101.83 | -513.72 | 1,396.03 | -513.72 | 11.44 | -0.97 |
| 14,155.00 | 111.500 | 96.200 | 13,090.85 | -517.70 | 1,423.66 | -517.70 | 12.41 | 0.33 |
| 14,186.00 | 112.000 | 96.200 | 13,079.36 | -520.81 | 1,452.26 | -520.81 | 1.61 | 1.61 |

Printed: 10/22/99 5:26:15 AM

# BP AMOCO
## Daily Drilling Report



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/21/99 | Report: | 58 | DFS: 54.00 | DOL: 68.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,109.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 101,085 | Cumm. Cost: | 4,224,365 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | Phase | Description of Operations |
|---|---|---|---|---|---|
| 06:00 - 07:00 | 1.00 | DRILL | CIRC | P PROD1 | Circulate, prepare to TOH. |
| 07:00 - 12:30 | 5.50 | DRILL | TRIP | P PROD1 | TOH, lay down reaming assembly. |
| 12:30 - 14:30 | 2.00 | DRILL | BHA | P PROD1 | Pick up directional drilling assembly, orient tools. |
| 14:30 - 19:30 | 5.00 | DRILL | TRIP | P PROD1 | TIH to 13087'. |
| 19:30 - 21:30 | 2.00 | DRILL | CIRC | P PROD1 | Break circulation. |
| 21:30 - 23:30 | 2.00 | DRILL | DRLD | P PROD1 | Two hours getting tool face to hold and drop into North Lateral. Check survey @ 13138' = 26.4 Inc. & 114.4 AZ. Original survey @ 13138' = 26.4 Inc. & 117.8 AZ. Check survey @ 13232' = 35.5 Inc. & 88.7 AZ. Original survey @ 13232 = 35.3 Inc. & 88.4 AZ. Reamed hole from 13120' to 13165'. Bit torquing, jerking. Unstable RPM. |
| 23:30 - 06:00 | 6.50 | DRILL | | P PROD1 | Reaming from 13165' to 13921'<br>Injecting 29 GPM water/min. & 6 GPH foam. |
| - | | DRILL | | P PROD1 | Gas Analysis::<br>Total produced Gas ( INJECTED- PRODUCED)<br>---<br>Daily gas = 1,469,819 scf<br>Total Cumulative Gas 90,410,629 scf<br><br>Total Gas Vented (N2- Methane)<br>---<br>Daily gas vented= 1,469,819 scf<br>Total Gas Vented= 22,071,955 scf<br><br>Total Sales Line Gas<br>---<br>Daily sales Line Gas= 0 scf<br>Total Sales Line Gas= 68,338,680 scf<br><br>Net Reservior Gas Produced<br>---<br>Daily Net Gas To Plant= 0 scf<br>Net Gas Methane Comp (est)= 47 %<br>Daily Methane to Plant= 0 scf<br>Total Methane to Plant= 16,464,252 scf<br><br>Water Production (Start North lateral)<br>---<br>Daily Produced Water= 394 bbls.<br>Total Produced Water= 1901 bbls.<br><br>Total water returned after fishing: 744 bbls. |

| | |
|---|---|
| Current Status: | REAMING NORTH LATERAL @ 13921' |
| 24hr Summary: | CIRCULATE, TOH, PU DIRECTIONAL TOOLS, TIH, REAM N. LATERAL |
| 24hr Forecast: | REAM N. LATERAL, SHORT TRIP, DRILL AHEAD. |

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/21/99 Report: 56 DFS: 54.00 DOL: 68.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 18 | 17 |
| Run | | 5 |
| Size (in) | 5.875 | 5.875 |
| Manu. | Smith | HTC |
| Type | F57ODPD | STR-DS50FD |
| Serial No. | LT4163 | R32YY |
| TFA (in²) | | |
| Depth In (ft) | 14,109.0 | 14,109.0 |
| Depth Out (ft) | | 14,109.0 |
| Cum. Depth (ft) | | |
| Cum. Hours | | |
| WOB (Min) (Klb) | | |
| WOB (Max) (Klb) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | 2/A/2/A |
| Cond (BGOR) | | E/ I/NO/ TQ |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 12:00 / PIT | | Ca+ (mg/L) | 1,560 | |
| Depth (ft) | 14,109.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.50 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.4 | |
| API WL (cc/30min | 28.0 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 23.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.50 | | | | |
| Pm (mL) | 0.4 | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.3 | | | | |
| Comment1: | | | 2: | | |

### BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit # 18 | 1 | 0.75 | EM sub | 1 | 10.18 |
| Dog sub | 1 | 0.55 | NM DC | 2 | 61.66 |
| Mud motor @ 1.83 deg. | 1 | 17.62 | XO | 1 | 3.10 |
| Float sub | 1 | 2.64 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 45 | 1,379.28 |
| UBHO sub | 1 | 3.10 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.66 | Drilling Jars | 1 | 29.28 |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

### Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

### Pipe Data

| | | |
|---|---|---|
| Min ID (in) | | 2.500 |
| DC OD (in) | | |
| DC (ft) | | |
| HWDP OD (in) | | |
| HWDP (ft) | | |
| BHA | | 3,041.57 |
| DP OD (in) | | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol (bbl) | | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol (bbl) | | |
| Vol Built Day (bbl) | | |
| Vol Built Cum | | |
| Vol Lost Surf Day (bbl) | | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day (bbl) | | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day (bbl) | | |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 34,459 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/21/99 8:23:49 AM

# BP AMOCO
# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/21/99 Report: 56 DFS: 54.00 DOL: 68.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL |
|---|---|
| Unit | Gals. |
| On Hand | |
| Used | 7,357 |
| Received | 7,357 |
| Returned | |
| Adjusted | |

## Weather

| | |
|---|---|
| Rig Heave | |
| Rig Pitch | |
| Rig Roll | |
| Wave Height | |
| Wave Direct | |
| Wave Period | |
| Swell Height | |
| Swell Direct | |
| Wind Speed | |
| Wind Direct | |
| Temp Maximum | |
| Temp Minimum | |
| Visibility | Barom |
| Weather | Clear & cold |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/20/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/21/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

# Fax Cover Sheet

**Please Deliver to:**

JARVIS, DAN

Fax #: 818013593940
Company:

**From:**

CURT SCHNAKENBERG

Fax #: 281-366-7585
Phone: 281-366-7705

**Pages:** 4

**Message:**

FAX FOR ARE W #31-04

This fax was sent using Castelle's FaxPress network fax server.

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/20/99 | Report: | 57 | DFS: 52.00 | DOL: 67.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,109.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 45,814 | Cumm. Cost: | 4,123,280 | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | P/U | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 12:30 | 6.50 | WHEAD | BOPT | P | PROD1 | BOP Test required by State Utah. |
| 12:30 - 17:00 | 4.50 | DRILL | TRIP | P | PROD1 | TIH w/reaming assembly. |
| 17:00 - 19:00 | 2.00 | DRILL | CIRC | P | PROD1 | Circulate water out of hole from 7500 to 10782. |
| 19:00 - 20:30 | 1.50 | DRILL | TRIP | P | PROD1 | TIH to 13159, tag fill. |
| 20:30 - 22:00 | 1.50 | DRILL | CIRR | P | PROD1 | Circulate water out of hole from 10782 to 13159. |
| 22:00 - 06:00 | 8.00 | DRILL | REAM | P | PROD1 | Ream hole down from 13159 to 13960. No bridges, no expected gas increase. |

Gas Analysis::

Total produced Gas ( INJECTED- PRODUCED)

| | | |
|---|---|---|
| Daily gas = | 1,560,000 | scf |
| Total Cumulative Gas | 88,921,010 | scf |

Total Gas Vented (N2- Methane)

| | | |
|---|---|---|
| Daily gas vented= | 1,560,000 | scf |
| Total Gas Vented= | 20,582,136 | scf |

Total Sales Line Gas

| | | |
|---|---|---|
| Daily sales Line Gas= | 0 | scf |
| Total Sales Line Gas= | 68,338,880 | scf |

Net Reservior Gas Produced

| | | |
|---|---|---|
| Daily Net Gas To Plant= | 0 | scf |
| Net Gas Methane Comp (est)= | 47 | % |
| Daily Methane to Plant= | 0 | scf |
| Total Methane to Plant= | 16,464,252 | scf |

Water Production (Start North lateral)

| | | |
|---|---|---|
| Daily Produced Water= | 0 | bbls. |
| Total Produced Water= | 1507 | bbls |

| | |
|---|---|
| Current Status: | PREPARE TO TOH. |
| 24hr Summary: | TEST BOP, TIH W/REAMERS, CIRCULATE, REAM |
| 24hr Forecast: | TOH, PICK UP DIRECTIONAL TOOLS, TIH |

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/20/99 Report: 57 DFS: 52.00 DOL: 67.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 17 | 15 |
| Run | 5 | |
| Size (in) | 5.875 | 5.875 |
| Manu. | HTC | HTC |
| Type | STR-DS50FD | STR-DS 50 |
| Serial No. | R32YY | S59YJ |
| TFA (in²) | | |
| Depth In (ft) | 14,108.0 | 13,244.0 |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 12:00 / PIT | | Ca+ (mg/L) | 1,560 | |
| Depth (ft) | 14,109.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.50 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 27 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.4 | |
| API WL (cc/30min | 28.0 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 23.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.50 | | | | |
| Pm (mL) | 0.4 | | | | |
| Pf/Mf (mL / mL) | 0.2 / 0.3 | | | | |
| Comment1: | | | 2: | | |

### BHA Description: BHA #17

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| BIT | 1 | 0.75 | | | |
| NB STAB | 1 | 4.27 | | | |
| FLOAT SUB | 1 | 3.08 | | | |
| DRILL PIPE | 33 | 1,010.97 | | | |
| HWDP | 3 | 92.55 | | | |
| JAR | 1 | 29.23 | | | |
| HWDP | 45 | 1,387.33 | | | |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

### Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

### Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 2,528.18 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 34,459 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

Printed: 10/20/99 10:51:40 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/20/99 Report: 57 DFS: 52.00 DOL: 67.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | | Barom |
| Weather | Clear & cold | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 10/19/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 10/19/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/20/99 | Incident Report Sent Y/N | N |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/20/99 10:51:40 AM

# BP AMOCO

## Daily Drilling Report



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/19/99 | Report: | 56 | DFS: 51.00 | DOL: 66.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,109.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 72,162 | Cumm. Cost: | 4,077,466 | | |

### Operations Summary

| Phase - To | Hours | Code | Sub Code | | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 12:00 | 6.00 | FISH | WRKP | P | PROD1 | Jar up & down, rotating pipe. Work pipe loose. |
| 12:00 - 23:00 | 11.00 | FISH | TRIP | P | PROD1 | TOH, Recovered 100% of fish, lay down fish and tools. |
| 23:00 - 00:00 | 1.00 | WHEAD | BOPT | P | PROD1 | Change element in Tesco Annular. |
| 00:00 - 06:00 | 6.00 | WHEAD | BOPT | P | PROD1 | BOP test required by Utah State Regulations.<br>Notified Dan Jarvis with Utah Oil & Gas of BOP Test at 1500 hrs. on 10/18/99. |

| | |
|---|---|
| Current Status: | BOP TEST IN PROGRESS |
| 24hr Summary: | WORK FISH LOOSE, TOH, LAY FISH DOWN. BEGIN BOP TESTING. |
| 24hr Forecast: | FINISH BOP TEST, TIH WITH REAMING ASSEMBLY. |

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/19/99 Report: 56 DFS: 51.00 DOL: 66.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 16 | 15 |
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | HTC | HTC |
| Type | DMS 50 DDT | STR-DS 50 |
| Serial No. | V61YH | S59YJ |
| TFA (in²) | | |
| Depth In (ft) | 13,595.0 | 13,244.0 |
| Depth Out (ft) | 14,108.0 | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | 4/4/FC/A | |
| Cond (BGOR) | 4/ I/NO/ PR | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 12:00 / PIT | | Ca+ (mg/L) | 880 | |
| Depth (ft) | 14,109.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.50 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 28 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.4 | |
| API WL (cc/30min | 28.0 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 253.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 9.00 | | | | |
| Pm (mL) | 0.2 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.2 | | | | |
| Comment1: | | | 2: | | |

### BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit # 16 | 1 | 0.75 | EM sub | 1 | 9.86 |
| Dog sub | 1 | 0.55 | NM DC | 2 | 61.69 |
| Mud motor @ 1.83 deg. | 1 | 17.52 | XO | 1 | 3.11 |
| Float sub | 1 | 2.64 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.28 |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

### Slow Pump

| | | | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |
| Pump | | Press | |

### Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,634.38 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 32,792 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/19/99 8:38:17 AM

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 10/19/99 Report: 56 DFS: 51.00 DOL: 66.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL |
|---|---|
| Unit | Gals. |
| On Hand | |
| Used | |
| Received | |
| Returned | |
| Adjusted | |

## Weather

| | |
|---|---|
| Rig Heave | |
| Rig Pitch | |
| Rig Roll | |
| Wave Height | |
| Wave Direct | |
| Wave Period | |
| Swell Height | |
| Swell Direct | |
| Wind Speed | |
| Wind Direct | |
| Temp Maximum | |
| Temp Minimum | |
| Visibility | Barom |
| Weather | Clear & cold |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | VDL | | Riser Tension | | Riser Angle/Dir | |
|---|---|---|---|---|---|---|---|

| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/19/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/19/99 8:36:17 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/18/99 | Report: | 55 | DFS: 50.00 | DOL: 65.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,109.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 45,413 | Cumm. Cost: | 4,005,304 | | |

## Operations Summary

| From - To | Hours | Code | Sub Code | | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 11:00 | 5.00 | FISH | TRIP | P | PROD1 | TOH to change fishing assembly. |
| 11:00 - 13:00 | 2.00 | FISH | BHA | P | PROD1 | Change out fishing assembly. Pickup & trip in with 2-bumper subs and HE drilling jars. |
| 13:00 - 16:00 | 3.00 | FISH | TRIP | P | PROD1 | TIH w/new fishing assembly. |
| 16:00 - 16:30 | 0.50 | FISH | WRKP | P | PROD1 | Screw into fish top. |
| 16:30 - 02:00 | 9.50 | FISH | WRKP | P | PROD1 | Jaring down & up. |
| 02:00 - 04:00 | 2.00 | FISH | WRKP | P | PROD1 | Rotating pipe ( SW 245K), 15' movement. |
| 04:00 - 04:30 | 0.50 | FISH | CIRC | P | PROD1 | Try to break circulation down drill pipe, unable to lift fluid in casing. |
| 04:30 - 05:30 | 1.00 | FISH | CIRR | P | PROD1 | Shut in drill pipe, pump nitrogen down casing to displace water into formation. Pressure drill pipe to 1000 psi w/nitrogen. Lost rotation & recipication movement. |
| 05:30 - 06:00 | 0.50 | FISH | WRKP | P | PROD1 | Bleed casing and drill pipe down, continue to jar pipe down with some movement. |

| | |
|---|---|
| Current Status: | Jar down on fish. |
| 24hr Summary: | Trip for new fishing assembly, screw into fish & jar |
| 24hr Forecast: | Jar & work pipe |

Printed: 10/18/99 7:39:38 AM

BP AMOCO

# Daily Drilling Report



Well Name: ARE W #31-04 Date: 10/18/99 Report: 55 DFS: 50.00 DOL: 65.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| Bit No. | 16 | 15 |
|---|---|---|
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | HTC | HTC |
| Type | DMS 50 DDT | STR-DS 50 |
| Serial No. | V61YH | S59YJ |
| TFA (in²) | | |
| Depth In (ft) | 13,595.0 | 13,244.0 |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| Type 1: | WATER/BRINE | | 2: | |
|---|---|---|---|---|
| Time/Loc | / PIT | | Ca+ (mg/L) | 880 |
| Depth (ft) | 14,109.00 | | K+ (mg/L) | |
| Temp (°F) | | | Polymer (ppb) | |
| Density (ppg) | 8.50 | | CaCl2 (%) | |
| ECD (ppg) | | | NaCl (%) | |
| Viscosity (s/qt) | 28 | | Sand (%) | |
| PV (cp) | | | Tot. Solids | |
| YP (lb/100ft²) | | | % Oil | |
| GELS (lb/100ft²) | | | % H2O | 97.4 |
| API WL (cc/30min | 28.0 | | Oil/H2O | / |
| HTHP WL (cc/30min | | | HGSolid (ppb) | |
| API FC (/32") | | | LGSolid (ppb) | 253.0 |
| MBT (ppb) | | | ES (mV) | |
| Lime (ppb) | | | Oil Ret (%) | |
| pH | 9.00 | | | |
| Pm (mL) | 0.2 | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.2 | | | |
| Comment1: | | | 2: | |

## BHA Description: Drl Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit # 16 | 1 | 0.75 | EM sub | 1 | 9.86 |
| Dog sub | 1 | 0.55 | NM DC | 2 | 61.69 |
| Mud motor @ 1.83 deg. | 1 | 17.52 | XO | 1 | 3.11 |
| Float sub | 1 | 2.64 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.28 |

## Pump Data

| Pump | | | |
|---|---|---|---|
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Velocities

| Drill Pipe (ft/min) | |
|---|---|
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

## Slow Pump

| Pump | | Press | |
|---|---|---|---|
| Pump | | Press | |
| Pump | | Press | |

## Pipe Data

| Min ID (in) | 2.500 |
|---|---|
| DC OD (in) | |
| DC (ft) | |
| HWDP OD (in) | |
| HWDP (ft) | |
| BHA | 5,634.38 |
| DP OD (in) | |
| String Rot Weight | |
| Pick-Up Weight | |
| Slack Off Weight | |

## Mud Volume

| Hole Vol (bbl) | |
|---|---|
| Pit 1 | |
| Pit 2 | |
| Pit 3 | |
| Pit 4 | |
| Total Mud Vol (bbl) | |
| Vol Built Day (bbl) | |
| Vol Built Cum | |
| Vol Lost Surf Day (bbl) | |
| Vol Lost Surf Cum | |
| Vol Lost Hole Day (bbl) | |
| Vol Lost Hole Tot | |
| Vol Dumped Day (bbl) | |

## Mud Cost

| Daily | |
|---|---|
| Cumulative | 32,792 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| # | | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| Conn Avg/Max (ppm) | |
|---|---|
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/18/99 7:39:38 AM

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/18/99 Report: 55 DFS: 50.00 DOL: 65.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & cold | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/15/99 | Incident Report Sent Y/N | |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/18/99 7:39:38 AM

# BP AMOCO

## Daily Drilling Report

Page 1 of 3

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/17/99 | Report: | 54 | DFS: 49.00 | DOL: 64.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,109.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 45,635 | Cumm. Cost: | 3,959,891 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 09:30 | 3.50 | FISH | TRIP | P | PROD1 | TOH to pick up fishing tools. |
| 09:30 - 11:00 | 1.50 | FISH | RIGS | P | PROD1 | Slip & cut drilling line. |
| 11:00 - 13:00 | 2.00 | FISH | WAIT | P | PROD1 | Wait on fishing tools. |
| 13:00 - 15:30 | 2.50 | FISH | BHA | P | PROD1 | Make up fishing tools. |
| 15:30 - 18:30 | 3.00 | FISH | TRIP | P | PROD1 | TIH w/fishing tools. |
| 18:30 - 19:00 | 0.50 | FISH | WRKP | P | PROD1 | Screw into fish. |
| 19:00 - 01:00 | 6.00 | FISH | WRKP | P | PROD1 | Jaring pipe, Up & Down. |
| 01:00 - 03:30 | 2.50 | FISH | WRKP | P | PROD1 | Back pipe off @ 12938'. String weight 245 K. |
| 03:30 - 06:00 | 2.50 | FISH | TRIP | P | PROD1 | TOH, To change fishing assembly. |

| | |
|---|---|
| Current Status: | TOH TO REPLACE FISHING ASSEMBLY. |
| 24hr Summary: | TOH, CUT DRG. LINE, TIH W/FISHING TOOLS, JAR, BACK OFF, TOH. |
| 24hr Forecast: | FINISH TOH, CHANGE FISHING ASSEMBLY, TIH, JAR. |

Printed: 10/17/99 9:16:57 AM

# BP AMOCO

# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/17/99 Report: 54 DFS: 49.00 DOL: 64.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 16 | 15 |
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | HTC | HTC |
| Type | DMS 50 DDT | STR-DS 50 |
| Serial No. | V61YH | S59YJ |
| TFA (in²) | | |
| Depth In (ft) | 13,595.0 | 13,244.0 |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 12:00 / PIT | | Ca+ (mg/L) | 880 | |
| Depth (ft) | 14,109.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.50 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 26 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.4 | |
| API WL (cc/30min | 28.0 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 253.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 9.00 | | | | |
| Pm (mL) | 0.2 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.2 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Drl Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit # 16 | 1 | 0.75 | EM sub | 1 | 9.86 |
| Dog sub | 1 | 0.55 | NM DC | 2 | 61.69 |
| Mud motor @ 1.83 deg. | 1 | 17.52 | XO | 1 | 3.11 |
| Float sub | 1 | 2.64 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.28 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,634.38 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | Press | |
| Pump | Press | |
| Pump | Press | |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 32,792 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

Printed: 10/17/99 9:16:57 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/17/99 Report: 54 DFS: 49.00 DOL: 64.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| Bulks | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & cold | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/15/99 | Incident Report Sent Y/N | |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/17/99 9:18:57 AM

# BP AMOCO

## Daily Drilling Report

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | | Date: | 10/16/99 | Report: | 53 | DFS: 46.00 | DOL: 63.00 |
| Event Name: | RE ENTER | | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,109.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 65,408 | Cumm. Cost: | 3,914,256 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 08:00 | 2.00 | FISH | TRIP | P | PROD1 | TOH W/Fish. |
| 08:00 - 09:00 | 1.00 | FISH | RIGS | P | PROD1 | Rig service, rig down wireline. |
| 09:00 - 13:00 | 4.00 | FISH | TRIP | P | PROD1 | TIH W/Drill pipe. |
| 13:00 - 15:00 | 2.00 | FISH | WRKP | P | PROD1 | Screw into fish top. |
| 15:00 - 19:30 | 4.50 | FISH | WRKP | P | PROD1 | Run SLTJ Log. Fluid level 7500 feet. |
| 19:30 - 21:30 | 2.00 | FISH | WAIT | P | PROD1 | Wait on personnel and equipment to run free point. |
| 21:30 - 01:00 | 3.50 | FISH | WIRE | P | PROD1 | Run Free Point. 13350' = Free Pipe, 13360' Reading 64, 13380' Reading 42, 13408' Reading Zero. Inclination @ 13356' = 59.4 Deg. Inclination @ 13387' = 64.6 Deg. Inclination @ 13418' = 69 Deg. Couldn't pump free point tool past 13408' @ 6.9 BBLS/MIN. (100 SPM). |
| 01:00 - 04:00 | 3.00 | FISH | WIRE | P | PROD1 | Run string shot on wire line, back off drill pipe @ 12906'. Wire line measure. Hook load 245 K. |
| 04:00 - 06:00 | 2.00 | FISH | TRIP | P | PROD1 | TOH to pick up bumper sub and jar. |

| | |
|---|---|
| Current Status: | TOH |
| 24hr Summary: | Tripping, Free point, Back off, TOH. |
| 24hr Forecast: | TOH, pick up bumper sub & jar TIH, Screw in , Jar fish down. |

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/16/99 Report: 53 DFS: 46.00 DOL: 63.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| Bit No. | 16 | 15 |
|---|---|---|
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | HTC | HTC |
| Type | DMS 50 DDT | STR-DS 50 |
| Serial No. | V61YH | S59YJ |
| TFA (in²) | | |
| Depth In (ft) | 13,595.0 | 13,244.0 |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| Type 1: | WATER/BRINE | 2: | |
|---|---|---|---|
| Time/Loc | : / PIT | Ca+ (mg/L) | 880 |
| Depth (ft) | 14,109.00 | K+ (mg/L) | |
| Temp (°F) | | Polymer (ppb) | |
| Density (ppg) | 8.50 | CaCl2 (%) | |
| ECD (ppg) | | NaCl (%) | |
| Viscosity (s/qt) | 28 | Sand (%) | |
| PV (cp) | | Tot. Solids | |
| YP (lb/100ft²) | | % Oil | |
| GELS (lb/100ft²) | | % H2O | 97.4 |
| API WL (cc/30min | 28.0 | Oil/H2O | / |
| HTHP WL (cc/30min | | HGSolid (ppb) | |
| API FC (/32") | | LGSolid (ppb) | 253.0 |
| MBT (ppb) | | ES (mV) | |
| Lime (ppb) | | Oil Ret (%) | |
| pH | 9.00 | | |
| Pm (mL) | 0.2 | | |
| Pf/Mf (mL / mL) | 0.1 / 0.2 | | |
| Comment1: | | 2: | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit # 16 | 1 | 0.75 | EM sub | 1 | 9.66 |
| Dog sub | 1 | 0.55 | NM DC | 2 | 61.69 |
| Mud motor @ 1.83 deg. | 1 | 17.52 | XO | 1 | 3.11 |
| Float sub | 1 | 2.64 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.28 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,634.38 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 32,792 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

Printed: 10/16/99 7:12:50 AM

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/16/99 Report: 53 DFS: 46.00 DOL: 63.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | |
|---|---|---|
| Rig Heave | | |
| Rig Pitch | | |
| Rig Roll | | |
| Wave Height | | |
| Wave Direct | | |
| Wave Period | | |
| Swell Height | | |
| Swell Direct | | |
| Wind Speed | | |
| Wind Direct | | |
| Temp Maximum | | |
| Temp Minimum | | |
| Visibility | Barom | |
| Weather | Clear slight breeze 12 deg F. | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/15/99 | Incident Report Sent Y/N | |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/16/99 7:12:50 AM

# BP AMOCO



## Daily Drilling Report

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | Date: | 10/15/99 | Report: | 52 | DFS: 47.00 | DOL: 63.00 |
| Event Name: | RE ENTER | Start: | 07/16/99 | End: | | | |

| | | | | | |
|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,109.0 (ft) | TVD: | 13,206.0 (ft) Progress: |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | Shoe TVD: |
| Daily Cost: | 55,558 | Cumm. Cost: | 3,848,848 | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P/U | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 07:00 | 1.00 | FISH | WRKP | P | PROD1 | Working reversing tool, trying to catch fish. |
| 07:00 - 10:00 | 3.00 | FISH | TRIP | P | PROD1 | TOH W/fishing tools, no recovery. |
| 10:00 - 14:30 | 4.50 | FISH | WAIT | P | PROD1 | Wait on left hand overshot, change out reversing tool. |
| 14:30 - 15:00 | 0.50 | FISH | BHA | P | PROD1 | Make up fishing tools. |
| 15:00 - 17:00 | 2.00 | FISH | TRIP | P | PROD1 | TIH W/fishing tools. |
| 17:00 - 17:30 | 0.50 | FISH | WRKP | P | PROD1 | Work overshot over fish. Back fish off with reversing tool. Gain 12,000 lbs. string weight. |
| 17:30 - 21:00 | 3.50 | FISH | TRIP | P | PROD1 | TOH W/Fishing tools. |
| 21:00 - 23:00 | 2.00 | FISH | BHA | P | PROD1 | Recovered float and eighteen joints drill pipe. Lay down fishing tools. |
| 23:00 - 01:30 | 2.50 | FISH | TRIP | P | PROD1 | Trip in hole with drill string to screw into fish. |
| 01:30 - 02:00 | 0.50 | FISH | WRKP | P | PROD1 | Screw into fish, work pipe up to 350,000 lbs. Pipe started moving. Gained 50,000 lbs. string weight. Pipe moving free. |
| 02:00 - 06:00 | 4.00 | FISH | TRIP | P | PROD1 | Trip out - Recovered HWDP & Jars.<br>New fish top @ 11263' |

| | |
|---|---|
| Current Status: | TOH |
| 24hr Summary: | Fishing, Tripping, Fishing, Tripping, lay down fish, Tripping, Fishing |
| 24hr Forecast: | Screw into fish, run stuck pipe log & free point |

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/15/99 Report: 52 DFS: 47.00 DOL: 63.00
Event Name: RE ENTER Start: 07/16/99 End:

### Bit Data

| | | |
|---|---|---|
| Bit No. | 16 | 15 |
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | HTC | HTC |
| Type | DMS 50 DDT | STR-DS 50 |
| Serial No. | V61YH | S59YJ |
| TFA (in²) | | |
| Depth In (ft) | 13,595.0 | 13,244.0 |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

### Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | 11:00 / PIT | | Ca+ (mg/L) | 800 | |
| Depth (ft) | 14,109.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.50 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 28 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 97.5 | |
| API WL (cc/30min | 28.0 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 24.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 9.50 | | | | |
| Pm (mL) | 3.0 | | | | |
| Pf/Mf (mL / mL) | 0.1 / 0.3 | | | | |
| Comment1: | | | 2: | | |

### BHA Description: Drl Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit # 16 | 1 | 0.75 | EM sub | 1 | 9.66 |
| Dog sub | 1 | 0.55 | NM DC | 2 | 61.69 |
| Mud motor @ 1.83 deg. | 1 | 17.52 | XO | 1 | 3.11 |
| Float sub | 1 | 2.64 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.26 |

### Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

### Velocities

| | |
|---|---|
| Drill Pipe (ft/min) | |
| Drill Collar (ft/min) | |
| Riser (ft/min) | |
| Lag Time (min) | |

### Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

### Pipe Data

| | | |
|---|---|---|
| Min ID (in) | 2.500 | |
| DC OD (in) | | |
| DC (ft) | | |
| HWDP OD (in) | | |
| HWDP (ft) | | |
| BHA | 5,634.38 | |
| DP OD (in) | | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

### Mud Volume

| | | |
|---|---|---|
| Hole Vol (bbl) | | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol (bbl) | | |
| Vol Built Day (bbl) | | |
| Vol Built Cum | | |
| Vol Lost Surf Day (bbl) | | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day (bbl) | | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day (bbl) | | |

### Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 32,792 |

### Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

### Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

### Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |

### LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

### Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

### Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/15/99 11:07:46 AM

BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/15/99 Report: 52 DFS: 47.00 DOL: 63.00
Event Name: RE ENTER Start: 07/16/99 End:

## Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Bulks

| | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | 7,200 | | | | | | |
| Received | 7,200 | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

## Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & Cold. | | |

## Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| | |
| Other: | |
| Total: | 40 |

## Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

## Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/15/99 | Incident Report Sent Y/N | N |

## Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/15/99 11:07:46 AM

# BP AMOCO

## Daily Drilling Report



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well Name: | ARE W #31-04 | | Date: | 10/14/99 | Report: | 51 | DFS: 46.00 | DOL: 62.00 |
| Event Name: | RE ENTER | | Start: | 07/16/99 | End: | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Rig Name: | Parker | TMD: | 14,109.0 (ft) | TVD: | 13,206.0 (ft) | Progress: |
| Rig Super: | Nordeen/McCrea 435-880-3208 | Rot. Hours: | | AV ROP: | | Hole Size: |
| Wellsite Eng: | Tim Anderson 281-366-5861 | Last Casing: | | Shoe TMD: | | Shoe TVD: |
| Daily Cost: | 46,997 | Cumm. Cost: | 3,793,290 | | | |

### Operations Summary

| From - To | Hours | Code | Sub Code | P/U/NP | Phase | Description of Operations |
|---|---|---|---|---|---|---|
| 06:00 - 07:00 | 1.00 | FISH | WIRE | P | PROD1 | Rigging up wire line truck to run string shot. |
| 07:00 - 10:30 | 3.50 | FISH | WIRE | P | PROD1 | Make back off @ 8783' with string shot. |
| 10:30 - 11:30 | 1.00 | FISH | WIRE | P | PROD1 | Pull out of hole with wire line, lay down wire line tools. |
| 11:30 - 16:00 | 4.50 | FISH | TRIP | P | PROD1 | TOH, lay down bottom joint of drill pipe. |
| 16:00 - 17:00 | 1.00 | FISH | RIGS | P | PROD1 | Change out saver sub. |
| 17:00 - 18:00 | 1.00 | FISH | BHA | P | PROD1 | Make up fishing tools. |
| 18:00 - 22:00 | 4.00 | FISH | TRIP | P | PROD1 | TIH, to fish top @ 8783'. |
| 22:00 - 23:00 | 1.00 | FISH | WRKP | P | PROD1 | Fishing, several attempts to screw tap into fish, couldn't get torque. Couldn't pick up noticable weight. Suspect float sub broke at middle thread when string shot used and drill pipe backed off. |
| 23:00 - 02:00 | 3.00 | FISH | TRIP | P | PROD1 | TOH W/Fishing tools. Recovered top half of float sub. |
| 02:00 - 04:00 | 2.00 | FISH | BHA | P | PROD1 | Lay down fish, change Taper Tap to accomidate other half of float sub. |
| 04:00 - 06:00 | 2.00 | FISH | TRIP | P | PROD1 | TIH W/Fishing tools. (Pin tap and Reversing tool) |

| | |
|---|---|
| Current Status: | TIH W/Reversing Tool. |
| 24hr Summary: | Run string shot, float was @ 8783', back off, TOH. TIH W/Rev. tool. |
| 24hr Forecast: | TIH, Catch Fish W/Reversing Tool, unscrew fish, TOH. |

# BP AMOCO



# Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/14/99 Report: 51 DFS: 46.00 DOL: 62.00
Event Name: RE ENTER Start: 07/16/99 End:

## Bit Data

| | | |
|---|---|---|
| Bit No. | 16 | 15 |
| Run | | |
| Size (in) | 5.875 | 5.875 |
| Manu. | HTC | HTC |
| Type | DMS 50 DDT | STR-DS 50 |
| Serial No. | V61YH | S59YJ |
| TFA (in²) | | |
| Depth In (ft) | 13,595.0 | 13,244.0 |
| Depth Out (ft) | | |
| Cum. Depth | | |
| Cum. Hours | | |
| WOB (Min) | | |
| WOB (Max) | | |
| RPM (Min) | | |
| RPM (Max) | | |
| Cond (IODL) | | |
| Cond (BGOR) | | |
| Jets 1/2/3 | | |
| Jets 4/5/6 | | |

## Mud Check

| | | | | | |
|---|---|---|---|---|---|
| Type 1: | WATER/BRINE | | 2: | | |
| Time/Loc | / PIT | | Ca+ (mg/L) | 480 | |
| Depth (ft) | 14,109.00 | | K+ (mg/L) | | |
| Temp (°F) | | | Polymer (ppb) | | |
| Density (ppg) | 8.40 | | CaCl2 (%) | | |
| ECD (ppg) | | | NaCl (%) | | |
| Viscosity (s/qt) | 28 | | Sand (%) | | |
| PV (cp) | | | Tot. Solids | | |
| YP (lb/100ft²) | | | % Oil | | |
| GELS (lb/100ft²) | | | % H2O | 1.0 | |
| API WL (cc/30min | 28.0 | | Oil/H2O | / | |
| HTHP WL (cc/30min | | | HGSolid (ppb) | | |
| API FC (/32") | | | LGSolid (ppb) | 32.0 | |
| MBT (ppb) | | | ES (mV) | | |
| Lime (ppb) | | | Oil Ret (%) | | |
| pH | 10.00 | | | | |
| Pm (mL) | 0.4 | | | | |
| Pf/Mf (mL / mL) | 0.3 / 0.3 | | | | |
| Comment1: | | | 2: | | |

## BHA Description: Dri Horz Section

| Item | Jts | Length (ft) | Item | Jts | Length (ft) |
|---|---|---|---|---|---|
| Bit # 16 | 1 | 0.75 | EM sub | 1 | 9.86 |
| Dog sub | 1 | 0.55 | NM DC | 2 | 61.69 |
| Mud motor @ 1.83 deg. | 1 | 17.52 | XO | 1 | 3.11 |
| Float sub | 1 | 2.64 | 4" HWDP | 1 | 30.81 |
| Float sub | 1 | 3.08 | 4" S135 DP | 75 | 3,972.47 |
| UBHO sub | 1 | 3.09 | 4" HWDP | 3 | 92.51 |
| Tool Carrier | 1 | 19.69 | Drilling Jars | 1 | 29.28 |

## Pump Data

| | | | |
|---|---|---|---|
| Pump | | | |
| Liner | | | |
| Stroke | | | |
| EFF | | | |
| Press | | | |
| SPM | | | |
| Output | | | |

## Pipe Data

| | | |
|---|---|---|
| Min ID | (in) | 2.500 |
| DC OD | (in) | |
| DC | (ft) | |
| HWDP OD | (in) | |
| HWDP | (ft) | |
| BHA | | 5,634.38 |
| DP OD | (in) | |
| String Rot Weight | | |
| Pick-Up Weight | | |
| Slack Off Weight | | |

## Mud Volume

| | | |
|---|---|---|
| Hole Vol | (bbl) | |
| Pit 1 | | |
| Pit 2 | | |
| Pit 3 | | |
| Pit 4 | | |
| Total Mud Vol | (bbl) | |
| Vol Built Day | (bbl) | |
| Vol Built Cum | | |
| Vol Lost Surf Day | (bbl) | |
| Vol Lost Surf Cum | | |
| Vol Lost Hole Day | (bbl) | |
| Vol Lost Hole Tot | | |
| Vol Dumped Day | (bbl) | |

## Velocities

| | | |
|---|---|---|
| Drill Pipe | (ft/min) | |
| Drill Collar | (ft/min) | |
| Riser | (ft/min) | |
| Lag Time | (min) | |

## Slow Pump

| | | |
|---|---|---|
| Pump | | Press |
| Pump | | Press |
| Pump | | Press |

## Mud Cost

| | |
|---|---|
| Daily | |
| Cumulative | 32,792 |

## Shaker

| | Mesh Size | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Centrifuge

| | # | |
|---|---|---|
| RPM | | |
| Process Outp. | | |
| Overflow Outp. | | |
| Overflow Dens. | | |
| Hours | | |
| Op Code | | |

## Hydrocione

| | Type | HRS |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

## LOT/FIT

| EMW (ppg) | MAASP (psi) | Max Mud Wt (ppg) |
|---|---|---|
| | | |

## Formation Data

| Formation Name | Top (ft) |
|---|---|
| Nugget | 13,080.0 |

## Gas Readings

| | |
|---|---|
| Conn Avg/Max (ppm) | |
| Bkgr Avg/Max (ppm) | |
| Trip Avg/Max (ppm) | |
| H2S (ppm) | |

Printed: 10/15/99 11:08:45 AM

# BP AMOCO



## Daily Drilling Report

Well Name: ARE W #31-04 Date: 10/14/99 Report: 51 DFS: 46.00 DOL: 62.00
Event Name: RE ENTER Start: 07/16/99 End:

### Support Craft

| Type | Number | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

### Bulks

| | DIESEL | | | | | | |
|---|---|---|---|---|---|---|---|
| Unit | Gals. | | | | | | |
| On Hand | | | | | | | |
| Used | | | | | | | |
| Received | | | | | | | |
| Returned | | | | | | | |
| Adjusted | | | | | | | |

### Weather

| | | | |
|---|---|---|---|
| Rig Heave | | | |
| Rig Pitch | | | |
| Rig Roll | | | |
| Wave Height | | | |
| Wave Direct | | | |
| Wave Period | | | |
| Swell Height | | | |
| Swell Direct | | | |
| Wind Speed | | | |
| Wind Direct | | | |
| Temp Maximum | | | |
| Temp Minimum | | | |
| Visibility | | Barom | |
| Weather | Clear & Cold. | | |

### Personnel

| | |
|---|---|
| BP-Amoco | 2 |
| Parker Drilling | 12 |
| Tesco | 12 |
| Intermountain Safety | 4 |
| Newpark | 1 |
| United Geo Com | 2 |
| POI | 2 |
| Anadrill | 2 |
| Norward | 2 |
| Western Chemical | 1 |
| | |
| Other: | |
| Total: | 40 |

### Anchoring

| Rig Heading | | | VDL | | | Riser Tension | | | Riser Angle/Dir | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anchor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tensions | | | | | | | | | | | | |

### Safety Drills

| | | | | | |
|---|---|---|---|---|---|
| Last BOP Test (P) | 09/21/99 | Last Fire Drill | | Last Rig Inspection | |
| Last BOP Test (F) | 09/22/99 | Last Evacuation Drill | | Days Without LTA (Total) | |
| Last BOP Drill | | Last Rig Check | | Loss Control Incident | |
| | | Last Safety Meeting | 10/11/99 | Incident Report Sent Y/N | |

### Survey Data

| MD | Incl. | Azimuth | TVD | N/S (-) | E/W (-) | Section | DLS | BUR |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Printed: 10/15/99 11:08:45 AM

FORM 9

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

# SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

5. Lease Designation and Serial Number: FEE
6. If Indian, Allottee or Tribe Name:
7. Unit Agreement Name: ANSCHUTZ RANCH EAST
8. Well Name and Number: A.R.E. W31-04B
9. API Well Number: 43043301650
10. Field and Pool, or Wildcat: ANSCHUTZ RANCH EAST

1. Type of Well: OIL ☐ GAS ☑ OTHER:
2. Name of Operator: AMOCO PRODUCTION COMPANY
3. Address and Telephone Number: PH. 281-366-2036
P.O. BOX 3092, HOUSTON, TEXAS, 77253-3092
4. Location of Well
Footages: 111' FNL x 737' FWL
CQ. Sec., T.R.M.: SEC. 31, TWP: 4N RGE: 8E
County: SUMMIT
State: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

**NOTICE OF INTENT** (Submit in Duplicate)

- ☐ Abandon
- ☐ Repair Casing
- ☐ Change of Plans
- ☐ Convert to Injection
- ☐ Fracture Treat or Acidize
- ☐ Multiple Completion
- ☐ Other
- ☐ New Construction
- ☐ Pull or Alter Casing
- ☐ Recomplete
- ☑ Reperforate
- ☐ Vent or Flare
- ☐ Water Shut-Off

Approximate date work will start DECEMBER 6, 1999

**SUBSEQUENT REPORT** (Submit Original Form Only)

- ☐ Abandon *
- ☐ Repair Casing
- ☐ Change of Plans
- ☐ Convert to Injection
- ☐ Fracture Treat or Acidize
- ☐ Other
- ☐ New Construction
- ☐ Pull or Alter Casing
- ☐ Reperforate
- ☐ Vent or Flare
- ☐ Water Shut-Off

Date of work completion

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

PLEASE SEE THE ATTACHED COMPLETION SCHEMATIC.

- ON NOV. 9TH WHILE ATTEMPTING TO PUMP CEMENT BEHIND AN OPEN HOLE PACKER AT THE TOE OF THE NORTH LATERAL THE DRILL STRING PREMATURELY PRESSURE RELEASED FROM THE PACKER RESULTING IN THE CEMENT FALLING AROUND THE DRILL STRING AND CEMENTING THE STRING IN THE HOLE. FREE POINT LOGS SHOW THE PIPE TO BE CEMENTED TO THE OPENHOLE LATERAL JUNCTION.
- THIS SUNDRY REQUESTS YOUR APPROVAL TO PERFORATE THE DRILL STRING TO RESTORE PRODUCTION TO THIS WELLBORE. THIS WILL BE DONE WITH COIL TUBING AFTER THE DRILLING AND TESCO ARE OFF LOCATION.

13.
Name & Signature: [signature] Title: PETR. ENGR. Date: 11/10/99

(This space for State use only)

APPROVED
The Utah Division of Oil, Gas and Mining
Robert J. Krueger, PE, Petroleum Engineer
Date: 11-15-99

(See Instructions on Reverse Side)

COPY SENT TO OPERATOR
Date: 11-16-99
Initials: CHP

# W31-04 Activity Summary

| | |
|---|---|
| July 9 | Initiate P&A, problems cementing |
| July 28 | Begin rigging up on location |
| Aug. 28 | Pick up drill string, spud well, mill on fish |
| Sept. 7 | Milling finished, whipstock set, window milled |
| Sept. 8 | Begin So. Lateral. 13,007 ft. md, water 10 bbls/hr |
| Sept. 15 | Build section completed, depth 13,623 ft md |
| Sept. 23 | Depth 14,495 ft md, water 40-50 Bbls/hr. |
| Sept. 25 | Depth 14,583 ft md, confirm water rate |
| Oct. 1 | Set 1st Baker Packer, shear pin failed to release |
| Oct. 5 | Set 2nd Baker Packer, successful |
| Oct. 7 | Begin North Lateral side track at 13,110 ft md |
| Oct. 10 | Complete build section, water 10-12 Bbls/hr |
| Oct. 12 | 14,109 ft production drops 7 to 0 MMCFD, Pipe stuck |
| Oct. 19 | Pipe freed and out of the hole |
| Oct. 22 | Made cleanout trip, back to drilling, unloading water |
| Oct. 24 | Depth 14,369 ft., well loading up, oily water |
| Oct. 25 | Depth 14,478 ft., water 50-60 bbl/hr, stop drilling |
| Oct. 28 | Run logs, tool stuck, string parted |
| Nov. 7 | Abandon logging tool fishing operation |
| Nov. 8 | Run plug to 14,000 ft, pump cement |
| Nov. 9 | Baker plug failure drill string cemented in hole |
| Nov. 11 | Backoff drill string, run completion |
| *Nov. 17* | *Rig down completed* |
| *Dec. 6* | *Begin coil tubing perf. job.* |

# Anschutz Ranch East W31-04 Horizontal
## Coil Tubing Perforating Procedure

Objective No. 1: safety, no short cuts or compromises
Objective No. 2 minimize environmental impact to this location as much as possible. No flaring our pumping to the pit unless absolutely necessary.
Objective No. 3 perforate and return this well to productive status.

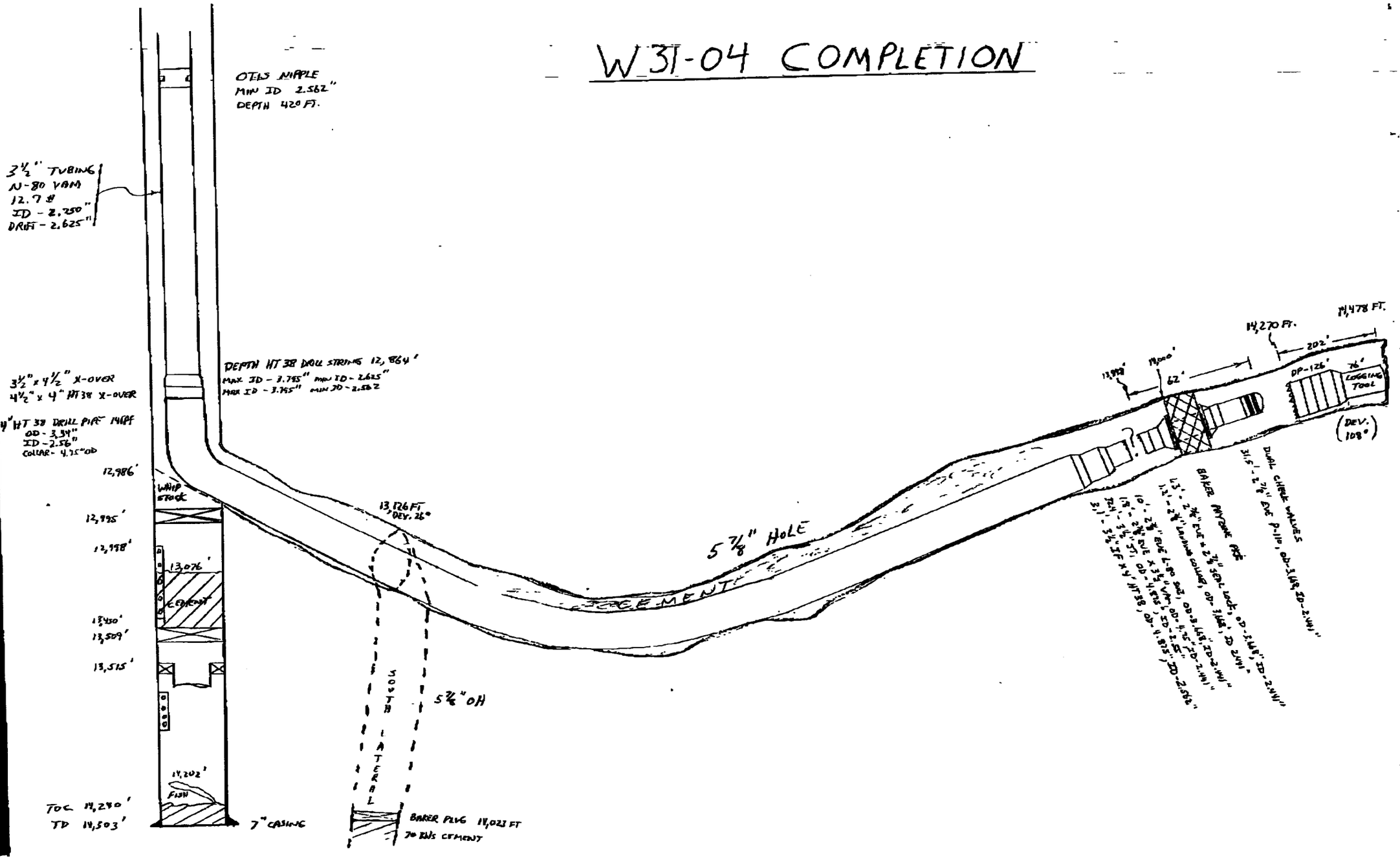
1. Ensure swab, wing and upper master valves on the tree are closed and holding. Also note, there is no packer in this completion. There could possibly be pressure and communication with the formation on the annulus.
2. Move in and rig up Quad BOP stack, 60 K injector head and 1 ¾" Dowell coil tubing (CT) unit. The BOP's should be tested to 3,000 psi with N2 for 15 minutes.
3. Run in hole (RIH) with bull nose, memory CCL, 50 ft of sinker bars and CT to 13,998 ft md. This dummy run, will determine the length of perforating guns that can be run and will also help determine the depth of the end of the drill string / casing. Pressure release disconnect should be positioned immediately above sinker bars incase this string gets stuck. Each BHA should include the disconnect. **NOTE:** minimum string ID 2.562" to the end of the drill string where it drops to 2.441". **CAUTION:** the logging tool may exit the drill string at the toe. The CT operator should make numerous pull checks at this point to prevent sticking the string.
4. Pull out of hole (POOH) with coil tubing.
5. RIH with memory CET logging tool to 13,998 ft md depth to determine cement bond and exact depth of the end of the drill string / casing.
6. POOH with coil tubing.
7. Rig up N2 piping, N2 tanks and N2 pumping equipment. Test lines to 3,000 psi.
8. RIH with CT and begin staging in with N2 (pump at 750 scf / min.initially, reduce rate as necessary) to the window at 12,986 ft. Continue unloading the well until it begins to flow. Note: anticipated fluid level is 6,500 to 7,000 ft.
9. POOH with CT and flow well to the plant for minimum of 24 hrs. Record all gas rate and fluid volumes. Objective: determine if high rate toe water zone in the North lateral is shut off. Discuss with Terry Miglicco (cell phone: 281-543-1371) prior to moving forward on the program.
10. Based on cement bond pickup maximum of 50 ft of 2 1/8" perforating guns (xx gm charges, 60 deg. Phasing, 4 spf) with shock absorber.
11. RIH and begin perforation operation starting at 13,950 ft md and working forward as appropriate. Perforating intervals to be confirmed after CET run. Maximum perf. intervals 13,300-450 ft, 13,600-650 ft and 13,800-950 ft).
12. Flow the well 24 hrs. N2 lift if necessary. Rig down coil tubing.

| | | |
|---|---|---|
| Coil Tubing Running Speed: | Clean pipe | 50 - 100 fpm |
| | ID changes | 5-10 fpm |
| | drill string toe | 5 fpm (13,925 to 13,998 ft) |

Pull checks should be make frequently in critical areas.

NOV.11.1999 4:48PM BP AMOCO HOUSTON NO.603 P.5/8

# W31-04 COMPLETION



FORM 9 STATE OF UTAH — SUBSEQUENT REPORT

DIVISION OF OIL, GAS AND MINING

# SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

5. Lease Designation and Serial Number: FEE

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name: ANSCHUTZ RANCH EAST

1. Type of Well: OIL ☐ GAS ☑ OTHER:

8. Well Name and Number: A.R.E. W31-04A

2. Name of Operator: AMOCO PRODUCTION COMPANY

9. API Well Number: 43043301650

3. Address and Telephone Number: PH. 281-366-2036
P.O. BOX 3092, HOUSTON, TEXAS, 77253-3092

10. Field and Pool, or Wildcat: ANSCHUTZ RANCH EAST

4. Location of Well
Footages: 111' FNL x 737' FWL
QQ, Sec., T., R., M.: SEC. 31, TWP: 4N RGE: 8E

County: SUMMIT
State: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| NOTICE OF INTENT (Submit in Duplicate) | | SUBSEQUENT REPORT (Submit Original Form Only) | |
|---|---|---|---|
| ☐ Abandon | ☐ New Construction | ☐ Abandon * | ☐ New Construction |
| ☐ Repair Casing | ☐ Pull or Alter Casing | ☐ Repair Casing | ☐ Pull or Alter Casing |
| ☐ Change of Plans | ☐ Recomplete | ☐ Change of Plans | ☑ Reperforate |
| ☐ Convert to Injection | ☑ Reperforate | ☐ Convert to Injection | ☐ Vent or Flare |
| ☐ Fracture Treat or Acidize | ☐ Vent or Flare | ☐ Fracture Treat or Acidize | ☐ Water Shut-Off |
| ☐ Multiple Completion | ☐ Water Shut-Off | ☐ Other | |
| ☐ Other | | | |

Approximate date work will start: DECEMBER 6, 1999

Date of work completion: 1/16/2000 — SEE ATTACHED COMPLETION

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

PLEASE SEE THE ATTACHED COMPLETION SCHEMATIC.

- ON NOV. 9TH WHILE ATTEMPTING TO PUMP CEMENT BEHIND AN OPEN HOLE PACKER AT THE TOE OF THE NORTH LATERAL THE DRILL STRING PREMATURELY PRESSURE RELEASED FROM THE PACKER RESULTING IN THE CEMENT FALLING AROUND THE DRILL STRING AND CEMENTING THE STRING IN THE HOLE. FREE POINT LOGS SHOW THE PIPE TO BE CEMENTED TO THE OPENHOLE LATERAL JUNCTION.
- THIS SUNDRY REQUESTS YOUR APPROVAL TO PERFORATE THE DRILL STRING TO RESTORE PRODUCTION TO THIS WELLBORE. THIS WILL BE DONE WITH COIL TUBING AFTER THE DRILLING AND TESCO ARE OFF LOCATION.

13. Name & Signature: [signature] Title: PETR. ENGR. Date: 11/10/99

(This space for State use only)

APPROVED
The Utah Division of Oil, Gas and Mining
Robert J. Krueger, PE, Petroleum Engineer
Date: 11-15-99

(See Instructions on Reverse Side)

COPY SENT TO OPERATOR
Date: 2-18-00
Initials: CHD

FORM 9

E OF UTAH

DIVISION OF OIL, GAS AND MINING

5. Lease Designation and Serial Number: FEE

6. If Indian, Allottee or Tribe Name:

# SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

7. Unit Agreement Name: Anschutz Ranch East

1. Type of Well: OIL ☐ GAS ☒ OTHER:

8. Well Name and Number: W31-04B

2. Name of Operator: Amoco Production Company

9. API Well Number: 430433016502

3. Address and Telephone Number: P.O. Box 829, Evanston, WY 82931-0829

10. Field and Pool, or Wildcat: Nugget

4. Location of Well

Footages: 111' FNL X 737" FWL

County: Summit

QQ, Sec., T., R., M.: NW/4, NW/4, Sec. 31, T4N, R8E

State: Utah

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| NOTICE OF INTENT (Submit in Duplicate) | | SUBSEQUENT REPORT (Submit Original Form Only) | |
|---|---|---|---|
| ☐ Abandon | ☐ New Construction | ☐ Abandon * | ☐ New Construction |
| ☐ Repair Casing | ☐ Pull or Alter Casing | ☐ Repair Casing | ☐ Pull or Alter Casing |
| ☐ Change of Plans | ☐ Recomplete | ☐ Change of Plans | ☐ Reperforate |
| ☐ Convert to Injection | ☐ Reperforate | ☐ Convert to Injection | ☐ Vent or Flare |
| ☐ Fracture Treat or Acidize | ☐ Vent or Flare | ☐ Fracture Treat or Acidize | ☐ Water Shut-Off |
| ☐ Multiple Completion | ☐ Water Shut-Off | ☐ Other | |
| ☒ Other Construct reserve pit | | | |
| Approximate date work will start 11/13/99 | | Date of work completion | |

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Amoco Production Co. proposes to construct a small (20' x 50' x 8') reserve pit in the northwest corner of the location for containment of drilling cuttings. The reserve pit capacity is about 1300 bbls and the estimated cuttings volume is 325 bbls. The pit will be lined with a plastic liner at least 12 mils thick. The drill cuttings will be dried through evaporation and the cuttings buried onsite during reclamation. Residual fluid and drill cuttings may be chemically/mechanically solidified with soil or fly ash to reduce mobility proir to burial in the lined pit.

Verbal approval was received from Gil Hunt on 11/12/1999.

13.

Name & Signature: Margaret Schelling, Margaret Schelling Title: Permitting Agent Date: 11/23/99

(This space for State use only)

RECEIVED

DEC - 2 1999

DIVISION OF OIL, GAS & MINING

(4/94) (See Instructions on Reverse Side)

FORM 9

STATE OF UTAH

DIVISION OF OIL, GAS AND MINING

# SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

5. Lease Designation and Serial Number: FEE

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name: ANSCHUTZ RANCH EAST

1. Type of Well: OIL ☐ GAS ☑ OTHER:

8. Well Name and Number: ARE W31-04

2. Name of Operator: AMOCO PRODUCTION COMPANY

9. API Well Number: 4304330165O

3. Address and Telephone Number: (281-366-2036) P.O. BOX 3092, HOUSTON, TX 77253-3092

10. Field and Pool, or Wildcat: ANSCHUTZ RANCH EAST

4. Location of Well
Footages: 111' FNL x 737' FWL
QQ, Sec., T., R., M.: SEC. 31 TWP: 4N RGE: 8E

County: SUMMIT
State: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| NOTICE OF INTENT (Submit in Duplicate) | | SUBSEQUENT REPORT (Submit Original Form Only) | |
|---|---|---|---|
| ☐ Abandon | ☐ New Construction | ☐ Abandon * | ☐ New Construction |
| ☐ Repair Casing | ☐ Pull or Alter Casing | ☐ Repair Casing | ☐ Pull or Alter Casing |
| ☐ Change of Plans | ☐ Recomplete | ☐ Change of Plans | ☐ Reperforate |
| ☐ Convert to Injection | ☐ Reperforate | ☐ Convert to Injection | ☐ Vent or Flare |
| ☐ Fracture Treat or Acidize | ☐ Vent or Flare | ☐ Fracture Treat or Acidize | ☐ Water Shut-Off |
| ☐ Multiple Completion | ☐ Water Shut-Off | ☐ Other | |
| ☐ Other ADD PERFORATIONS | | | |
| Approximate date work will start: APRIL 1, 2000 | | Date of work completion: | |

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

THIS SUNDRY REQUESTS YOUR APPROVAL TO ADD ZONE 1 PERFORATIONS 13,050' TO 13,200'. CURRENT PERFORATIONS ALONG THE HORIZONTAL NORTH LATERAL ARE ZONE 2 ONLY.

13.
Name & Signature: Terry Mylander Title: PETR. ENGR. Date: 2/14/00

(This space for State use only)

**APPROVED**

The Utah Division of Oil, Gas and Mining
Robert J. Krueger, PE, Petroleum Engineer

(See Instructions on Reverse Side)

Date: 2-17-00

COPY SENT TO OPERATOR
Date: 2-18-00
Initials: CHD

FEB.17.2000 11:03AM BP AMOCO HOUSTON NO.881 P.2/5

# W31 - 04 COMPLETION

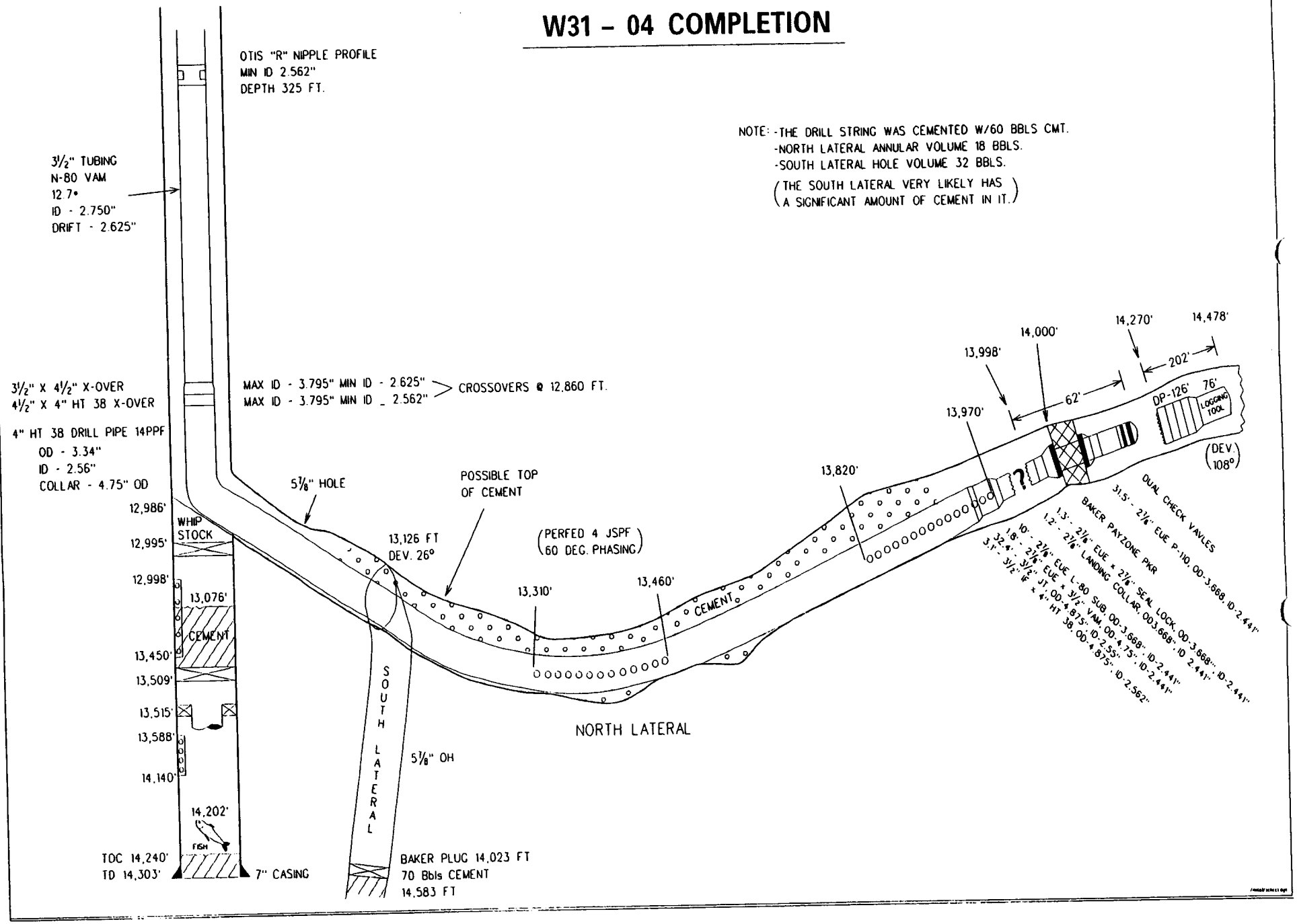



Figure No. 43

# *DRILLED FOOTAGE CALCULATION FOR DIRECTIONAL AND HORIZONTAL WELLS*

| | |
|---|---|
| Unit, Well Name: | Anchutz Ranch East, ARE-W31-04 |
| Operator: | Amoco Production Company |
| API Well #: | 43-043-30165 |
| Well Completion: | Horizontal, Producer, 2 Laterals |

| | | |
|---|---|---|
| First leg description: | | South Lateral |
| Kick Off Point | MD | 12996 |
| End of Leg | MD | 14583 |
| | Footage drilled: | 1587 |
| Second leg description: | | North Lateral |
| Kick Off Point | MD | 13109 |
| End of Leg | MD | 14478 |
| | Footage drilled: | 1369 |
| Max. TVD Recorded | | 14583 |

| | |
|---|---|
| ***Total Footage Drilled (MD):*** | ***2956*** |
| ***Deepest point (TVD):*** | ***14583*** |

ATTACHMENT NO. 4

BP Amoco

*South Lateral*

**Schlumberger**

Schlumberger

# Survey

| | | | |
|---|---|---|---|
| **Client:** | BP/Amoco Production Company | **Survey Computation Method:** | Minimum Curvature |
| **Field:** | UT Summit County | **DLS Computation Method:** | Lubinski |
| **Structure:** | Amoco Anschutz Ranch East Field W31-04 | **Vertical Section Azimuth:** | 149.700° |
| **Well:** | Sec 31 T4N R8E Well W31-04 | **Vertical Section Origin:** | N 0.000 ft, E 0.000 ft |
| **Borehole:** | South Lateral | **TVD Reference:** | RKB |
| **UWI/API#:** | | | 7926.0 ft above MSL |
| **Date:** | January 12, 2000 | **Magnetic Declination:** | 13.498° |
| **Grid Convergence:** | -0.66183572° | **Total Field Strength:** | 53867.785 nT |
| **Scale Factor:** | 1.00002951 | **Dip:** | 66.738° |
| | | **Declination Date:** | September 30, 1999 |
| **Location:** | N 41 2 43.476, W 111 5 28.176 | **Magnetic Declination Model:** | BGGM 1999 |
| : | N 139586.692 ftUS, E 222003.920 ftUS | **North Reference:** | Grid North |
| **Coordinate System:** | NAD27 Wyoming State Planes, Western Zone, US Feet | **Coordinate Reference To:** | Well Head |

| | | | | | | | | | Grid Coordinates | | Geographic Coordinates | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Station ID** | **MD** (ft) | **Incl** (°) | **Azim** (°) | **TVD** (ft) | **VSec** (ft) | **N/-S** (ft) | **E/-W** (ft) | **DLS** (°/100ft) | **Northing** (ftUS) | **Easting** (ftUS) | **Latitude** | **Longitude** |
| Tie-In | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 139586.69 | 222003.92 | N 41 2 43.476 | W 111 5 28.176 |
| | 100.00 | 0.25 | 61.00 | 100.00 | 0.00 | 0.11 | 0.19 | 0.25 | 139586.80 | 222004.11 | N 41 2 43.477 | W 111 5 28.174 |
| | 200.00 | 0.50 | 44.00 | 200.00 | -0.11 | 0.53 | 0.68 | 0.27 | 139587.22 | 222004.60 | N 41 2 43.481 | W 111 5 28.167 |
| | 300.00 | 0.25 | 23.00 | 300.00 | -0.36 | 1.04 | 1.07 | 0.28 | 139587.73 | 222004.99 | N 41 2 43.486 | W 111 5 28.162 |
| | 400.00 | 0.50 | 42.00 | 399.99 | -0.62 | 1.57 | 1.45 | 0.28 | 139588.26 | 222005.37 | N 41 2 43.492 | W 111 5 28.158 |
| | 500.00 | 0.00 | 0.00 | 499.99 | -0.75 | 1.89 | 1.74 | 0.50 | 139588.58 | 222005.66 | N 41 2 43.495 | W 111 5 28.154 |
| | 600.00 | 0.00 | 0.00 | 599.99 | -0.75 | 1.89 | 1.74 | 0.00 | 139588.58 | 222005.66 | N 41 2 43.495 | W 111 5 28.154 |
| | 700.00 | 0.25 | 329.00 | 699.99 | -0.97 | 2.08 | 1.63 | 0.25 | 139588.77 | 222005.55 | N 41 2 43.497 | W 111 5 28.155 |
| | 800.00 | 0.00 | 0.00 | 799.99 | -1.19 | 2.26 | 1.52 | 0.25 | 139588.96 | 222005.44 | N 41 2 43.499 | W 111 5 28.157 |
| | 900.00 | 0.25 | 221.00 | 899.99 | -1.12 | 2.10 | 1.37 | 0.25 | 139588.79 | 222005.29 | N 41 2 43.497 | W 111 5 28.159 |
| | 1000.00 | 0.25 | 221.00 | 999.99 | -0.98 | 1.77 | 1.09 | 0.00 | 139588.46 | 222005.01 | N 41 2 43.494 | W 111 5 28.162 |
| | 1100.00 | 0.75 | 217.00 | 1099.99 | -0.66 | 1.08 | 0.55 | 0.50 | 139587.77 | 222004.47 | N 41 2 43.487 | W 111 5 28.169 |
| | 1200.00 | 1.00 | 217.00 | 1199.97 | -0.07 | -0.14 | -0.37 | 0.25 | 139586.55 | 222003.55 | N 41 2 43.475 | W 111 5 28.181 |

| Station ID | MD (ft) | Incl (°) | Azim (°) | TVD (ft) | VSec (ft) | N/-S (ft) | E/-W (ft) | DLS (°/100ft) | Grid Coordinates Northing (ftUS) | Grid Coordinates Easting (ftUS) | Geographic Coordinates Latitude | Geographic Coordinates Longitude |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1300.00 | 2.00 | 219.00 | 1299.94 | 0.89 | -2.19 | -1.99 | 1.00 | 139584.50 | 222001.93 | N 41 2 43.454 | W 111 5 28.202 |
| | 1400.00 | 2.00 | 219.00 | 1399.88 | 2.12 | -4.90 | -4.19 | 0.00 | 139581.79 | 221999.73 | N 41 2 43.427 | W 111 5 28.230 |
| | 1500.00 | 2.25 | 221.00 | 1499.81 | 3.37 | -7.74 | -6.57 | 0.26 | 139578.95 | 221997.35 | N 41 2 43.399 | W 111 5 28.261 |
| | 1600.00 | 2.25 | 222.00 | 1599.73 | 4.59 | -10.68 | -9.17 | 0.04 | 139576.01 | 221994.74 | N 41 2 43.369 | W 111 5 28.294 |
| | 1700.00 | 2.75 | 223.00 | 1699.64 | 5.88 | -13.89 | -12.12 | 0.50 | 139572.80 | 221991.80 | N 41 2 43.337 | W 111 5 28.332 |
| | 1800.00 | 3.00 | 223.00 | 1799.51 | 7.32 | -17.56 | -15.55 | 0.25 | 139569.13 | 221988.37 | N 41 2 43.301 | W 111 5 28.376 |
| | 1900.00 | 3.00 | 222.00 | 1899.37 | 8.87 | -21.42 | -19.08 | 0.05 | 139565.27 | 221984.84 | N 41 2 43.262 | W 111 5 28.422 |
| | 2000.00 | 3.00 | 223.00 | 1999.24 | 10.42 | -25.28 | -22.62 | 0.05 | 139561.41 | 221981.30 | N 41 2 43.224 | W 111 5 28.468 |
| | 2100.00 | 3.50 | 224.00 | 2099.08 | 11.99 | -29.39 | -26.52 | 0.50 | 139557.30 | 221977.40 | N 41 2 43.183 | W 111 5 28.518 |
| | 2200.00 | 4.00 | 224.00 | 2198.86 | 13.76 | -34.09 | -31.06 | 0.50 | 139552.60 | 221972.85 | N 41 2 43.136 | W 111 5 28.576 |
| | 2300.00 | 4.00 | 222.00 | 2298.62 | 15.77 | -39.19 | -35.82 | 0.14 | 139547.50 | 221968.10 | N 41 2 43.085 | W 111 5 28.638 |
| | 2400.00 | 4.00 | 219.00 | 2398.37 | 18.06 | -44.50 | -40.35 | 0.21 | 139542.19 | 221963.57 | N 41 2 43.032 | W 111 5 28.696 |
| | 2500.00 | 4.00 | 213.00 | 2498.13 | 20.86 | -50.13 | -44.44 | 0.42 | 139536.56 | 221959.47 | N 41 2 42.976 | W 111 5 28.749 |
| | 2600.00 | 4.00 | 211.00 | 2597.89 | 24.10 | -56.05 | -48.14 | 0.14 | 139530.64 | 221955.78 | N 41 2 42.917 | W 111 5 28.796 |
| | 2700.00 | 3.75 | 206.00 | 2697.66 | 27.59 | -61.98 | -51.37 | 0.42 | 139524.71 | 221952.55 | N 41 2 42.858 | W 111 5 28.837 |
| | 2800.00 | 3.50 | 197.00 | 2797.46 | 31.48 | -67.83 | -53.70 | 0.62 | 139518.86 | 221950.22 | N 41 2 42.800 | W 111 5 28.867 |
| | 2900.00 | 3.25 | 189.00 | 2897.29 | 35.74 | -73.55 | -55.03 | 0.53 | 139513.14 | 221948.89 | N 41 2 42.743 | W 111 5 28.883 |
| | 3000.00 | 3.75 | 188.00 | 2997.10 | 40.50 | -79.59 | -55.93 | 0.50 | 139507.10 | 221947.99 | N 41 2 42.683 | W 111 5 28.894 |
| | 3100.00 | 3.75 | 183.00 | 3096.89 | 45.80 | -86.10 | -56.56 | 0.33 | 139500.59 | 221947.36 | N 41 2 42.619 | W 111 5 28.901 |
| | 3200.00 | 4.00 | 182.00 | 3196.66 | 51.48 | -92.85 | -56.85 | 0.26 | 139493.84 | 221947.07 | N 41 2 42.552 | W 111 5 28.904 |
| | 3300.00 | 4.00 | 180.00 | 3296.41 | 57.44 | -99.82 | -56.97 | 0.14 | 139486.87 | 221946.95 | N 41 2 42.483 | W 111 5 28.905 |
| | 3400.00 | 4.00 | 179.00 | 3396.17 | 63.49 | -106.80 | -56.91 | 0.07 | 139479.89 | 221947.01 | N 41 2 42.414 | W 111 5 28.903 |
| | 3500.00 | 4.00 | 175.00 | 3495.93 | 69.69 | -113.76 | -56.55 | 0.28 | 139472.93 | 221947.37 | N 41 2 42.346 | W 111 5 28.897 |
| | 3600.00 | 4.00 | 174.00 | 3595.68 | 76.02 | -120.70 | -55.88 | 0.07 | 139465.99 | 221948.04 | N 41 2 42.277 | W 111 5 28.887 |
| | 3700.00 | 4.00 | 174.00 | 3695.44 | 82.38 | -127.64 | -55.15 | 0.00 | 139459.05 | 221948.77 | N 41 2 42.209 | W 111 5 28.877 |
| | 3800.00 | 4.00 | 171.00 | 3795.20 | 88.81 | -134.55 | -54.24 | 0.21 | 139452.14 | 221949.68 | N 41 2 42.140 | W 111 5 28.864 |
| | 3900.00 | 4.25 | 166.00 | 3894.94 | 95.61 | -141.59 | -52.80 | 0.44 | 139445.10 | 221951.12 | N 41 2 42.071 | W 111 5 28.844 |
| | 4000.00 | 4.00 | 161.00 | 3994.68 | 102.59 | -148.48 | -50.76 | 0.44 | 139438.20 | 221953.15 | N 41 2 42.003 | W 111 5 28.816 |
| | 4100.00 | 4.00 | 160.00 | 4094.43 | 109.44 | -155.06 | -48.44 | 0.07 | 139431.63 | 221955.48 | N 41 2 41.938 | W 111 5 28.785 |
| | 4200.00 | 3.75 | 160.00 | 4194.21 | 116.09 | -161.41 | -46.12 | 0.25 | 139425.28 | 221957.79 | N 41 2 41.876 | W 111 5 28.754 |
| | 4300.00 | 3.75 | 157.00 | 4293.99 | 122.55 | -167.49 | -43.73 | 0.20 | 139419.19 | 221960.19 | N 41 2 41.816 | W 111 5 28.722 |
| | 4400.00 | 3.50 | 155.00 | 4393.79 | 128.83 | -173.27 | -41.16 | 0.28 | 139413.42 | 221962.76 | N 41 2 41.759 | W 111 5 28.687 |

| Station ID | MD (ft) | Incl (°) | Azim (°) | TVD (ft) | VSec (ft) | N/-S (ft) | E/-W (ft) | DLS (°/100ft) | Grid Coordinates Northing (ftUS) | Grid Coordinates Easting (ftUS) | Geographic Coordinates Latitude | Geographic Coordinates Longitude |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 11000.00 | 2.50 | 115.00 | 10981.61 | 457.93 | -390.58 | 239.25 | 0.75 | 139196.10 | 222243.17 | N 41 2 39.644 | W 111 5 24.995 |
| | 11100.00 | 2.00 | 116.00 | 11081.53 | 461.18 | -392.27 | 242.79 | 0.50 | 139194.41 | 222246.72 | N 41 2 39.628 | W 111 5 24.949 |
| | 11200.00 | 2.50 | 100.00 | 11181.46 | 464.04 | -393.41 | 246.51 | 0.80 | 139193.27 | 222250.43 | N 41 2 39.617 | W 111 5 24.900 |
| | 11300.00 | 3.50 | 91.00 | 11281.32 | 467.04 | -393.85 | 251.71 | 1.10 | 139192.84 | 222255.63 | N 41 2 39.614 | W 111 5 24.832 |
| | 11400.00 | 5.00 | 104.00 | 11381.04 | 471.67 | -394.95 | 258.99 | 1.77 | 139191.73 | 222262.92 | N 41 2 39.603 | W 111 5 24.737 |
| | 11500.00 | 9.00 | 110.00 | 11480.28 | 480.73 | -398.68 | 270.57 | 4.06 | 139188.00 | 222274.50 | N 41 2 39.568 | W 111 5 24.585 |
| | 11600.00 | 11.00 | 120.00 | 11578.76 | 495.04 | -406.13 | 286.19 | 2.64 | 139180.55 | 222290.12 | N 41 2 39.496 | W 111 5 24.380 |
| | 11700.00 | 11.50 | 114.00 | 11676.84 | 511.42 | -414.96 | 303.56 | 1.27 | 139171.72 | 222307.49 | N 41 2 39.411 | W 111 5 24.152 |
| | 11800.00 | 11.75 | 113.00 | 11774.79 | 527.68 | -422.99 | 322.04 | 0.32 | 139163.69 | 222325.96 | N 41 2 39.334 | W 111 5 23.910 |
| | 11900.00 | 12.00 | 114.00 | 11872.65 | 544.29 | -431.20 | 340.91 | 0.32 | 139155.48 | 222344.83 | N 41 2 39.255 | W 111 5 23.663 |
| | 12000.00 | 12.00 | 116.00 | 11970.47 | 561.38 | -439.98 | 359.75 | 0.42 | 139146.70 | 222363.68 | N 41 2 39.170 | W 111 5 23.415 |
| | 12100.00 | 13.00 | 117.00 | 12068.10 | 579.49 | -449.64 | 379.11 | 1.02 | 139137.04 | 222383.04 | N 41 2 39.077 | W 111 5 23.161 |
| | 12200.00 | 13.75 | 118.00 | 12165.38 | 599.07 | -460.33 | 399.63 | 0.78 | 139126.35 | 222403.56 | N 41 2 38.974 | W 111 5 22.892 |
| | 12300.00 | 14.00 | 119.00 | 12262.47 | 619.58 | -471.77 | 420.70 | 0.35 | 139114.90 | 222424.63 | N 41 2 38.863 | W 111 5 22.615 |
| | 12400.00 | 14.25 | 120.00 | 12359.44 | 640.67 | -483.79 | 441.94 | 0.35 | 139102.89 | 222445.87 | N 41 2 38.747 | W 111 5 22.336 |
| | 12500.00 | 10.25 | 126.00 | 12457.15 | 659.52 | -495.18 | 459.80 | 4.19 | 139091.50 | 222463.74 | N 41 2 38.636 | W 111 5 22.101 |
| | 12600.00 | 10.00 | 139.00 | 12555.61 | 676.20 | -506.96 | 472.70 | 2.29 | 139079.71 | 222476.63 | N 41 2 38.521 | W 111 5 21.931 |
| | 12700.00 | 10.00 | 147.00 | 12654.09 | 693.41 | -520.80 | 483.12 | 1.39 | 139065.88 | 222487.06 | N 41 2 38.386 | W 111 5 21.793 |
| | 12800.00 | 10.00 | 157.00 | 12752.58 | 710.69 | -536.07 | 491.25 | 1.73 | 139050.60 | 222495.18 | N 41 2 38.236 | W 111 5 21.685 |
| | 12900.00 | 10.00 | 164.00 | 12851.06 | 727.72 | -552.41 | 497.03 | 1.21 | 139034.26 | 222500.97 | N 41 2 38.075 | W 111 5 21.607 |
| Tie-In | 12996.00 | 11.44 | 161.11 | 12945.39 | 745.13 | -569.43 | 502.41 | 1.60 | 139017.24 | 222506.35 | N 41 2 37.907 | W 111 5 21.534 |
| | 13046.00 | 16.30 | 131.90 | 12993.97 | 756.69 | -578.83 | 509.25 | 16.76 | 139007.85 | 222513.19 | N 41 2 37.815 | W 111 5 21.444 |
| | 13077.00 | 22.20 | 132.40 | 13023.23 | 766.43 | -585.69 | 516.82 | 19.04 | 139000.99 | 222520.76 | N 41 2 37.748 | W 111 5 21.344 |
| | 13109.00 | 27.40 | 125.30 | 13052.27 | 778.92 | -594.03 | 527.31 | 18.70 | 138992.65 | 222531.24 | N 41 2 37.667 | W 111 5 21.206 |
| | 13141.00 | 31.70 | 126.70 | 13080.10 | 793.37 | -603.31 | 540.06 | 13.61 | 138983.36 | 222544.00 | N 41 2 37.577 | W 111 5 21.038 |
| | 13174.00 | 35.00 | 127.50 | 13107.67 | 810.12 | -614.26 | 554.53 | 10.09 | 138972.42 | 222558.46 | N 41 2 37.470 | W 111 5 20.847 |
| | 13205.00 | 39.10 | 134.40 | 13132.41 | 827.80 | -626.52 | 568.58 | 18.82 | 138960.16 | 222572.51 | N 41 2 37.351 | W 111 5 20.662 |
| | 13236.00 | 40.90 | 134.90 | 13156.16 | 847.04 | -640.52 | 582.75 | 5.90 | 138946.15 | 222586.69 | N 41 2 37.214 | W 111 5 20.475 |
| | 13266.00 | 46.30 | 135.40 | 13177.88 | 867.06 | -655.19 | 597.33 | 18.04 | 138931.49 | 222601.27 | N 41 2 37.071 | W 111 5 20.283 |
| | 13297.00 | 51.10 | 138.00 | 13198.33 | 889.74 | -672.14 | 613.28 | 16.71 | 138914.53 | 222617.22 | N 41 2 36.905 | W 111 5 20.072 |
| | 13328.00 | 56.70 | 138.20 | 13216.59 | 914.27 | -690.78 | 630.00 | 18.07 | 138895.89 | 222633.94 | N 41 2 36.723 | W 111 5 19.851 |
| | 13359.00 | 61.40 | 138.30 | 13232.53 | 940.32 | -710.61 | 647.70 | 15.16 | 138876.06 | 222651.64 | N 41 2 36.529 | W 111 5 19.617 |
| | 13391.00 | 64.40 | 140.80 | 13247.11 | 968.36 | -732.29 | 666.17 | 11.67 | 138854.38 | 222670.11 | N 41 2 36.317 | W 111 5 19.373 |

| Station ID | MD (ft) | Incl (°) | Azim (°) | TVD (ft) | VSec (ft) | N/-S (ft) | E/-W (ft) | DLS (°/100ft) | Grid Coordinates Northing (ftUS) | Grid Coordinates Easting (ftUS) | Geographic Coordinates Latitude | Geographic Coordinates Longitude |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4500.00 | 4.00 | 150.00 | 4493.58 | 135.36 | -179.06 | -38.13 | 0.60 | 139407.63 | 221965.79 | N 41 2 41.703 | W 111 5 28.647 |
| | 4600.00 | 4.00 | 149.00 | 4593.33 | 142.34 | -185.07 | -34.59 | 0.07 | 139401.62 | 221969.33 | N 41 2 41.644 | W 111 5 28.600 |
| | 4700.00 | 4.50 | 147.00 | 4693.06 | 149.74 | -191.35 | -30.65 | 0.52 | 139395.34 | 221973.27 | N 41 2 41.582 | W 111 5 28.547 |
| | 4800.00 | 5.25 | 145.00 | 4792.70 | 158.22 | -198.39 | -25.89 | 0.77 | 139388.30 | 221978.03 | N 41 2 41.513 | W 111 5 28.484 |
| | 4900.00 | 4.75 | 146.00 | 4892.32 | 166.91 | -205.57 | -20.95 | 0.51 | 139381.12 | 221982.97 | N 41 2 41.443 | W 111 5 28.419 |
| | 5000.00 | 4.75 | 145.00 | 4991.97 | 175.17 | -212.39 | -16.26 | 0.08 | 139374.30 | 221987.66 | N 41 2 41.376 | W 111 5 28.356 |
| | 5100.00 | 5.00 | 144.00 | 5091.61 | 183.63 | -219.31 | -11.33 | 0.26 | 139367.38 | 221992.59 | N 41 2 41.308 | W 111 5 28.291 |
| | 5200.00 | 5.00 | 148.00 | 5191.23 | 192.33 | -226.53 | -6.46 | 0.35 | 139360.16 | 221997.46 | N 41 2 41.237 | W 111 5 28.226 |
| | 5300.00 | 4.75 | 151.00 | 5290.87 | 200.82 | -233.85 | -2.14 | 0.36 | 139352.84 | 222001.78 | N 41 2 41.165 | W 111 5 28.169 |
| | 5400.00 | 4.50 | 161.00 | 5390.54 | 208.81 | -241.18 | 1.15 | 0.84 | 139345.51 | 222005.07 | N 41 2 41.093 | W 111 5 28.125 |
| | 5500.00 | 4.25 | 172.00 | 5490.25 | 216.08 | -248.55 | 2.94 | 0.87 | 139338.13 | 222006.86 | N 41 2 41.021 | W 111 5 28.100 |
| | 5600.00 | 4.00 | 187.00 | 5590.00 | 222.29 | -255.69 | 3.03 | 1.10 | 139331.00 | 222006.95 | N 41 2 40.950 | W 111 5 28.098 |
| | 5700.00 | 5.00 | 159.00 | 5689.70 | 229.36 | -263.22 | 4.17 | 2.38 | 139323.47 | 222008.09 | N 41 2 40.876 | W 111 5 28.082 |
| | 5800.00 | 5.00 | 149.00 | 5789.32 | 238.02 | -271.02 | 7.97 | 0.87 | 139315.66 | 222011.89 | N 41 2 40.799 | W 111 5 28.031 |
| | 5900.00 | 5.25 | 155.00 | 5888.92 | 246.93 | -278.90 | 12.15 | 0.59 | 139307.78 | 222016.07 | N 41 2 40.722 | W 111 5 27.976 |
| | 6000.00 | 5.00 | 153.00 | 5988.52 | 255.84 | -286.93 | 16.06 | 0.31 | 139299.75 | 222019.98 | N 41 2 40.643 | W 111 5 27.923 |
| | 6100.00 | 4.75 | 147.00 | 6088.16 | 264.33 | -294.29 | 20.30 | 0.57 | 139292.40 | 222024.22 | N 41 2 40.571 | W 111 5 27.867 |
| | 6200.00 | 4.00 | 142.00 | 6187.87 | 271.92 | -300.51 | 24.70 | 0.84 | 139286.18 | 222028.62 | N 41 2 40.510 | W 111 5 27.809 |
| | 6300.00 | 4.00 | 139.00 | 6287.63 | 278.80 | -305.89 | 29.13 | 0.21 | 139280.79 | 222033.05 | N 41 2 40.457 | W 111 5 27.750 |
| | 6400.00 | 3.75 | 131.00 | 6387.40 | 285.33 | -310.67 | 33.89 | 0.59 | 139276.02 | 222037.81 | N 41 2 40.410 | W 111 5 27.687 |
| | 6500.00 | 3.75 | 130.00 | 6487.18 | 291.50 | -314.91 | 38.86 | 0.07 | 139271.77 | 222042.78 | N 41 2 40.369 | W 111 5 27.622 |
| | 6600.00 | 3.75 | 128.00 | 6586.97 | 297.62 | -319.03 | 43.94 | 0.13 | 139267.65 | 222047.87 | N 41 2 40.329 | W 111 5 27.555 |
| | 6700.00 | 3.75 | 125.00 | 6686.76 | 303.63 | -322.92 | 49.20 | 0.20 | 139263.76 | 222053.12 | N 41 2 40.291 | W 111 5 27.485 |
| | 6800.00 | 3.50 | 119.00 | 6786.56 | 309.22 | -326.27 | 54.55 | 0.45 | 139260.41 | 222058.47 | N 41 2 40.259 | W 111 5 27.415 |
| | 6900.00 | 3.75 | 119.00 | 6886.36 | 314.66 | -329.34 | 60.08 | 0.25 | 139257.34 | 222064.00 | N 41 2 40.229 | W 111 5 27.343 |
| | 7000.00 | 3.75 | 120.00 | 6986.14 | 320.31 | -332.56 | 65.77 | 0.07 | 139254.12 | 222069.69 | N 41 2 40.198 | W 111 5 27.268 |
| | 7100.00 | 3.50 | 118.00 | 7085.94 | 325.75 | -335.63 | 71.30 | 0.28 | 139251.05 | 222075.22 | N 41 2 40.168 | W 111 5 27.195 |
| | 7200.00 | 3.50 | 121.00 | 7185.76 | 331.03 | -338.63 | 76.61 | 0.18 | 139248.05 | 222080.53 | N 41 2 40.139 | W 111 5 27.125 |
| | 7300.00 | 3.25 | 120.00 | 7285.58 | 336.17 | -341.62 | 81.68 | 0.26 | 139245.06 | 222085.60 | N 41 2 40.110 | W 111 5 27.059 |
| | 7400.00 | 3.00 | 118.00 | 7385.43 | 340.85 | -344.27 | 86.45 | 0.27 | 139242.41 | 222090.37 | N 41 2 40.085 | W 111 5 26.996 |
| | 7500.00 | 3.00 | 119.00 | 7485.30 | 345.33 | -346.77 | 91.05 | 0.05 | 139239.92 | 222094.97 | N 41 2 40.060 | W 111 5 26.936 |
| | 7600.00 | 3.00 | 120.00 | 7585.16 | 349.85 | -349.34 | 95.60 | 0.05 | 139237.34 | 222099.52 | N 41 2 40.035 | W 111 5 26.876 |
| | 7700.00 | 2.75 | 117.00 | 7685.03 | 354.15 | -351.74 | 100.00 | 0.29 | 139234.94 | 222103.93 | N 41 2 40.012 | W 111 5 26.818 |

| Station ID | MD (ft) | Incl (°) | Azim (°) | TVD (ft) | VSec (ft) | N/-S (ft) | E/-W (ft) | DLS (°/100ft) | Grid Coordinates Northing (ftUS) | Grid Coordinates Easting (ftUS) | Geographic Coordinates Latitude | Geographic Coordinates Longitude |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7800.00 | 2.50 | 112.00 | 7784.93 | 357.89 | -353.65 | 104.16 | 0.34 | 139233.04 | 222108.09 | N 41 2 39.994 | W 111 5 26.764 |
| | 7900.00 | 2.25 | 109.00 | 7884.84 | 361.10 | -355.10 | 108.04 | 0.28 | 139231.58 | 222111.96 | N 41 2 39.980 | W 111 5 26.713 |
| | 8000.00 | 2.25 | 109.00 | 7984.77 | 364.08 | -356.38 | 111.75 | 0.00 | 139230.30 | 222115.68 | N 41 2 39.968 | W 111 5 26.664 |
| | 8100.00 | 2.25 | 109.00 | 8084.69 | 367.06 | -357.66 | 115.47 | 0.00 | 139229.02 | 222119.39 | N 41 2 39.956 | W 111 5 26.616 |
| | 8200.00 | 2.50 | 107.00 | 8184.60 | 370.15 | -358.94 | 119.41 | 0.26 | 139227.75 | 222123.33 | N 41 2 39.943 | W 111 5 26.564 |
| | 8300.00 | 2.50 | 107.00 | 8284.51 | 373.35 | -360.21 | 123.58 | 0.00 | 139226.47 | 222127.50 | N 41 2 39.931 | W 111 5 26.509 |
| | 8400.00 | 2.25 | 106.00 | 8384.42 | 376.38 | -361.39 | 127.55 | 0.25 | 139225.29 | 222131.48 | N 41 2 39.920 | W 111 5 26.457 |
| | 8500.00 | 2.00 | 99.00 | 8484.35 | 378.90 | -362.20 | 131.16 | 0.36 | 139224.48 | 222135.09 | N 41 2 39.912 | W 111 5 26.410 |
| | 8600.00 | 2.00 | 100.00 | 8584.29 | 381.13 | -362.78 | 134.60 | 0.03 | 139223.90 | 222138.53 | N 41 2 39.907 | W 111 5 26.365 |
| | 8700.00 | 2.00 | 100.00 | 8684.23 | 383.39 | -363.39 | 138.04 | 0.00 | 139223.30 | 222141.96 | N 41 2 39.902 | W 111 5 26.320 |
| | 8800.00 | 2.00 | 100.00 | 8784.17 | 385.65 | -363.99 | 141.48 | 0.00 | 139222.69 | 222145.40 | N 41 2 39.896 | W 111 5 26.275 |
| | 8900.00 | 1.75 | 100.00 | 8884.12 | 387.76 | -364.56 | 144.70 | 0.25 | 139222.12 | 222148.62 | N 41 2 39.891 | W 111 5 26.233 |
| | 9000.00 | 2.00 | 100.00 | 8984.06 | 389.88 | -365.13 | 147.92 | 0.25 | 139221.55 | 222151.85 | N 41 2 39.885 | W 111 5 26.191 |
| | 9100.00 | 2.00 | 101.00 | 9084.00 | 392.16 | -365.76 | 151.35 | 0.03 | 139220.92 | 222155.28 | N 41 2 39.880 | W 111 5 26.146 |
| | 9200.00 | 2.00 | 100.00 | 9183.94 | 394.44 | -366.40 | 154.79 | 0.03 | 139220.28 | 222158.71 | N 41 2 39.874 | W 111 5 26.101 |
| | 9300.00 | 2.00 | 104.00 | 9283.88 | 396.79 | -367.12 | 158.20 | 0.14 | 139219.56 | 222162.12 | N 41 2 39.867 | W 111 5 26.056 |
| | 9400.00 | 1.75 | 100.00 | 9383.83 | 398.99 | -367.81 | 161.39 | 0.28 | 139218.87 | 222165.32 | N 41 2 39.860 | W 111 5 26.015 |
| | 9500.00 | 2.00 | 102.00 | 9483.77 | 401.16 | -368.44 | 164.60 | 0.26 | 139218.24 | 222168.53 | N 41 2 39.855 | W 111 5 25.973 |
| | 9600.00 | 2.00 | 102.00 | 9583.71 | 403.51 | -369.17 | 168.02 | 0.00 | 139217.52 | 222171.94 | N 41 2 39.848 | W 111 5 25.928 |
| | 9700.00 | 2.00 | 102.00 | 9683.65 | 405.85 | -369.89 | 171.43 | 0.00 | 139216.79 | 222175.36 | N 41 2 39.841 | W 111 5 25.883 |
| | 9800.00 | 2.00 | 104.00 | 9783.59 | 408.25 | -370.68 | 174.83 | 0.07 | 139216.01 | 222178.76 | N 41 2 39.834 | W 111 5 25.839 |
| | 9900.00 | 2.25 | 102.00 | 9883.52 | 410.79 | -371.51 | 178.44 | 0.26 | 139215.18 | 222182.37 | N 41 2 39.826 | W 111 5 25.792 |
| | 10000.00 | 2.50 | 101.00 | 9983.44 | 413.55 | -372.33 | 182.51 | 0.25 | 139214.35 | 222186.43 | N 41 2 39.818 | W 111 5 25.738 |
| | 10100.00 | 2.75 | 106.00 | 10083.33 | 416.72 | -373.41 | 186.95 | 0.34 | 139213.27 | 222190.88 | N 41 2 39.808 | W 111 5 25.680 |
| | 10200.00 | 3.00 | 104.00 | 10183.20 | 420.28 | -374.70 | 191.80 | 0.27 | 139211.98 | 222195.72 | N 41 2 39.796 | W 111 5 25.617 |
| | 10300.00 | 3.25 | 103.00 | 10283.06 | 424.06 | -375.97 | 197.10 | 0.26 | 139210.71 | 222201.02 | N 41 2 39.784 | W 111 5 25.548 |
| | 10400.00 | 3.75 | 104.00 | 10382.87 | 428.28 | -377.40 | 203.03 | 0.50 | 139209.28 | 222206.96 | N 41 2 39.770 | W 111 5 25.470 |
| | 10500.00 | 4.00 | 107.00 | 10482.64 | 433.13 | -379.21 | 209.54 | 0.32 | 139207.47 | 222213.47 | N 41 2 39.753 | W 111 5 25.385 |
| | 10600.00 | 4.00 | 110.00 | 10582.40 | 438.38 | -381.43 | 216.16 | 0.21 | 139205.26 | 222220.08 | N 41 2 39.732 | W 111 5 25.298 |
| | 10700.00 | 4.00 | 111.00 | 10682.15 | 443.78 | -383.87 | 222.69 | 0.07 | 139202.81 | 222226.61 | N 41 2 39.709 | W 111 5 25.212 |
| | 10800.00 | 3.75 | 110.00 | 10781.92 | 449.02 | -386.24 | 229.02 | 0.26 | 139200.44 | 222232.94 | N 41 2 39.686 | W 111 5 25.129 |
| | 10900.00 | 3.25 | 114.00 | 10881.74 | 453.84 | -388.51 | 234.68 | 0.56 | 139198.17 | 222238.61 | N 41 2 39.664 | W 111 5 25.055 |

| Station ID | MD (ft) | Incl (°) | Azim (°) | TVD (ft) | VSec (ft) | N/-S (ft) | E/-W (ft) | DLS (°/100ft) | Grid Coordinates Northing (ftUS) | Grid Coordinates Easting (ftUS) | Geographic Coordinates Latitude | Geographic Coordinates Longitude |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 13421.00 | 67.60 | 143.30 | 13259.31 | 995.51 | -753.90 | 683.02 | 13.10 | 138832.77 | 222686.95 | N 41 2 36.105 | W 111 5 19.150 |
| | 13453.00 | 73.00 | 145.30 | 13270.09 | 1025.49 | -778.36 | 700.58 | 17.87 | 138808.31 | 222704.52 | N 41 2 35.866 | W 111 5 18.917 |
| | 13483.00 | 78.40 | 146.30 | 13277.50 | 1054.49 | -802.40 | 716.91 | 18.29 | 138784.27 | 222720.85 | N 41 2 35.630 | W 111 5 18.700 |
| | 13511.00 | 83.40 | 147.80 | 13281.93 | 1082.10 | -825.59 | 731.94 | 18.62 | 138761.08 | 222735.88 | N 41 2 35.403 | W 111 5 18.501 |
| | 13545.00 | 89.40 | 152.20 | 13284.06 | 1116.00 | -854.96 | 748.89 | 21.86 | 138731.71 | 222752.83 | N 41 2 35.114 | W 111 5 18.275 |
| | 13576.00 | 95.20 | 155.30 | 13282.82 | 1146.88 | -882.72 | 762.59 | 21.21 | 138703.95 | 222766.53 | N 41 2 34.842 | W 111 5 18.092 |
| | 13606.00 | 100.40 | 157.80 | 13278.75 | 1176.38 | -909.98 | 774.41 | 19.20 | 138676.69 | 222778.36 | N 41 2 34.574 | W 111 5 17.934 |
| | 13698.00 | 105.10 | 165.90 | 13258.42 | 1264.01 | -995.12 | 802.39 | 9.99 | 138591.54 | 222806.33 | N 41 2 33.736 | W 111 5 17.556 |
| | 13790.00 | 103.90 | 172.80 | 13235.36 | 1347.83 | -1082.60 | 818.82 | 7.38 | 138504.06 | 222822.77 | N 41 2 32.873 | W 111 5 17.328 |
| | 13882.00 | 102.30 | 178.30 | 13214.49 | 1428.43 | -1171.90 | 825.76 | 6.08 | 138414.76 | 222829.70 | N 41 2 31.992 | W 111 5 17.224 |
| | 13913.00 | 100.10 | 182.20 | 13208.47 | 1454.61 | -1202.30 | 825.62 | 14.24 | 138384.36 | 222829.57 | N 41 2 31.691 | W 111 5 17.221 |
| | 13943.00 | 101.50 | 186.30 | 13202.84 | 1478.87 | -1231.68 | 823.44 | 14.21 | 138354.98 | 222827.38 | N 41 2 31.401 | W 111 5 17.246 |
| | 13974.00 | 104.20 | 186.30 | 13195.95 | 1503.14 | -1261.72 | 820.13 | 8.71 | 138324.94 | 222824.07 | N 41 2 31.104 | W 111 5 17.284 |
| | 14004.00 | 106.70 | 183.40 | 13187.96 | 1526.77 | -1290.52 | 817.68 | 12.50 | 138296.13 | 222821.62 | N 41 2 30.819 | W 111 5 17.312 |
| | 14035.00 | 106.80 | 173.00 | 13179.00 | 1552.82 | -1320.14 | 818.61 | 32.12 | 138266.51 | 222822.55 | N 41 2 30.526 | W 111 5 17.295 |
| | 14066.00 | 105.60 | 174.20 | 13170.35 | 1580.03 | -1349.73 | 821.92 | 5.37 | 138236.93 | 222825.87 | N 41 2 30.234 | W 111 5 17.248 |
| | 14096.00 | 103.80 | 183.80 | 13162.72 | 1605.30 | -1378.70 | 822.42 | 31.52 | 138207.95 | 222826.36 | N 41 2 29.948 | W 111 5 17.237 |
| | 14126.00 | 102.60 | 176.40 | 13155.86 | 1630.47 | -1407.89 | 822.37 | 24.34 | 138178.77 | 222826.32 | N 41 2 29.660 | W 111 5 17.233 |
| | 14157.00 | 103.10 | 179.80 | 13148.97 | 1657.05 | -1438.09 | 823.38 | 10.81 | 138148.57 | 222827.32 | N 41 2 29.362 | W 111 5 17.215 |
| | 14188.00 | 103.10 | 182.40 | 13141.94 | 1682.82 | -1468.27 | 822.80 | 8.17 | 138118.38 | 222826.74 | N 41 2 29.063 | W 111 5 17.218 |
| | 14218.00 | 103.20 | 183.50 | 13135.11 | 1707.25 | -1497.45 | 821.29 | 3.59 | 138089.20 | 222825.24 | N 41 2 28.775 | W 111 5 17.234 |
| | 14249.00 | 102.80 | 183.40 | 13128.14 | 1732.37 | -1527.60 | 819.48 | 1.33 | 138059.05 | 222823.42 | N 41 2 28.477 | W 111 5 17.253 |
| | 14280.00 | 103.10 | 183.30 | 13121.19 | 1757.52 | -1557.76 | 817.71 | 1.02 | 138028.89 | 222821.65 | N 41 2 28.179 | W 111 5 17.271 |
| | 14311.00 | 103.70 | 182.50 | 13114.01 | 1782.75 | -1587.87 | 816.18 | 3.17 | 137998.77 | 222820.13 | N 41 2 27.881 | W 111 5 17.287 |
| | 14341.00 | 103.80 | 180.90 | 13106.88 | 1807.46 | -1617.00 | 815.32 | 5.19 | 137969.65 | 222819.26 | N 41 2 27.593 | W 111 5 17.294 |
| | 14372.00 | 104.60 | 184.30 | 13099.27 | 1832.69 | -1647.02 | 813.96 | 10.94 | 137939.63 | 222817.90 | N 41 2 27.296 | W 111 5 17.307 |
| | 14403.00 | 105.50 | 175.80 | 13091.21 | 1858.50 | -1676.92 | 813.93 | 26.64 | 137909.72 | 222817.87 | N 41 2 27.001 | W 111 5 17.303 |
| | 14434.00 | 105.80 | 175.80 | 13082.84 | 1885.30 | -1706.69 | 816.11 | 0.97 | 137879.95 | 222820.06 | N 41 2 26.707 | W 111 5 17.270 |
| | 14464.00 | 105.60 | 173.00 | 13074.73 | 1911.54 | -1735.43 | 818.93 | 9.01 | 137851.21 | 222822.87 | N 41 2 26.423 | W 111 5 17.229 |
| | 14495.00 | 105.70 | 170.80 | 13066.36 | 1939.17 | -1764.98 | 823.14 | 6.84 | 137821.66 | 222827.08 | N 41 2 26.132 | W 111 5 17.169 |
| | 14526.00 | 105.50 | 168.00 | 13058.02 | 1967.28 | -1794.33 | 828.63 | 8.72 | 137792.31 | 222832.57 | N 41 2 25.842 | W 111 5 17.093 |
| Projected to TD | 14583.00 | 105.50 | 168.00 | 13042.79 | 2019.43 | -1848.05 | 840.05 | 0.00 | 137738.59 | 222843.99 | N 41 2 25.313 | W 111 5 16.936 |

ATTACHMENT NO. 5

BP Amoco

*North Lateral*

**Schlumberger**

Schlumberger

# Survey

| | |
|---|---|
| **Client:** | BP/Amoco Production Company |
| **Field:** | UT Summit County |
| **Structure:** | Amoco Anschutz Ranch East Field W31-04 |
| **Well:** | Sec 31 T4N R8E Well W31-04 |
| **Borehole:** | North Lateral |
| **UWI/API#:** | |
| **Date:** | January 12, 2000 |
| **Grid Convergence:** | -0.66183572° |
| **Scale Factor:** | 1.00002951 |
| **Location:** | N 41 2 43.476, W 111 5 28.176 |
| : | N 139586.692 ftUS, E 222003.920 ftUS |
| **Coordinate System:** | NAD27 Wyoming State Planes, Western Zone, US Feet |

| | |
|---|---|
| **Survey Computation Method:** | Minimum Curvature |
| **DLS Computation Method:** | Lubinski |
| **Vertical Section Azimuth:** | 94.560° |
| **Vertical Section Origin:** | N 0.000 ft, E 0.000 ft |
| **TVD Reference:** | RKB |
| | 7926.0 ft above MSL |
| **Magnetic Declination:** | 13.473° |
| **Total Field Strength:** | 53844.806 nT |
| **Dip:** | 66.734° |
| **Declination Date:** | January 11, 2000 |
| **Magnetic Declination Model:** | BGGM 1999 |
| **North Reference:** | Grid North |
| **Coordinate Reference To:** | Well Head |

| | | | | | | | | | Grid Coordinates | | Geographic Coordinates | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Station ID** | **MD** (ft) | **Incl** (°) | **Azim** (°) | **TVD** (ft) | **VSec** (ft) | **N/-S** (ft) | **E/-W** (ft) | **DLS** (°/100ft) | **Northing** (ftUS) | **Easting** (ftUS) | **Latitude** | **Longitude** |
| Tie-In | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 139586.69 | 222003.92 | N 41 2 43.476 | W 111 5 28.176 |
| | 100.00 | 0.25 | 61.00 | 100.00 | 0.18 | 0.11 | 0.19 | 0.25 | 139586.80 | 222004.11 | N 41 2 43.477 | W 111 5 28.174 |
| | 200.00 | 0.50 | 44.00 | 200.00 | 0.64 | 0.53 | 0.68 | 0.27 | 139587.22 | 222004.60 | N 41 2 43.481 | W 111 5 28.167 |
| | 300.00 | 0.25 | 23.00 | 300.00 | 0.99 | 1.04 | 1.07 | 0.28 | 139587.73 | 222004.99 | N 41 2 43.486 | W 111 5 28.162 |
| | 400.00 | 0.50 | 42.00 | 399.99 | 1.32 | 1.57 | 1.45 | 0.28 | 139588.26 | 222005.37 | N 41 2 43.492 | W 111 5 28.158 |
| | 500.00 | 0.00 | 0.00 | 499.99 | 1.59 | 1.89 | 1.74 | 0.50 | 139588.58 | 222005.66 | N 41 2 43.495 | W 111 5 28.154 |
| | 600.00 | 0.00 | 0.00 | 599.99 | 1.59 | 1.89 | 1.74 | 0.00 | 139588.58 | 222005.66 | N 41 2 43.495 | W 111 5 28.154 |
| | 700.00 | 0.25 | 329.00 | 699.99 | 1.46 | 2.08 | 1.63 | 0.25 | 139588.77 | 222005.55 | N 41 2 43.497 | W 111 5 28.155 |
| | 800.00 | 0.00 | 0.00 | 799.99 | 1.33 | 2.26 | 1.52 | 0.25 | 139588.96 | 222005.44 | N 41 2 43.499 | W 111 5 28.157 |
| | 900.00 | 0.25 | 221.00 | 899.99 | 1.20 | 2.10 | 1.37 | 0.25 | 139588.79 | 222005.29 | N 41 2 43.497 | W 111 5 28.159 |
| | 1000.00 | 0.25 | 221.00 | 999.99 | 0.94 | 1.77 | 1.09 | 0.00 | 139588.46 | 222005.01 | N 41 2 43.494 | W 111 5 28.162 |
| | 1100.00 | 0.75 | 217.00 | 1099.99 | 0.46 | 1.08 | 0.55 | 0.50 | 139587.77 | 222004.47 | N 41 2 43.487 | W 111 5 28.169 |
| | 1200.00 | 1.00 | 217.00 | 1199.97 | -0.36 | -0.14 | -0.37 | 0.25 | 139586.55 | 222003.55 | N 41 2 43.475 | W 111 5 28.181 |

| Station ID | MD (ft) | Incl (°) | Azim (°) | TVD (ft) | VSec (ft) | N/-S (ft) | E/-W (ft) | DLS (°/100ft) | Grid Coordinates Northing (ftUS) | Grid Coordinates Easting (ftUS) | Geographic Coordinates Latitude | Geographic Coordinates Longitude |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1300.00 | 2.00 | 219.00 | 1299.94 | -1.81 | -2.19 | -1.99 | 1.00 | 139584.50 | 222001.93 | N 41 2 43.454 | W 111 5 28.202 |
| | 1400.00 | 2.00 | 219.00 | 1399.88 | -3.78 | -4.90 | -4.19 | 0.00 | 139581.79 | 221999.73 | N 41 2 43.427 | W 111 5 28.230 |
| | 1500.00 | 2.25 | 221.00 | 1499.81 | -5.94 | -7.74 | -6.57 | 0.26 | 139578.95 | 221997.35 | N 41 2 43.399 | W 111 5 28.261 |
| | 1600.00 | 2.25 | 222.00 | 1599.73 | -8.30 | -10.68 | -9.17 | 0.04 | 139576.01 | 221994.74 | N 41 2 43.369 | W 111 5 28.294 |
| | 1700.00 | 2.75 | 223.00 | 1699.64 | -10.98 | -13.89 | -12.12 | 0.50 | 139572.80 | 221991.80 | N 41 2 43.337 | W 111 5 28.332 |
| | 1800.00 | 3.00 | 223.00 | 1799.51 | -14.10 | -17.56 | -15.55 | 0.25 | 139569.13 | 221988.37 | N 41 2 43.301 | W 111 5 28.376 |
| | 1900.00 | 3.00 | 222.00 | 1899.37 | -17.32 | -21.42 | -19.08 | 0.05 | 139565.27 | 221984.84 | N 41 2 43.262 | W 111 5 28.422 |
| | 2000.00 | 3.00 | 223.00 | 1999.24 | -20.54 | -25.28 | -22.62 | 0.05 | 139561.41 | 221981.30 | N 41 2 43.224 | W 111 5 28.468 |
| | 2100.00 | 3.50 | 224.00 | 2099.08 | -24.10 | -29.39 | -26.52 | 0.50 | 139557.30 | 221977.40 | N 41 2 43.183 | W 111 5 28.518 |
| | 2200.00 | 4.00 | 224.00 | 2198.86 | -28.26 | -34.09 | -31.06 | 0.50 | 139552.60 | 221972.85 | N 41 2 43.136 | W 111 5 28.576 |
| | 2300.00 | 4.00 | 222.00 | 2298.62 | -32.59 | -39.19 | -35.82 | 0.14 | 139547.50 | 221968.10 | N 41 2 43.085 | W 111 5 28.638 |
| | 2400.00 | 4.00 | 219.00 | 2398.37 | -36.68 | -44.50 | -40.35 | 0.21 | 139542.19 | 221963.57 | N 41 2 43.032 | W 111 5 28.696 |
| | 2500.00 | 4.00 | 213.00 | 2498.13 | -40.32 | -50.13 | -44.44 | 0.42 | 139536.56 | 221959.47 | N 41 2 42.976 | W 111 5 28.749 |
| | 2600.00 | 4.00 | 211.00 | 2597.89 | -43.53 | -56.05 | -48.14 | 0.14 | 139530.64 | 221955.78 | N 41 2 42.917 | W 111 5 28.796 |
| | 2700.00 | 3.75 | 206.00 | 2697.66 | -46.28 | -61.98 | -51.37 | 0.42 | 139524.71 | 221952.55 | N 41 2 42.858 | W 111 5 28.837 |
| | 2800.00 | 3.50 | 197.00 | 2797.46 | -48.13 | -67.83 | -53.70 | 0.62 | 139518.86 | 221950.22 | N 41 2 42.800 | W 111 5 28.867 |
| | 2900.00 | 3.25 | 189.00 | 2897.29 | -49.01 | -73.55 | -55.03 | 0.53 | 139513.14 | 221948.89 | N 41 2 42.743 | W 111 5 28.883 |
| | 3000.00 | 3.75 | 188.00 | 2997.10 | -49.43 | -79.59 | -55.93 | 0.50 | 139507.10 | 221947.99 | N 41 2 42.683 | W 111 5 28.894 |
| | 3100.00 | 3.75 | 183.00 | 3096.89 | -49.53 | -86.10 | -56.56 | 0.33 | 139500.59 | 221947.36 | N 41 2 42.619 | W 111 5 28.901 |
| | 3200.00 | 4.00 | 182.00 | 3196.66 | -49.29 | -92.85 | -56.85 | 0.26 | 139493.84 | 221947.07 | N 41 2 42.552 | W 111 5 28.904 |
| | 3300.00 | 4.00 | 180.00 | 3296.41 | -48.86 | -99.82 | -56.97 | 0.14 | 139486.87 | 221946.95 | N 41 2 42.483 | W 111 5 28.905 |
| | 3400.00 | 4.00 | 179.00 | 3396.17 | -48.24 | -106.80 | -56.91 | 0.07 | 139479.89 | 221947.01 | N 41 2 42.414 | W 111 5 28.903 |
| | 3500.00 | 4.00 | 175.00 | 3495.93 | -47.32 | -113.76 | -56.55 | 0.28 | 139472.93 | 221947.37 | N 41 2 42.346 | W 111 5 28.897 |
| | 3600.00 | 4.00 | 174.00 | 3595.68 | -46.10 | -120.70 | -55.88 | 0.07 | 139465.99 | 221948.04 | N 41 2 42.277 | W 111 5 28.887 |
| | 3700.00 | 4.00 | 174.00 | 3695.44 | -44.83 | -127.64 | -55.15 | 0.00 | 139459.05 | 221948.77 | N 41 2 42.209 | W 111 5 28.877 |
| | 3800.00 | 4.00 | 171.00 | 3795.20 | -43.37 | -134.55 | -54.24 | 0.21 | 139452.14 | 221949.68 | N 41 2 42.140 | W 111 5 28.864 |
| | 3900.00 | 4.25 | 166.00 | 3894.94 | -41.37 | -141.59 | -52.80 | 0.44 | 139445.10 | 221951.12 | N 41 2 42.071 | W 111 5 28.844 |
| | 4000.00 | 4.00 | 161.00 | 3994.68 | -38.80 | -148.48 | -50.76 | 0.44 | 139438.20 | 221953.15 | N 41 2 42.003 | W 111 5 28.816 |
| | 4100.00 | 4.00 | 160.00 | 4094.43 | -35.95 | -155.06 | -48.44 | 0.07 | 139431.63 | 221955.48 | N 41 2 41.938 | W 111 5 28.785 |
| | 4200.00 | 3.75 | 160.00 | 4194.21 | -33.15 | -161.41 | -46.12 | 0.25 | 139425.28 | 221957.79 | N 41 2 41.876 | W 111 5 28.754 |
| | 4300.00 | 3.75 | 157.00 | 4293.99 | -30.27 | -167.49 | -43.73 | 0.20 | 139419.19 | 221960.19 | N 41 2 41.816 | W 111 5 28.722 |
| | 4400.00 | 3.50 | 155.00 | 4393.79 | -27.25 | -173.27 | -41.16 | 0.28 | 139413.42 | 221962.76 | N 41 2 41.759 | W 111 5 28.687 |

| Station ID | MD (ft) | Incl (°) | Azim (°) | TVD (ft) | VSec (ft) | N/-S (ft) | E/-W (ft) | DLS (°/100ft) | Grid Coordinates Northing (ftUS) | Grid Coordinates Easting (ftUS) | Geographic Coordinates Latitude | Geographic Coordinates Longitude |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4500.00 | 4.00 | 150.00 | 4493.58 | -23.77 | -179.06 | -38.13 | 0.60 | 139407.63 | 221965.79 | N 41 2 41.703 | W 111 5 28.647 |
| | 4600.00 | 4.00 | 149.00 | 4593.33 | -19.76 | -185.07 | -34.59 | 0.07 | 139401.62 | 221969.33 | N 41 2 41.644 | W 111 5 28.600 |
| | 4700.00 | 4.50 | 147.00 | 4693.06 | -15.34 | -191.35 | -30.65 | 0.52 | 139395.34 | 221973.27 | N 41 2 41.582 | W 111 5 28.547 |
| | 4800.00 | 5.25 | 145.00 | 4792.70 | -10.04 | -198.39 | -25.89 | 0.77 | 139388.30 | 221978.03 | N 41 2 41.513 | W 111 5 28.484 |
| | 4900.00 | 4.75 | 146.00 | 4892.32 | -4.54 | -205.57 | -20.95 | 0.51 | 139381.12 | 221982.97 | N 41 2 41.443 | W 111 5 28.419 |
| | 5000.00 | 4.75 | 145.00 | 4991.97 | 0.67 | -212.39 | -16.26 | 0.08 | 139374.30 | 221987.66 | N 41 2 41.376 | W 111 5 28.356 |
| | 5100.00 | 5.00 | 144.00 | 5091.61 | 6.14 | -219.31 | -11.33 | 0.26 | 139367.38 | 221992.59 | N 41 2 41.308 | W 111 5 28.291 |
| | 5200.00 | 5.00 | 148.00 | 5191.23 | 11.57 | -226.53 | -6.46 | 0.35 | 139360.16 | 221997.46 | N 41 2 41.237 | W 111 5 28.226 |
| | 5300.00 | 4.75 | 151.00 | 5290.87 | 16.46 | -233.85 | -2.14 | 0.36 | 139352.84 | 222001.78 | N 41 2 41.165 | W 111 5 28.169 |
| | 5400.00 | 4.50 | 161.00 | 5390.54 | 20.32 | -241.18 | 1.15 | 0.84 | 139345.51 | 222005.07 | N 41 2 41.093 | W 111 5 28.125 |
| | 5500.00 | 4.25 | 172.00 | 5490.25 | 22.69 | -248.55 | 2.94 | 0.87 | 139338.13 | 222006.86 | N 41 2 41.021 | W 111 5 28.100 |
| | 5600.00 | 4.00 | 187.00 | 5590.00 | 23.35 | -255.69 | 3.03 | 1.10 | 139331.00 | 222006.95 | N 41 2 40.950 | W 111 5 28.098 |
| | 5700.00 | 5.00 | 159.00 | 5689.70 | 25.08 | -263.22 | 4.17 | 2.38 | 139323.47 | 222008.09 | N 41 2 40.876 | W 111 5 28.082 |
| | 5800.00 | 5.00 | 149.00 | 5789.32 | 29.49 | -271.02 | 7.97 | 0.87 | 139315.66 | 222011.89 | N 41 2 40.799 | W 111 5 28.031 |
| | 5900.00 | 5.25 | 155.00 | 5888.92 | 34.28 | -278.90 | 12.15 | 0.59 | 139307.78 | 222016.07 | N 41 2 40.722 | W 111 5 27.976 |
| | 6000.00 | 5.00 | 153.00 | 5988.52 | 38.82 | -286.93 | 16.06 | 0.31 | 139299.75 | 222019.98 | N 41 2 40.643 | W 111 5 27.923 |
| | 6100.00 | 4.75 | 147.00 | 6088.16 | 43.63 | -294.29 | 20.30 | 0.57 | 139292.40 | 222024.22 | N 41 2 40.571 | W 111 5 27.867 |
| | 6200.00 | 4.00 | 142.00 | 6187.87 | 48.51 | -300.51 | 24.70 | 0.84 | 139286.18 | 222028.62 | N 41 2 40.510 | W 111 5 27.809 |
| | 6300.00 | 4.00 | 139.00 | 6287.63 | 53.36 | -305.89 | 29.13 | 0.21 | 139280.79 | 222033.05 | N 41 2 40.457 | W 111 5 27.750 |
| | 6400.00 | 3.75 | 131.00 | 6387.40 | 58.48 | -310.67 | 33.89 | 0.59 | 139276.02 | 222037.81 | N 41 2 40.410 | W 111 5 27.687 |
| | 6500.00 | 3.75 | 130.00 | 6487.18 | 63.78 | -314.91 | 38.86 | 0.07 | 139271.77 | 222042.78 | N 41 2 40.369 | W 111 5 27.622 |
| | 6600.00 | 3.75 | 128.00 | 6586.97 | 69.17 | -319.03 | 43.94 | 0.13 | 139267.65 | 222047.87 | N 41 2 40.329 | W 111 5 27.555 |
| | 6700.00 | 3.75 | 125.00 | 6686.76 | 74.72 | -322.92 | 49.20 | 0.20 | 139263.76 | 222053.12 | N 41 2 40.291 | W 111 5 27.485 |
| | 6800.00 | 3.50 | 119.00 | 6786.56 | 80.32 | -326.27 | 54.55 | 0.45 | 139260.41 | 222058.47 | N 41 2 40.259 | W 111 5 27.415 |
| | 6900.00 | 3.75 | 119.00 | 6886.36 | 86.07 | -329.34 | 60.08 | 0.25 | 139257.34 | 222064.00 | N 41 2 40.229 | W 111 5 27.343 |
| | 7000.00 | 3.75 | 120.00 | 6986.14 | 92.00 | -332.56 | 65.77 | 0.07 | 139254.12 | 222069.69 | N 41 2 40.198 | W 111 5 27.268 |
| | 7100.00 | 3.50 | 118.00 | 7085.94 | 97.76 | -335.63 | 71.30 | 0.28 | 139251.05 | 222075.22 | N 41 2 40.168 | W 111 5 27.195 |
| | 7200.00 | 3.50 | 121.00 | 7185.76 | 103.29 | -338.63 | 76.61 | 0.18 | 139248.05 | 222080.53 | N 41 2 40.139 | W 111 5 27.125 |
| | 7300.00 | 3.25 | 120.00 | 7285.58 | 108.58 | -341.62 | 81.68 | 0.26 | 139245.06 | 222085.60 | N 41 2 40.110 | W 111 5 27.059 |
| | 7400.00 | 3.00 | 118.00 | 7385.43 | 113.54 | -344.27 | 86.45 | 0.27 | 139242.41 | 222090.37 | N 41 2 40.085 | W 111 5 26.996 |
| | 7500.00 | 3.00 | 119.00 | 7485.30 | 118.33 | -346.77 | 91.05 | 0.05 | 139239.92 | 222094.97 | N 41 2 40.060 | W 111 5 26.936 |
| | 7600.00 | 3.00 | 120.00 | 7585.16 | 123.07 | -349.34 | 95.60 | 0.05 | 139237.34 | 222099.52 | N 41 2 40.035 | W 111 5 26.876 |
| | 7700.00 | 2.75 | 117.00 | 7685.03 | 127.65 | -351.74 | 100.00 | 0.29 | 139234.94 | 222103.93 | N 41 2 40.012 | W 111 5 26.818 |

| Station ID | MD (ft) | Incl (°) | Azim (°) | TVD (ft) | VSec (ft) | N/-S (ft) | E/-W (ft) | DLS (°/100ft) | Grid Coordinates Northing (ftUS) | Grid Coordinates Easting (ftUS) | Geographic Coordinates Latitude | Geographic Coordinates Longitude |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7800.00 | 2.50 | 112.00 | 7784.93 | 131.95 | -353.65 | 104.16 | 0.34 | 139233.04 | 222108.09 | N 41 2 39.994 | W 111 5 26.764 |
| | 7900.00 | 2.25 | 109.00 | 7884.84 | 135.93 | -355.10 | 108.04 | 0.28 | 139231.58 | 222111.96 | N 41 2 39.980 | W 111 5 26.713 |
| | 8000.00 | 2.25 | 109.00 | 7984.77 | 139.73 | -356.38 | 111.75 | 0.00 | 139230.30 | 222115.68 | N 41 2 39.968 | W 111 5 26.664 |
| | 8100.00 | 2.25 | 109.00 | 8084.69 | 143.54 | -357.66 | 115.47 | 0.00 | 139229.02 | 222119.39 | N 41 2 39.956 | W 111 5 26.616 |
| | 8200.00 | 2.50 | 107.00 | 8184.60 | 147.57 | -358.94 | 119.41 | 0.26 | 139227.75 | 222123.33 | N 41 2 39.943 | W 111 5 26.564 |
| | 8300.00 | 2.50 | 107.00 | 8284.51 | 151.83 | -360.21 | 123.58 | 0.00 | 139226.47 | 222127.50 | N 41 2 39.931 | W 111 5 26.509 |
| | 8400.00 | 2.25 | 106.00 | 8384.42 | 155.88 | -361.39 | 127.55 | 0.25 | 139225.29 | 222131.48 | N 41 2 39.920 | W 111 5 26.457 |
| | 8500.00 | 2.00 | 99.00 | 8484.35 | 159.54 | -362.20 | 131.16 | 0.36 | 139224.48 | 222135.09 | N 41 2 39.912 | W 111 5 26.410 |
| | 8600.00 | 2.00 | 100.00 | 8584.29 | 163.02 | -362.78 | 134.60 | 0.03 | 139223.90 | 222138.53 | N 41 2 39.907 | W 111 5 26.365 |
| | 8700.00 | 2.00 | 100.00 | 8684.23 | 166.49 | -363.39 | 138.04 | 0.00 | 139223.30 | 222141.96 | N 41 2 39.902 | W 111 5 26.320 |
| | 8800.00 | 2.00 | 100.00 | 8784.17 | 169.97 | -363.99 | 141.48 | 0.00 | 139222.69 | 222145.40 | N 41 2 39.896 | W 111 5 26.275 |
| | 8900.00 | 1.75 | 100.00 | 8884.12 | 173.23 | -364.56 | 144.70 | 0.25 | 139222.12 | 222148.62 | N 41 2 39.891 | W 111 5 26.233 |
| | 9000.00 | 2.00 | 100.00 | 8984.06 | 176.48 | -365.13 | 147.92 | 0.25 | 139221.55 | 222151.85 | N 41 2 39.885 | W 111 5 26.191 |
| | 9100.00 | 2.00 | 101.00 | 9084.00 | 179.95 | -365.76 | 151.35 | 0.03 | 139220.92 | 222155.28 | N 41 2 39.880 | W 111 5 26.146 |
| | 9200.00 | 2.00 | 100.00 | 9183.94 | 183.43 | -366.40 | 154.79 | 0.03 | 139220.28 | 222158.71 | N 41 2 39.874 | W 111 5 26.101 |
| | 9300.00 | 2.00 | 104.00 | 9283.88 | 186.88 | -367.12 | 158.20 | 0.14 | 139219.56 | 222162.12 | N 41 2 39.867 | W 111 5 26.056 |
| | 9400.00 | 1.75 | 100.00 | 9383.83 | 190.12 | -367.81 | 161.39 | 0.28 | 139218.87 | 222165.32 | N 41 2 39.860 | W 111 5 26.015 |
| | 9500.00 | 2.00 | 102.00 | 9483.77 | 193.38 | -368.44 | 164.60 | 0.26 | 139218.24 | 222168.53 | N 41 2 39.855 | W 111 5 25.973 |
| | 9600.00 | 2.00 | 102.00 | 9583.71 | 196.84 | -369.17 | 168.02 | 0.00 | 139217.52 | 222171.94 | N 41 2 39.848 | W 111 5 25.928 |
| | 9700.00 | 2.00 | 102.00 | 9683.65 | 200.30 | -369.89 | 171.43 | 0.00 | 139216.79 | 222175.36 | N 41 2 39.841 | W 111 5 25.883 |
| | 9800.00 | 2.00 | 104.00 | 9783.59 | 203.75 | -370.68 | 174.83 | 0.07 | 139216.01 | 222178.76 | N 41 2 39.834 | W 111 5 25.839 |
| | 9900.00 | 2.25 | 102.00 | 9883.52 | 207.42 | -371.51 | 178.44 | 0.26 | 139215.18 | 222182.37 | N 41 2 39.826 | W 111 5 25.792 |
| | 10000.00 | 2.50 | 101.00 | 9983.44 | 211.53 | -372.33 | 182.51 | 0.25 | 139214.35 | 222186.43 | N 41 2 39.818 | W 111 5 25.738 |
| | 10100.00 | 2.75 | 106.00 | 10083.33 | 216.05 | -373.41 | 186.95 | 0.34 | 139213.27 | 222190.88 | N 41 2 39.808 | W 111 5 25.680 |
| | 10200.00 | 3.00 | 104.00 | 10183.20 | 220.98 | -374.70 | 191.80 | 0.27 | 139211.98 | 222195.72 | N 41 2 39.796 | W 111 5 25.617 |
| | 10300.00 | 3.25 | 103.00 | 10283.06 | 226.37 | -375.97 | 197.10 | 0.26 | 139210.71 | 222201.02 | N 41 2 39.784 | W 111 5 25.548 |
| | 10400.00 | 3.75 | 104.00 | 10382.87 | 232.40 | -377.40 | 203.03 | 0.50 | 139209.28 | 222206.96 | N 41 2 39.770 | W 111 5 25.470 |
| | 10500.00 | 4.00 | 107.00 | 10482.64 | 239.03 | -379.21 | 209.54 | 0.32 | 139207.47 | 222213.47 | N 41 2 39.753 | W 111 5 25.385 |
| | 10600.00 | 4.00 | 110.00 | 10582.40 | 245.80 | -381.43 | 216.16 | 0.21 | 139205.26 | 222220.08 | N 41 2 39.732 | W 111 5 25.298 |
| | 10700.00 | 4.00 | 111.00 | 10682.15 | 252.50 | -383.87 | 222.69 | 0.07 | 139202.81 | 222226.61 | N 41 2 39.709 | W 111 5 25.212 |
| | 10800.00 | 3.75 | 110.00 | 10781.92 | 259.00 | -386.24 | 229.02 | 0.26 | 139200.44 | 222232.94 | N 41 2 39.686 | W 111 5 25.129 |
| | 10900.00 | 3.25 | 114.00 | 10881.74 | 264.83 | -388.51 | 234.68 | 0.56 | 139198.17 | 222238.61 | N 41 2 39.664 | W 111 5 25.055 |

| Station ID | MD (ft) | Incl (°) | Azim (°) | TVD (ft) | VSec (ft) | N/-S (ft) | E/-W (ft) | DLS (°/100ft) | Grid Coordinates Northing (ftUS) | Grid Coordinates Easting (ftUS) | Geographic Coordinates Latitude | Geographic Coordinates Longitude |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 11000.00 | 2.50 | 115.00 | 10981.61 | 269.54 | -390.58 | 239.25 | 0.75 | 139196.10 | 222243.17 | N 41 2 39.644 | W 111 5 24.995 |
| | 11100.00 | 2.00 | 116.00 | 11081.53 | 273.21 | -392.27 | 242.79 | 0.50 | 139194.41 | 222246.72 | N 41 2 39.628 | W 111 5 24.949 |
| | 11200.00 | 2.50 | 100.00 | 11181.46 | 277.01 | -393.41 | 246.51 | 0.80 | 139193.27 | 222250.43 | N 41 2 39.617 | W 111 5 24.900 |
| | 11300.00 | 3.50 | 91.00 | 11281.32 | 282.22 | -393.85 | 251.71 | 1.10 | 139192.84 | 222255.63 | N 41 2 39.614 | W 111 5 24.832 |
| | 11400.00 | 5.00 | 104.00 | 11381.04 | 289.57 | -394.95 | 258.99 | 1.77 | 139191.73 | 222262.92 | N 41 2 39.603 | W 111 5 24.737 |
| | 11500.00 | 9.00 | 110.00 | 11480.28 | 301.41 | -398.68 | 270.57 | 4.06 | 139188.00 | 222274.50 | N 41 2 39.568 | W 111 5 24.585 |
| | 11600.00 | 11.00 | 120.00 | 11578.76 | 317.57 | -406.13 | 286.19 | 2.64 | 139180.55 | 222290.12 | N 41 2 39.496 | W 111 5 24.380 |
| | 11700.00 | 11.50 | 114.00 | 11676.84 | 335.59 | -414.96 | 303.56 | 1.27 | 139171.72 | 222307.49 | N 41 2 39.411 | W 111 5 24.152 |
| | 11800.00 | 11.75 | 113.00 | 11774.79 | 354.65 | -422.99 | 322.04 | 0.32 | 139163.69 | 222325.96 | N 41 2 39.334 | W 111 5 23.910 |
| | 11900.00 | 12.00 | 114.00 | 11872.65 | 374.11 | -431.20 | 340.91 | 0.32 | 139155.48 | 222344.83 | N 41 2 39.255 | W 111 5 23.663 |
| | 12000.00 | 12.00 | 116.00 | 11970.47 | 393.59 | -439.98 | 359.75 | 0.42 | 139146.70 | 222363.68 | N 41 2 39.170 | W 111 5 23.415 |
| | 12100.00 | 13.00 | Dip: | 12068.10 | 413.66 | -449.64 | 379.11 | 1.02 | 139137.04 | 222383.04 | N 41 2 39.077 | W 111 5 23.161 |
| | 12200.00 | 13.75 | 118.00 | 12165.38 | 434.96 | -460.33 | 399.63 | 0.78 | 139126.35 | 222403.56 | N 41 2 38.974 | W 111 5 22.892 |
| | 12300.00 | 14.00 | 119.00 | 12262.47 | 456.88 | -471.77 | 420.70 | 0.35 | 139114.90 | 222424.63 | N 41 2 38.863 | W 111 5 22.615 |
| | 12400.00 | 14.25 | 120.00 | 12359.44 | 479.00 | -483.79 | 441.94 | 0.35 | 139102.89 | 222445.87 | N 41 2 38.747 | W 111 5 22.336 |
| | 12500.00 | 10.25 | 126.00 | 12457.15 | 497.72 | -495.18 | 459.80 | 4.19 | 139091.50 | 222463.74 | N 41 2 38.636 | W 111 5 22.101 |
| | 12600.00 | 10.00 | 139.00 | 12555.61 | 511.51 | -506.96 | 472.70 | 2.29 | 139079.71 | 222476.63 | N 41 2 38.521 | W 111 5 21.931 |
| | 12700.00 | 10.00 | 147.00 | 12654.09 | 523.00 | -520.80 | 483.12 | 1.39 | 139065.88 | 222487.06 | N 41 2 38.386 | W 111 5 21.793 |
| | 12800.00 | 10.00 | 157.00 | 12752.58 | 532.31 | -536.07 | 491.25 | 1.73 | 139050.60 | 222495.18 | N 41 2 38.236 | W 111 5 21.685 |
| | 12900.00 | 10.00 | 164.00 | 12851.06 | 539.38 | -552.41 | 497.03 | 1.21 | 139034.26 | 222500.97 | N 41 2 38.075 | W 111 5 21.607 |
| Tie-In | 12996.00 | 11.44 | 161.11 | 12945.39 | 546.09 | -569.43 | 502.41 | 1.60 | 139017.24 | 222506.35 | N 41 2 37.907 | W 111 5 21.534 |
| | 13046.00 | 16.30 | 131.90 | 12993.97 | 553.66 | -578.83 | 509.25 | 16.76 | 139007.85 | 222513.19 | N 41 2 37.815 | W 111 5 21.444 |
| | 13077.00 | 22.20 | 132.40 | 13023.23 | 561.75 | -585.69 | 516.82 | 19.04 | 139000.99 | 222520.76 | N 41 2 37.748 | W 111 5 21.344 |
| Tie-In | 13109.00 | 27.40 | 125.30 | 13052.27 | 572.86 | -594.03 | 527.31 | 18.70 | 138992.65 | 222531.24 | N 41 2 37.667 | W 111 5 21.206 |
| | 13138.00 | 26.40 | 117.80 | 13078.14 | 584.53 | -600.89 | 538.46 | 12.19 | 138985.78 | 222542.39 | N 41 2 37.601 | W 111 5 21.059 |
| | 13169.00 | 29.30 | 101.40 | 13105.59 | 598.41 | -605.61 | 552.01 | 26.33 | 138981.06 | 222555.95 | N 41 2 37.555 | W 111 5 20.882 |
| | 13201.00 | 31.90 | 94.40 | 13133.14 | 614.65 | -607.81 | 568.13 | 13.77 | 138978.86 | 222572.06 | N 41 2 37.536 | W 111 5 20.671 |
| | 13232.00 | 35.50 | 88.70 | 13158.93 | 631.81 | -608.24 | 585.30 | 15.45 | 138978.44 | 222589.24 | N 41 2 37.533 | W 111 5 20.447 |
| | 13264.00 | 42.20 | 85.80 | 13183.84 | 651.70 | -607.24 | 605.33 | 21.69 | 138979.44 | 222609.27 | N 41 2 37.546 | W 111 5 20.185 |
| | 13295.00 | 48.20 | 84.90 | 13205.67 | 673.40 | -605.45 | 627.25 | 19.46 | 138981.23 | 222631.18 | N 41 2 37.566 | W 111 5 19.900 |
| | 13325.00 | 53.20 | 83.70 | 13224.67 | 696.23 | -603.13 | 650.34 | 16.95 | 138983.54 | 222654.28 | N 41 2 37.591 | W 111 5 19.599 |
| | 13356.00 | 59.40 | 80.50 | 13241.86 | 721.39 | -599.56 | 675.86 | 21.76 | 138987.11 | 222679.80 | N 41 2 37.629 | W 111 5 19.266 |
| | 13387.00 | 64.60 | 77.40 | 13256.42 | 747.73 | -594.30 | 702.71 | 18.95 | 138992.37 | 222706.65 | N 41 2 37.684 | W 111 5 18.917 |

| Station ID | MD (ft) | Incl (°) | Azim (°) | TVD (ft) | VSec (ft) | N/-S (ft) | E/-W (ft) | DLS (°/100ft) | Grid Coordinates Northing (ftUS) | Grid Coordinates Easting (ftUS) | Geographic Coordinates Latitude | Geographic Coordinates Longitude |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 13418.00 | 69.00 | 75.80 | 13268.63 | 774.83 | -587.69 | 730.42 | 14.96 | 138998.98 | 222734.36 | N 41 2 37.753 | W 111 5 18.556 |
| | 13448.00 | 76.00 | 76.70 | 13277.64 | 801.98 | -580.90 | 758.19 | 23.51 | 139005.77 | 222762.13 | N 41 2 37.823 | W 111 5 18.195 |
| | 13480.00 | 82.40 | 77.50 | 13283.64 | 831.95 | -573.89 | 788.82 | 20.15 | 139012.78 | 222792.76 | N 41 2 37.896 | W 111 5 17.796 |
| | 13511.00 | 87.90 | 77.80 | 13286.26 | 861.49 | -567.29 | 818.98 | 17.77 | 139019.39 | 222822.92 | N 41 2 37.965 | W 111 5 17.404 |
| | 13542.00 | 95.80 | 77.20 | 13285.26 | 891.09 | -560.59 | 849.20 | 25.56 | 139026.09 | 222853.15 | N 41 2 38.034 | W 111 5 17.010 |
| | 13578.00 | 102.40 | 77.00 | 13279.56 | 924.98 | -552.66 | 883.84 | 18.34 | 139034.02 | 222887.78 | N 41 2 38.116 | W 111 5 16.559 |
| | 13608.00 | 104.90 | 77.50 | 13272.49 | 952.81 | -546.22 | 912.27 | 8.49 | 139040.45 | 222916.21 | N 41 2 38.183 | W 111 5 16.189 |
| | 13640.00 | 107.40 | 78.80 | 13263.58 | 982.29 | -539.91 | 942.35 | 8.73 | 139046.77 | 222946.29 | N 41 2 38.249 | W 111 5 15.798 |
| | 13670.00 | 110.50 | 78.40 | 13253.84 | 1009.56 | -534.30 | 970.16 | 10.41 | 139052.38 | 222974.10 | N 41 2 38.308 | W 111 5 15.436 |
| | 13699.00 | 112.00 | 79.30 | 13243.33 | 1035.58 | -529.07 | 996.67 | 5.93 | 139057.60 | 223000.62 | N 41 2 38.362 | W 111 5 15.091 |
| | 13729.00 | 112.10 | 82.30 | 13232.07 | 1062.59 | -524.63 | 1024.12 | 9.27 | 139062.05 | 223028.07 | N 41 2 38.409 | W 111 5 14.733 |
| | 13760.00 | 108.40 | 81.80 | 13221.34 | 1090.97 | -520.61 | 1052.92 | 12.03 | 139066.07 | 223056.87 | N 41 2 38.452 | W 111 5 14.358 |
| | 13791.00 | 107.50 | 79.70 | 13211.79 | 1119.61 | -515.86 | 1082.02 | 7.07 | 139070.81 | 223085.97 | N 41 2 38.503 | W 111 5 13.979 |
| | 13821.00 | 108.10 | 81.30 | 13202.61 | 1147.32 | -511.15 | 1110.19 | 5.46 | 139075.53 | 223114.14 | N 41 2 38.552 | W 111 5 13.612 |
| | 13852.00 | 109.00 | 84.20 | 13192.75 | 1176.08 | -507.44 | 1139.34 | 9.33 | 139079.24 | 223143.29 | N 41 2 38.592 | W 111 5 13.232 |
| | 13883.00 | 109.30 | 86.40 | 13182.58 | 1204.98 | -505.04 | 1168.53 | 6.77 | 139081.64 | 223172.48 | N 41 2 38.619 | W 111 5 12.852 |
| | 13913.00 | 109.50 | 88.20 | 13172.61 | 1233.05 | -503.71 | 1196.79 | 5.70 | 139082.97 | 223200.74 | N 41 2 38.636 | W 111 5 12.483 |
| | 13944.00 | 108.10 | 89.20 | 13162.62 | 1262.24 | -503.04 | 1226.13 | 5.45 | 139083.64 | 223230.08 | N 41 2 38.646 | W 111 5 12.100 |
| | 13975.00 | 107.80 | 91.70 | 13153.07 | 1291.65 | -503.27 | 1255.61 | 7.73 | 139083.40 | 223259.57 | N 41 2 38.647 | W 111 5 11.715 |
| | 14005.00 | 108.50 | 92.30 | 13143.72 | 1320.13 | -504.27 | 1284.10 | 3.01 | 139082.41 | 223288.06 | N 41 2 38.640 | W 111 5 11.343 |
| | 14036.00 | 109.60 | 93.70 | 13133.61 | 1349.42 | -505.80 | 1313.37 | 5.55 | 139080.88 | 223317.32 | N 41 2 38.628 | W 111 5 10.961 |
| | 14064.00 | 110.60 | 92.90 | 13123.98 | 1375.71 | -507.31 | 1339.62 | 4.47 | 139079.36 | 223343.57 | N 41 2 38.616 | W 111 5 10.619 |
| | 14094.00 | 111.70 | 96.40 | 13113.16 | 1403.68 | -509.58 | 1367.50 | 11.48 | 139077.10 | 223371.45 | N 41 2 38.597 | W 111 5 10.254 |
| | 14125.00 | 111.40 | 100.20 | 13101.77 | 1432.45 | -513.74 | 1396.02 | 11.44 | 139072.94 | 223399.98 | N 41 2 38.559 | W 111 5 9.882 |
| | 14155.00 | 111.50 | 96.20 | 13090.79 | 1460.30 | -517.72 | 1423.65 | 12.41 | 139068.95 | 223427.61 | N 41 2 38.523 | W 111 5 9.520 |
| | 14186.00 | 112.00 | 96.20 | 13079.30 | 1489.09 | -520.83 | 1452.28 | 1.61 | 139065.84 | 223456.24 | N 41 2 38.495 | W 111 5 9.146 |
| | 14212.00 | 113.00 | 96.90 | 13069.35 | 1513.09 | -523.57 | 1476.14 | 4.58 | 139063.11 | 223480.10 | N 41 2 38.471 | W 111 5 8.835 |
| | 14248.00 | 113.50 | 95.90 | 13055.14 | 1546.15 | -527.26 | 1509.01 | 2.91 | 139059.42 | 223512.97 | N 41 2 38.438 | W 111 5 8.405 |
| | 14312.00 | 110.60 | 92.30 | 13031.11 | 1605.45 | -531.48 | 1568.16 | 6.91 | 139055.20 | 223572.12 | N 41 2 38.403 | W 111 5 7.633 |
| | 14343.00 | 110.10 | 90.70 | 13020.33 | 1634.47 | -532.24 | 1597.21 | 5.10 | 139054.44 | 223601.18 | N 41 2 38.399 | W 111 5 7.253 |
| | 14435.00 | 108.30 | 78.00 | 12989.97 | 1719.75 | -523.66 | 1683.45 | 13.18 | 139063.02 | 223687.41 | N 41 2 38.494 | W 111 5 6.129 |
| Projected Survey to TD | 14478.00 | 108.30 | 78.00 | 12976.46 | 1758.88 | -515.17 | 1723.38 | 0.00 | 139071.51 | 223727.35 | N 41 2 38.582 | W 111 5 5.610 |

FORM 8

STATE — UTAH
DIVISION OF OIL, GAS AND MINING

# WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other

b. TYPE OF COMPLETION: NEW WELL ☐ WORK OVER ☐ DEEP-EN ☒ PLUG BACK ☐ DIFF. RESVR. ☐ Other

2. NAME OF OPERATOR: AMOCO PRODUCTION COMPANY

3. ADDRESS OF OPERATOR: P.O. BOX 3092 HOUSTON, TEXAS, 77253-3092

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)
At surface: SAME AS ORIGINAL
At top prod. interval reported below
At total depth: DUAL LATERAL HORIZONTAL
#1 - 14,583 FT
#2 - 14,478 FT.

5. LEASE DESIGNATION AND SERIAL NO.: FEE

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME: ANSCHUTZ RANCH EAST

8. FARM OR LEASE NAME:

9. WELL NO.: A.R.E. W31-04B

10. FIELD AND POOL, OR WILDCAT: ANSCHUTZ RANCH EAST

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: SEC. 31, TWP: 4N, RGE: 8E

14. API NO.: 43043301650 | DATE ISSUED:

12. COUNTY: SUMMIT | 13. STATE: UTAH

15. DATE SPUDDED: ~~AUG. 28, 2000~~ 7-16-99 | 16. DATE T.D. REACHED: OCT. 25, ~~2000~~ 1999 | 17. DATE COMPL. (Ready to prod.): JAN. 15, 2000 (Plug & Abd.) | 18. ELEVATIONS (DF, RKB, RT, GR, ETC.): KB 31.7' | 19. ELEV. CASINGHEAD: G.L. 7894'

20. TOTAL DEPTH, MD & TVD: 14,583 FT | 21. PLUG BACK T.D., MD & TVD: | 22. IF MULTIPLE COMPL., HOW MANY: | 23. INTERVALS DRILLED BY: → | ROTARY TOOLS: | CABLE TOOLS:

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD): NUGGET SAND

25. WAS DIRECTIONAL SURVEY MADE: YES

26. TYPE ~~ELECTRIC AND OTHER LOGS~~ EON: (FRACTURE IDENTIFICATION LOG ONLY (FMS))

27. WAS WELL CORED YES ☐ NO ☒ (Submit analysis)
DRILL STEM TEST YES ☐ NO ☒ (See reverse side)

28. CASING RECORD (Report all strings set in well)

| CASING SIZE | WEIGHT, LB./FT. | DEPTH SET (MD) | HOLE SIZE | CEMENTING RECORD | AMOUNT PULLED |
|---|---|---|---|---|---|
| SEE ATTACHED SCHEMATIC | | | | | |

29. LINER RECORD

| SIZE | TOP (MD) | BOTTOM (MD) | SACKS CEMENT | SCREEN (MD) |
|---|---|---|---|---|
| | | | | |

30. TUBING RECORD

| SIZE | DEPTH SET (MD) | PACKER SET (MD) |
|---|---|---|
| | | |

31. PERFORATION RECORD (Interval, size and number)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

| DEPTH INTERVAL (MD) | AMOUNT AND KIND OF MATERIAL USED |
|---|---|
| NONE | |

33. PRODUCTION

| DATE FIRST PRODUCTION | PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) | WELL STATUS (Producing or shut-in) |
|---|---|---|
| JAN. 18, 2000 | FLOWING | PRODUCING |

| DATE OF TEST | HOURS TESTED | CHOKE SIZE | PROD'N. FOR TEST PERIOD | OIL—BBL. | GAS—MCF. | WATER—BBL. | GAS-OIL RATIO |
|---|---|---|---|---|---|---|---|
| — | — | — | → | 20 BCPD | 1000 MCF | 20 BWPD | |

| FLOW. TUBING PRESS. | CASING PRESSURE | CALCULATED 24-HOUR RATE | OIL—BBL. | GAS—MCF. | WATER—BBL. | OIL GRAVITY-API (CORR.) |
|---|---|---|---|---|---|---|
| | | → | | | | |

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.): SOLD | TEST WITNESSED BY:

35. LIST OF ATTACHMENTS: COMPLETION SKETCH, HORIZONTAL WELLBORE TRAJECTORY SURVEYS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED [signature] TITLE PETROLEUM ENGINEER DATE 2/22/00

See Spaces for Additional Data on Reverse Side

3/89)

**APPROVED**
The Utah Division of Oil, Gas and Mining
Robert J. Krueger, PE, Petroleum Engineer
[signature]
Date: 3-1-00

MAX TVD = 14,583'

Total Drilled = 2,956'

— SUBSEQUENT REPORT —

FORM 9

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

| | |
|---|---|
| **SUNDRY NOTICES AND REPORTS ON WELLS** | 5. Lease Designation and Serial Number: FEE |
| Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals. | 6. If Indian, Allottee or Tribe Name: |
| 1. Type of Well: OIL ☐ GAS ☑ OTHER: | 7. Unit Agreement Name: ANSCHUTZ RANCH EAST |
| 2. Name of Operator: AMOCO PRODUCTION COMPANY | 8. Well Name and Number: ARE W31-04 |
| 3. Address and Telephone Number: P.O. BOX 3092, HOUSTON, TEXAS 77253-3092 | 9. API Well Number: 43043301650 |
| 4. Location of Well: Footages: 111' FNL x 737' FWL | 10. Field and Pool, or Wildcat: ANSCHUTZ RANCH EAST |
| QQ, Sec, T., R., M.: Sec. 31 TWP: 4N RGE: 8E | County: SUMMIT |
| | State: UTAH |

11. **CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

| NOTICE OF INTENT (Submit in Duplicate) | SUBSEQUENT REPORT (Submit Original Form Only) |
|---|---|
| ☐ Abandon | ☐ Abandon * |
| ☐ Repair Casing | ☐ Repair Casing |
| ☑ Change of Plans | ☐ Change of Plans |
| ☐ Convert to Injection | ☐ Convert to Injection |
| ☐ Fracture Treat or Acidize | ☐ Fracture Treat or Acidize |
| ☐ Multiple Completion | ☐ Other |
| ☐ Other | |
| ☐ New Construction | ☐ New Construction |
| ☐ Pull or Alter Casing | ☐ Pull or Alter Casing |
| ☐ Recomplete | ☐ Reperforate |
| ☐ Reperforate | ☐ Vent or Flare |
| ☐ Vent or Flare | ☐ Water Shut-Off |
| ☐ Water Shut-Off | |
| Approximate date work will start: 10/1/99 | Date of work completion: OCT. 5, 2000 |

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS: (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

- DUE TO EXCESS WATER PRODUCTION IDENTIFIED AT A DEPTH OF 14,475 FT MD IT IS OUR INTENT TO SET A BRIDGEPLUG AT 14,350 FT AND SQUEEZE OFF THE LOWER SECTION OF THIS HORIZONTAL LATERAL 14,350 TO 14,583 FT MD.
- PLANS ARE TO CONTINUE WITH THE PROGRAM AS PLANNED ON THE NORTHERN LATERAL.

13. Name & Signature: [signature] Title: PETR. ENGR. Date: 2/28

(This space for State use only)

**APPROVED**
**The Utah Division of Oil, Gas and Mining**
**Robert J. Krueger, PE, Petroleum Engineer**

(5/94) Date: 9-29-99 (See Instructions on Reverse Side)

COPY SENT TO OPERATOR
Date: 2-18-00
Initials: CHD

FEB.17.2000 11:04AM BP AMOCO HOUSTON NO.881 P.4/5

FEB.17.2000 11:04AM BP AMOCO HOUSTON NO.881 P.5/5

**STATE OF UTAH**
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐
(highlight changes)

# APPLICATION FOR PERMIT TO DRILL

| | |
|---|---|
| 1A. TYPE OF WORK: DRILL ☐ REENTER ☑ DEEPEN ☐ | 5. LEASE DESIGNATION AND SERIAL NUMBER: Fee |
| B. TYPE OF WELL: OIL ☐ GAS ☑ OTHER _____ SINGLE ZONE ☑ MULTIPLE ZONE ☐ | 6. IF INDIAN, ALLOTTEE OR TRIBE NAME: n/a |
| 2. NAME OF OPERATOR: Amoco Production Company Attn: Clark Lawlar | 7. UNIT or CA AGREEMENT NAME: Anschutz Ranch East |
| 3. ADDRESS OF OPERATOR: P O Box 829 CITY Evanston STATE WY ZIP 82930 PHONE NUMBER: (307) 783-2406 | 8. WELL NAME and NUMBER: W31-04C |
| 4. LOCATION OF WELL (FOOTAGES) AT SURFACE: 111' FNL x 737' FWL NWNW AT PROPOSED PRODUCING ZONE: 587' FSL x 1246 FEL from Surface Location | 9 FIELD AND POOL, OR WILDCAT: Nuggett |
| | 10. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NWNW 31 4N 8E |
| 13. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: 20 miles SW of Evanston, 8 miles from ARE Plant | 11. COUNTY: Summit 12. STATE: UTAH |
| 14. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET) | 15. NUMBER OF ACRES IN LEASE: 16. NUMBER OF ACRES ASSIGNED TO THIS WELL: |
| 17. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET) Sidetrack ARE 31-04B | 18. PROPOSED DEPTH: 13,550 19. BOND DESCRIPTION: |
| 20. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.): 7895 | 21. APPROXIMATE DATE WORK WILL START: 5/1/2001 22. ESTIMATED DURATION: Approx 25 days |

23. **PROPOSED CASING AND CEMENTING PROGRAM**

| SIZE OF HOLE | CASING SIZE, GRADE, AND WEIGHT PER FOOT | SETTING DEPTH | CEMENT TYPE, QUANTITY, YIELD, AND SLURRY WEIGHT |
|---|---|---|---|
| 5 7/8" | No csg | | open hole completion |
| | | | no casing or cement |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | Water = Water well #1 |
| | | | at the ARE Plant |

Amended 5-30-01

24. **ATTACHMENTS**

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES:

- ☑ WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER
- ☑ EVIDENCE OF DIVISION OF WATER RIGHTS APPROVAL FOR USE OF WATER
- ☑ COMPLETE DRILLING PLAN
- ☐ FORM 5, IF OPERATOR IS PERSON OR COMPANY OTHER THAN THE LEASE OWNER

NAME (PLEASE PRINT) Kristina A. Lee (303) 423-5749 TITLE Amoco Production Company - Consultant

SIGNATURE Kristina A Lee DATE 4/9/01

(This space for State use only)

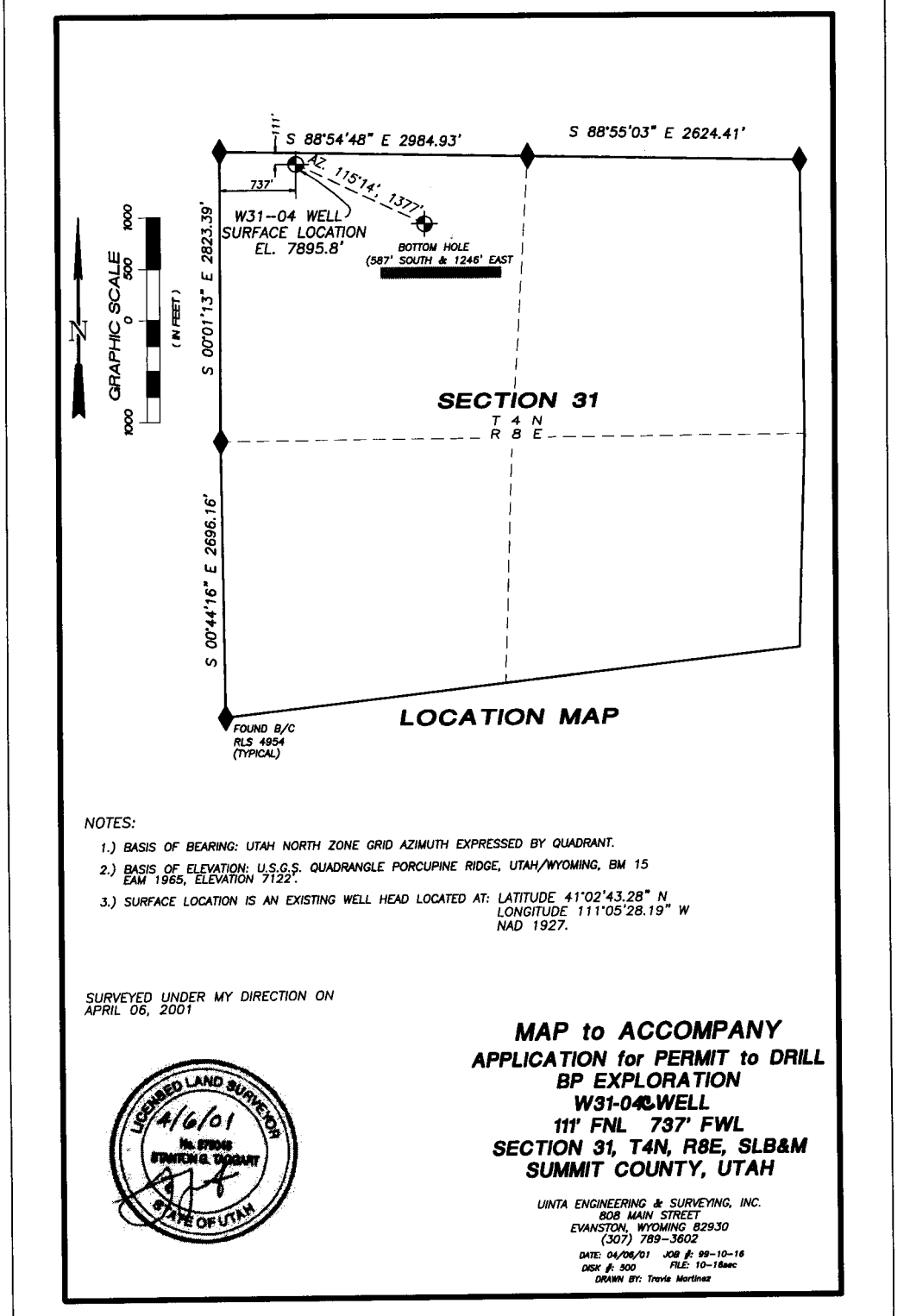
API NUMBER ASSIGNED: 43-043-30165

APPROVAL:

RECEIVED

(5/2000)

(See Instructions on Reverse Side)




| | | |
|---|---|---|
| | surface – 2,000 | Possible Water/Sands |
| Twin Creek | 11,481' – 12,841' | Possible Gas/Condensate |
| Nugget | 13,841' – 13,176' | Probable Gas/Condensate |

No disturbance of the existing surface and protective casing strings is anticipated.

3. **PRESSURE CONTROL EQUIPMENT**-Schematic attached

A. Type: 11.000"-5,000 psi WP Annular BOP
11.000"-5,000 psi WP Double Ram BOP's
11.000"-5,000 psi WP Single Ram BOP's

**The Blow Out Prevention Equipment will be set up as follows:**

- Rotating Head
- Annular Preventer
- Blind Rams
- Pipe Rams (3.500")

- Drilling Spool with 2-4 1/16" outlets
- Pipe Rams (3.500")
- Casing Head
- Kill line equipped with 2-3 1/16" x 5,000 psi valves, one of which will be a check valve
- Choke line equipped with 2-3 1/16" x 5,000psi valves
- Choke manifold equipped with 2-3 1/16" x 5,000-psi valves, 4-2 1/16" x 5,000-psi wing outlet valves, a remote operated 2 1/16"-5,000 psi choke, a manual 2"-5,000 psi choke and a pressure gauge.
- Upper kelly cock with handle available on floor
- Full opening internal blowout preventer or drill pipe safety valve to fit all connections

B. **Pressure rating:** 5,000 psi working pressure

C. **Testing Procedures:**

**Annular Preventer**

At a minimum, the Annular Preventer will be pressure tested to 50% of the rated working pressure for a period of ten (10) minutes or until provisions of the test are met, whichever is longer. The above pressure test will be performed as required.

- At initial installation
- Whenever any seal subject to test pressure is broken
- Following any related repairs
- At a minimum of thirty (30) day intervals

In addition, the annular preventer will be functionally operated at least weekly.

**Ram Preventers**

At a minimum, the Ram Preventers and the remaining BOPE (with the exception of the annular preventer) will be pressure tested to the approved working pressure of the BOP stack (if isolated from the surface or intermediate casing by a test plug). If the BOP stack is not isolated from the casing, then the equipment will be tested to 70% of the internal yield strength of the casing. Pressure will be maintained for a period of at least ten (10) minutes or until the requirements of the test are met, whichever is longer.

The above pressure test will be performed as required.

- At initial installation
- Whenever any seal subject to test pressure is broken
- Following any related repairs
- At a minimum of thirty (30) day intervals

In addition to the above, the pipe and blind rams will be activated each trip, but not more than once each day. Each crew will conduct blow out preventer drills no less than once every week. All BOP drills and tests will be recorded in the IADC driller's log.

The Utah Division of Oil, Gas and Mining will be notified at least twenty-four (24) hours in advance of pressure tests.

D. **Choke Manifold Equipment:**

All choke lines will be straight unless turns utilize tee blocks or are targeted with running tees, and the lines will be anchored to prevent whip and vibration.

**E. Accumulator:**

The accumulator will have sufficient capacity to open the hydraulically-controlled choke line valve, close all pipe rams plus the annular preventer, and retain a minimum of 200 psi above the precharge on the closing manifold without the use of the closing unit pumps.

The fluid reservoir capacity will be double the usable fluid volume of the accumulator's system capacity and the fluid level of the reservoir will be maintained at the manufacturer's recommendations.

The BOP system will have two (2) independent power sources to close preventers. Nitrogen bottles (a minimum of 3) will be one (1) of these independent power sources and will maintain a charge equal to the manufacturer's specifications.

The accumulator precharge pressure test will be conducted prior to connecting the closing unit to the BOP stack and at least once every six (6) months thereafter. The accumulator pressure will be corrected if the measured precharge pressure is found to be above or below the maximum or minimum limits specified in Onshore Oil a Gas Order Number 2.

**F. Miscellaneous Information:**

The Blow-Out Preventer and related pressure control equipment will be installed, tested and maintained in compliance with the specifications in and the requirements of Onshore Oil and Gas Order Number 2.

The choke manifold and BOP extension rods with hand wheels will be located outside the rig substructure. The hydraulic BOP closing unit will be located at least twenty-five (25) feet from the well head and will be readily accessible to the driller. Exact locations and configurations of the hydraulic BOP closing unit will depend upon the particular rig contracted to drill this hole.

Flare lines will be installed down stream from the choke manifold, extending a minimum of one hundred-twenty five (125) feet from the center of the drill hole to a separate flare pit.

## 4. THE PROPOSED CASING AND CEMENTING PROGRAM

### A. The Casing Program

| Hole Size | Casing Size | Wt./Ft. | Grade | Joint | Depth | Description |
|---|---|---|---|---|---|---|
| 17.500" | 13.625" | 54.50 | K-55 | BTC | 2,672' | Existing |
| 12.250" | 9.625" | 40 - 47 | L/N/SS | N/A | 11,695' | Existing |
| 8.500" | 7.000" | 32 | S-95 | N/A | 14,303' | Existing |
| **5.875"** | **5.000"** | **18.00** | **P-110** | **Hyd SFJ-P** | **11,000' to TD** | **To be run** |

All tubulars will be new or inspected to premium specifications. Casing strings will be pressure tested to 0.22 psi/ft of casing string length or to 1,500 psi whichever is greater (not to exceed 70% of the internal yield strength of the casing), after cementing and prior to drilling out from under the casing shoe. All tubulars will have safety factors exceeding 1.00 in burst, 1.00 in collapse and 1.60 in tension.

### B. The Cementing Program

**Surface Casing**: None – Casing is in place and will not be disturbed.

**Intermediate Casing:** None – Casing are in place and will not be disturbed.

**Production Liner:** **The 5.000" production liner will be hung at 11,000'.** It will be cemented with Dowell's LiteCrete cement using caliper plus 20% volume. The cement slurry weighs 12.5 ppg and has a compressive strength of 2,000 psi in 24 hours. The liner is to be hung at 11,000' to give a double coverage of the massive salt section.

## 5. MUD PROGRAM

| Interval | Type | Weight | Remarks |
|---|---|---|---|
| KOP – TD | Foam | 4.0 – 5.0 ppg | Foam will be used to maintain Hydrostatic pressure at reservoir pressure |

## 6. EVALUATION PROGRAM

**Electric Logging Program**

| Hole Size | Mud Type | Interval | Logging Suite |
|---|---|---|---|
| 5.875" | Foam | KOP - TD | Gamma Ray in casing |

**Mud Logging Program**

| Hole Size | Interval | Sample Frequency | # of Sample Cuts |
|---|---|---|---|
| 5.875" | KOP - TD | 10' | 2 |

**Formation Integrity Test**

A formation integrity test will be conducted after drilling 15 to 20' of new hole below the window cut in the 7.000" liner. Assuming that the window will be cut at 12,100' TVD and that the drilling fluid weighs 8.50 ppg, the new formation will be tested to a maximum of 2,202 psi surface pressure for a 12.0 ppg equivalent.

**Notes:**

- The Mud loggers should monitor the wellbore fluid and flow parameters at all times, whether drilling is in progress or not.
- No cores will be taken.
- No stimulation of the Nugget is planned at this time.
- The evaluation program may change at the discretion of the wellsite geologist, with prior approval from the Authorized Officer Utah Division of Oil, Gas and Mining. Whether the well is completed as a dry hole or as a producer, *Well Completion and Recompletions Report and Log* (Form #3160-4) will be submitted to the Utah Division of Oil, Gas and Mining no later than thirty (30) days after the completion of the well or after completion of operations being performed.
- Two copies of all logs, core descriptions, core analyses, well test data, geologic summaries, sample descriptions and all other surveys or data obtained and complied during the drilling, workover, and/or completion operations will be filed with Form 3160-4. Samples (cuttings, fluids, and/or gases) will be submitted when requested by the Utah Department of Natural Resources.

8. This sidetrack is planned to plug and abandon the present well bore in the Nugget reservoir as the condensate and gas can not be segregated from the water now present in the lower portion of the reservoir; making production uneconomical. A mechanical whipstock will be set in the 7.000" casing at 12,100' and a window will be cut at that depth. A 5.875" hole will be directionally drilled at a $90^0$ azimuth increasing the angle to approximately $50^0$. The tie-in point will be taken from the gyro survey of the well prior to the 1999 sidetrack. The Nugget sand will be re-entered at 13,024' TMD and a TVD of 12,841', with total depth at approximately 13,550' TMD and 13,176' TVD. This plan will give approximately 450' of lateral distance from the original borehole at the top of the Nugget. The Nugget reservoir will be drilled with a foam circulation system to balance the reservoir pressure (estimated at 2,500 psi). A 5.000" liner will be run from 11,000' total depth and will be cemented back to the top of liner.

   A copy of the proposed well profile and a copy of the blowout equipment diagrams are attached..

9. **ABNORMAL CONDITIONS**

   No abnormal pressures or temperatures are anticipated. Maximum anticipated bottom hole pressure is 5,000 psi.

10. **ANTICIPATED STARTING DATES AND NOTIFICATION OF OPERATIONS**

   **A. Anticipated Starting Dates:**

| | |
|---|---|
| Operation Commencement date: | 01 May 2001 |
| Drilling Days | Approximately 20 days |
| Completion Days | Approximately 5 days |

   B. **Notification of Operations:** BLM and WOGCC must both be notified of Spud date.

Date: 4/9/01

Prepared by: Brad Bilyeu bal
Brad Bilyeu

Schlumberger

# Proposed Well Profile - Geodetic Report

| | |
|---|---|
| **Report Date:** | February 21, 2001 |
| **Client:** | BP/Amoco Production Company |
| **Field:** | UT Summit County |
| **Structure / Slot:** | Amoco Anschutz Ranch East Field W31-04 / W31-04 |
| **Well:** | Sec 31 T4N R8E Well W31-04 |
| **Borehole:** | Sidetrack 20-Feb-01 |
| **UWI/API#:** | |
| **Survey Name / Date:** | W31-04 ST Rev1 Im 21-Feb-01 / February 21, 2001 |
| **Tort / AHD / DDI / ERD ratio:** | 86.937° / 1615.08 ft / 5.160 / 0.123 |
| **Grid Coordinate System:** | NAD27 Wyoming State Planes, Western Zone, US Feet |
| **Location Lat/Long:** | N 41 2 43.476, W 111 5 28.176 |
| **Location Grid N/E Y/X:** | N 139586.692 ftUS, E 222003.920 ftUS |
| **Grid Convergence Angle:** | -0.66183572° |
| **Grid Scale Factor:** | 1.00002951 |

| | |
|---|---|
| **Survey / DLS Computation Method:** | Minimum Curvature / Lubinski |
| **Vertical Section Azimuth:** | 115.420° |
| **Vertical Section Origin:** | N 0.000 ft, E 0.000 ft |
| **TVD Reference Datum:** | KB |
| **TVD Reference Elevation:** | 7926.0 ft relative to MSL |
| **Sea Bed / Ground Level Elevation:** | 0.000 ft relative to MSL |
| **Magnetic Declination:** | 13.254° |
| **Total Field Strength:** | 53750.358 nT |
| **Magnetic Dip:** | 66.683° |
| **Declination Date:** | February 20, 2001 |
| **Magnetic Declination Model:** | BGGM 2000 |
| **North Reference:** | Grid North |
| **Total Corr Mag North -> Grid North:** | +13.916° |
| **Local Coordinates Referenced To:** | Well Head |

| Station ID | MD (ft) | Incl (°) | Azim (°) | TVD (ft) | VSec (ft) | N/-S (ft) | E/-W (ft) | DLS (°/100ft) | Grid Coordinates Northing (ftUS) | Grid Coordinates Easting (ftUS) | Geographic Coordinates Latitude | Geographic Coordinates Longitude |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tie-In, Begin 6.0°/100' Build and Turn | 12100.00 | 13.00 | 117.00 | 12068.10 | 535.42 | -449.64 | 379.11 | 0.00 | 139137.04 | 222383.04 | N 41 2 39.077 | W 111 5 23.161 |
| | 12200.00 | 16.90 | 110.39 | 12164.70 | 561.15 | -459.82 | 402.77 | 4.25 | 139126.86 | 222406.70 | N 41 2 38.979 | W 111 5 22.851 |
| | 12300.00 | 20.93 | 106.24 | 12259.28 | 593.28 | -469.88 | 433.56 | 4.25 | 139116.80 | 222437.49 | N 41 2 38.883 | W 111 5 22.448 |
| | 12400.00 | 25.04 | 103.39 | 12351.33 | 631.63 | -479.78 | 471.31 | 4.25 | 139106.90 | 222475.24 | N 41 2 38.790 | W 111 5 21.954 |
| | 12500.00 | 29.18 | 101.29 | 12440.33 | 675.98 | -489.46 | 515.82 | 4.25 | 139097.22 | 222519.75 | N 41 2 38.699 | W 111 5 21.371 |
| | 12600.00 | 33.35 | 99.69 | 12525.79 | 726.10 | -498.86 | 566.84 | 4.25 | 139087.82 | 222570.78 | N 41 2 38.612 | W 111 5 20.704 |
| | 12700.00 | 37.53 | 98.40 | 12607.25 | 781.70 | -507.94 | 624.09 | 4.25 | 139078.74 | 222628.03 | N 41 2 38.529 | W 111 5 19.956 |
| | 12800.00 | 41.73 | 97.34 | 12684.25 | 842.49 | -516.64 | 687.26 | 4.25 | 139070.04 | 222691.20 | N 41 2 38.450 | W 111 5 19.130 |
| Begin 49.42° Tangent | 12809.86 | 42.14 | 97.24 | 12691.58 | 848.75 | -517.48 | 693.79 | 4.25 | 139069.20 | 222697.73 | N 41 2 38.442 | W 111 5 19.045 |
| | 12832.95 | 42.14 | 97.24 | 12708.71 | 863.47 | -519.43 | 709.16 | 0.00 | 139067.25 | 222713.10 | N 41 2 38.425 | W 111 5 18.844 |
| | 12900.00 | 44.99 | 97.20 | 12757.29 | 907.36 | -525.23 | 755.00 | 4.25 | 139061.45 | 222758.94 | N 41 2 38.373 | W 111 5 18.245 |
| | 13000.00 | 49.24 | 97.14 | 12825.33 | 976.93 | -534.38 | 827.68 | 4.25 | 139052.30 | 222831.62 | N 41 2 38.291 | W 111 5 17.295 |
| Top of Nugget | 13024.26 | 50.27 | 97.13 | 12841.00 | 994.52 | -536.68 | 846.06 | 4.25 | 139050.00 | 222850.00 | N 41 2 38.270 | W 111 5 17.055 |
| | 13024.36 | 50.27 | 97.13 | 12841.06 | 994.59 | -536.69 | 846.13 | 4.25 | 139049.99 | 222850.07 | N 41 2 38.270 | W 111 5 17.054 |
| PBHL/TD | 13548.39 | 50.27 | 97.13 | 13176.00 | 1377.24 | -586.68 | 1246.05 | 0.00 | 139000.00 | 223250.00 | N 41 2 37.821 | W 111 5 11.828 |

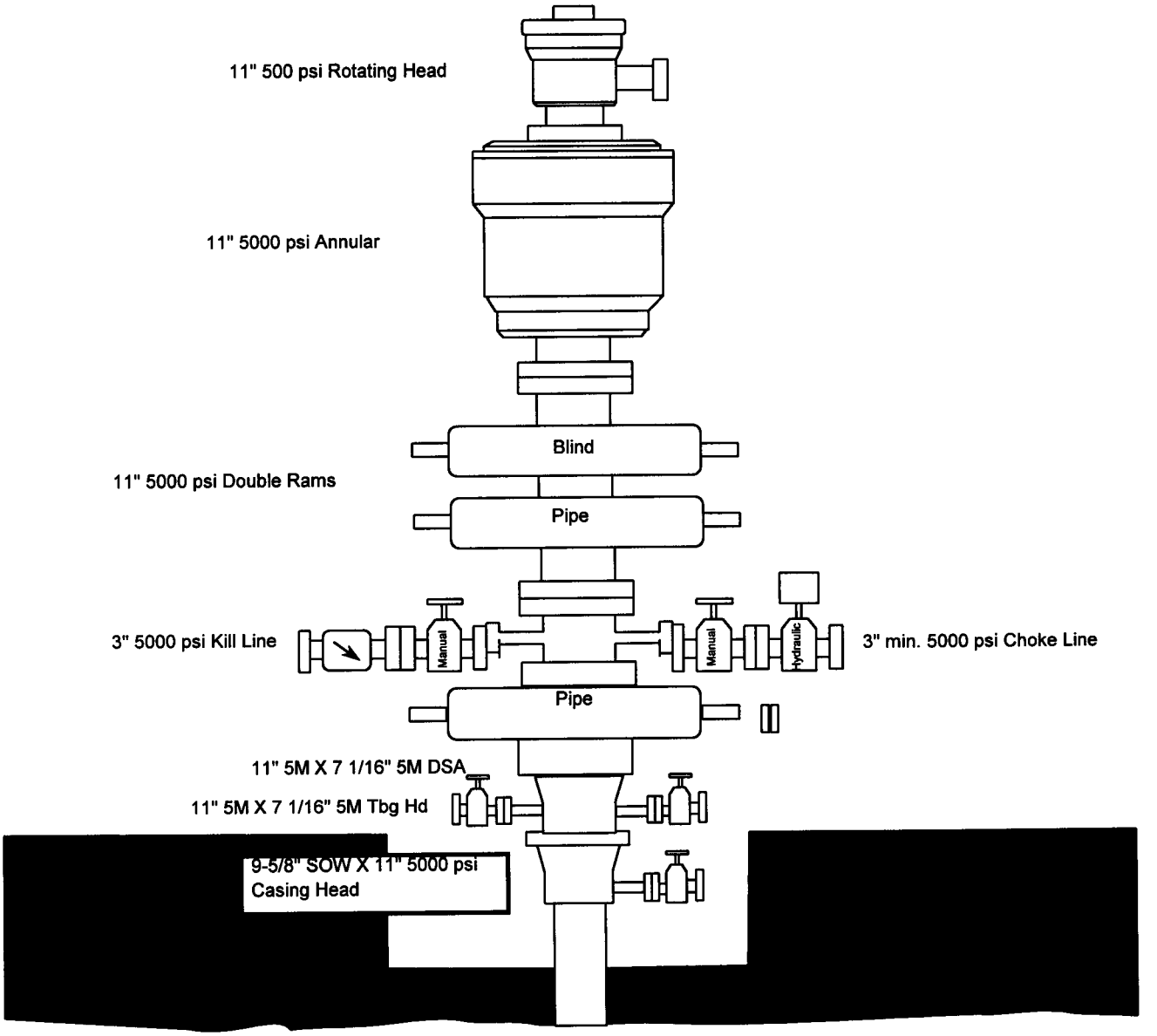
**Survey Error Model:** **Wolff & deWardt 1.0000 sigma**

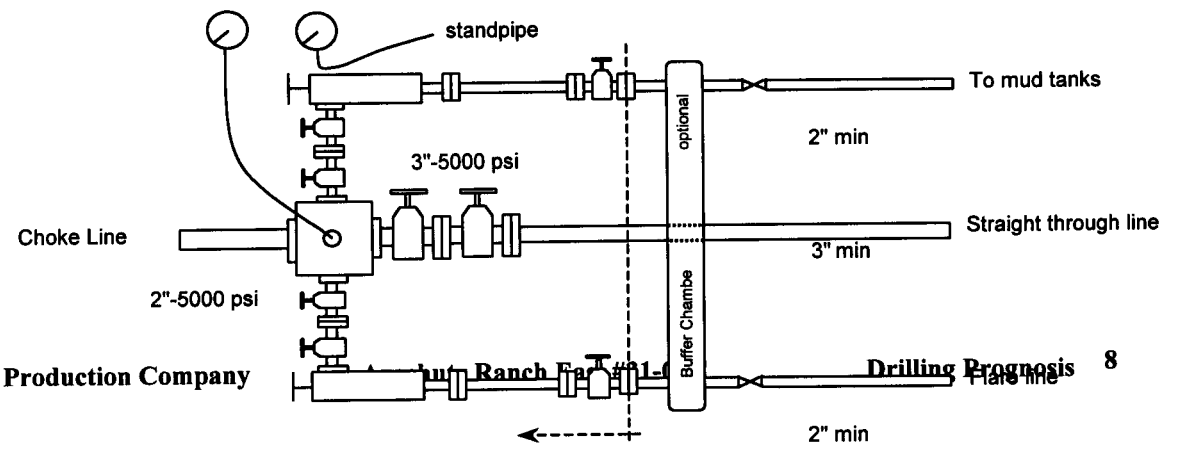
**Surveying Programme:**

| MD From (ft) | MD To (ft) | EOU Freq | Survey Tool Type |
|---|---|---|---|
| 12100.00 | 13548.39 | Act-Stns | Anadrill MWD (none assigned-default tool used) |

# BOPE Diagram

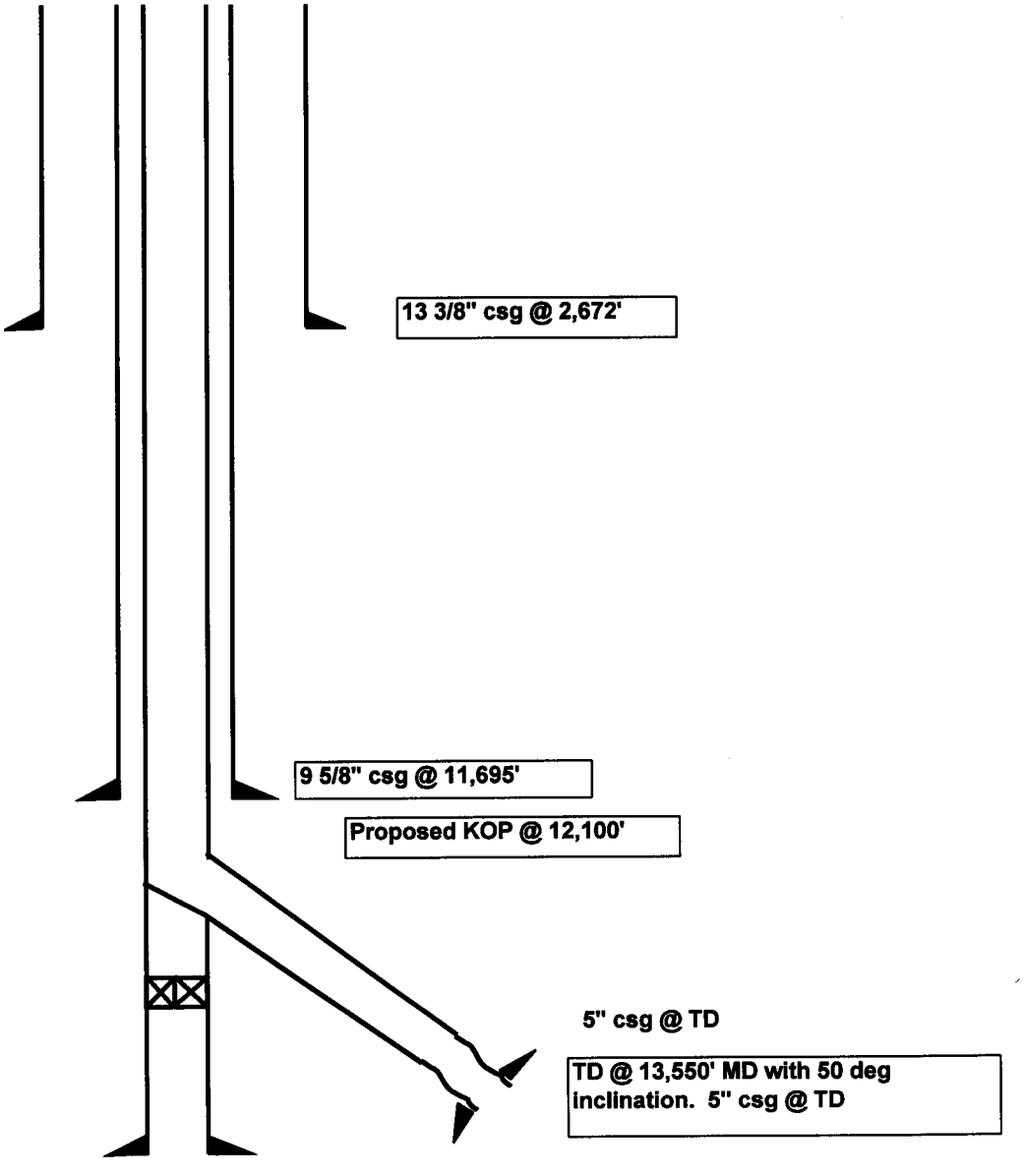
(minimum requirements)




Choke Manifold (Typical)

ANSCHUTZ RANCH EAST WELLBORE DIAGRAM W 31-04C



**STATE OF UTAH**
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☑
(highlight changes)

# APPLICATION FOR PERMIT TO DRILL

5. LEASE DESIGNATION AND SERIAL NUMBER: Fee

1A. TYPE OF WORK: DRILL ☐ REENTER ☑ DEEPEN ☐

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: n/a

B. TYPE OF WELL: OIL ☐ GAS ☑ OTHER _____ SINGLE ZONE ☑ MULTIPLE ZONE ☐

7. UNIT or CA AGREEMENT NAME: Anschutz Ranch East

2. NAME OF OPERATOR: Amoco Production Company

8. WELL NAME and NUMBER: Anschutz Ranch East W31-04E

3. ADDRESS OF OPERATOR: P O Box 829 CITY Evanston STATE WY ZIP 82930

PHONE NUMBER: (307) 783-2406

9 FIELD AND POOL, OR WILDCAT: Anschutz Ranch East/Nugget

4. LOCATION OF WELL (FOOTAGES)

AT SURFACE: 111' FNL x 737' FWL NWNW Section 31-T4N-R8E

AT PROPOSED PRODUCING ZONE: 698' FNL x ~~4083~~ 1983' FWL NW Section 31-T4N-R8E

10. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NWNW 31 T4N R8E

13. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: 20 miles SW of Evanston

11. COUNTY: Summit

12. STATE: UTAH

14. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET): 111'

15. NUMBER OF ACRES IN LEASE:

16. NUMBER OF ACRES ASSIGNED TO THIS WELL:

17. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET): Sidestrack ARE W31-04B

18. PROPOSED DEPTH: 13,550

19. BOND DESCRIPTION: 103172911249

20. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.): 7916' KB

21. APPROXIMATE DATE WORK WILL START: 6/1/2001

22. ESTIMATED DURATION: Approx 25 days

23. **PROPOSED CASING AND CEMENTING PROGRAM**

| SIZE OF HOLE | CASING SIZE, GRADE, AND WEIGHT PER FOOT | SETTING DEPTH | CEMENT TYPE, QUANTITY, YIELD, AND SLURRY WEIGHT |
|---|---|---|---|
| 5 7/8" | 4 1/2" N-80 13.5# | 13,550 | Hung at 11,000' |
| | | | Cement w/Lite Crete |
| | | | using caliper plus |
| | | | 20% volume |
| | | | |
| | | | Water Well #1 |
| | | | #21-1592 |

24. **ATTACHMENTS**

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES:

☑ WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER

☑ COMPLETE DRILLING PLAN

☑ EVIDENCE OF DIVISION OF WATER RIGHTS APPROVAL FOR USE OF WATER

☐ FORM 5, IF OPERATOR IS PERSON OR COMPANY OTHER THAN THE LEASE OWNER

NAME (PLEASE PRINT) Kristina A. Lee 303-423-5749 TITLE Consultant - Amoco Production Company

SIGNATURE Kristina A. Lee DATE 5/2/01

(This space for State use only)

API NUMBER ASSIGNED: 43-043-30165

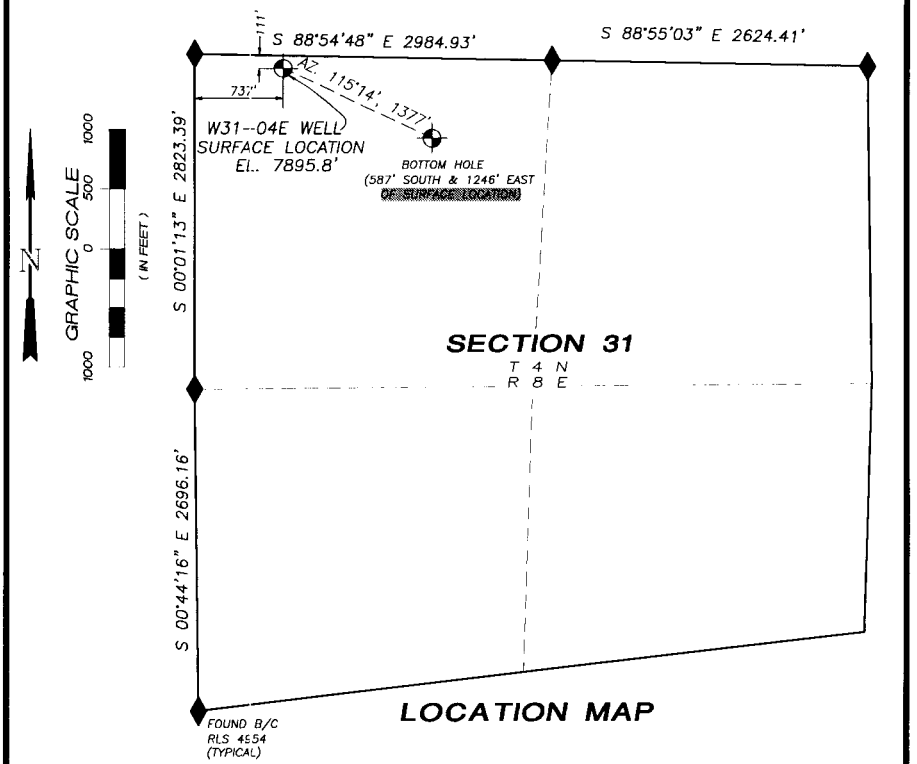
**Approved by the Utah Division of Oil, Gas and Mining**

**Date:** 05-15-01

**By:** _____

(See Instructions on Reverse Side)

(5/2000)



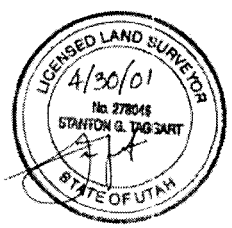

NOTES:

1.) BASIS OF BEARING: UTAH NORTH ZONE GRID AZIMUTH EXPRESSED BY QUADRANT.

2.) BASIS OF ELEVATION: U.S.G.S. QUADRANGLE PORCUPINE RIDGE, UTAH/WYOMING, BM 15 EAM 1965, ELEVATION 7122'.

3.) SURFACE LOCATION IS AN EXISTING WELL HEAD LOCATED AT: LATITUDE 41°02'43.28" N
LONGITUDE 111°05'28.19" W
NAD 1927.

SURVEYED UNDER MY DIRECTION ON
APRIL 06, 2001




## MAP to ACCOMPANY
## APPLICATION for PERMIT to DRILL
## BP EXPLORATION
## W31-04E WELL
## 111' FNL 737' FWL
## SECTION 31, T4N, R8E, SLB&M
## SUMMIT COUNTY, UTAH


UINTA ENGINEERING & SURVEYING, INC.
808 MAIN STREET
EVANSTON, WYOMING 82930
(307) 789-3602


DATE: 04/06/01 JOB #: 99-10-16
DISK #: 500 FILE: 10-16stc
DRAWN BY: Travis Martinez

SHEET 1 of 2

WELL PAD DETAIL
SHEET 2 of 2

**MAP to ACCOMPANY**
**APPLICATION for PERMIT to DRILL**
**BP EXPLORATION COMPANY**
**W31-04E WELL**
**111' FNL 737' FWL**
**SECTION 31, T4N, R8E, SLB&M**
**SUMMIT COUNTY, UTAH**

UESI
UINTA ENGINEERING & SURVEYING, INC.
808 MAIN ST. EVANSTON, WY 82930
E-MAIL: uinta@allwest.net
DATE 04/30/01 JOB #01/10/27 FILE 01/10/27 DISK #500 B
DRAWN BY: Travis Martinez

# Amoco Production Company
## Anschutz Ranch East W31-04 E
## 111' FNL, 737' FWL Section 31, T4N, R8E (Surface)
## 698' FNL, 1,983' FWL Section 31, T4N, R8E (Proposed Bottom Hole)
## Summit County, Utah

**Note that this APD is for our proposed plugging back and sidetracking of the subject well to re-enter the Nugget formation in an effort to eliminate the high water production from the current wellbore.**

## DRILLING PROGNOSIS

### 1. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS

Estimated KB Elevation of 7,916 feet.

| FORMATION | Measured | True Vertical | Subsea |
|---|---|---|---|
| Wasatch | 22' | 22' | +7,894' |
| Frontier | 3,945' | 3,940' | +3,976' |
| Aspen | 5,315' | 5,306' | +2,610' |
| Pruess | 10,025' | 10,008' | -2,092' |
| Twin Creek | 11,500' | 11,481' | -3,565' |
| KOP | 12,100' | 12,080' | -4,152' |
| Nugget | 13,024' | 12,841' | -4,925' |
| Total Depth | 13,550' | 13,176' | -5,260' |

### 2. ESTIMATED DEPTHS OF ANTICIPATED WATER, OIL, GAS OR MINERAL BEARING FORMATIONS

| FORMATION | DEPTH (TVD-ft) | SUBSTANCE |
|---|---|---|
| Wasatch | surface - 2,000' | Possible Water/Sands |
| Twin Creek | 11,481' – 12,841' | Possible Gas/Condensate |
| Nugget | 12,841' – 13,176' | Probable Gas/Condensate |

No disturbance of the existing surface and protective casing strings is anticipated.

### 3. PRESSURE CONTROL EQUIPMENT-Schematic attached

A. Type: 11.000"-5,000 psi WP Annular BOP
11.000"-5,000 psi WP Double Ram BOP's
11.000"-5,000 psi WP Single Ram BOP's

**The Blow Out Prevention Equipment will be set up as follows:**

- Rotating Blow Out Preventer
- Blind Rams
- Pipe Rams (3.500")

- Drilling Spool with 2-4 1/16" outlets
- Pipe Rams (3.500")
- Casing Head
- Kill line equipped with 2-3 1/16" x 5,000 psi valves, one of which will be a check valve
- Choke line equipped with 2-3 1/16" x 5,000psi valves
- Choke manifold equipped with 2-3 1/16" x 5,000-psi valves, 4-2 1/16" x 5,000-psi wing outlet valves, a remote operated 2 1/16"-5,000 psi choke, a manual 2"-5,000 psi choke and a pressure gauge.
- Upper kelly cock with handle available on floor
- Full opening internal blowout preventer or drill pipe safety valve to fit all connections

B. **Pressure rating**: 5,000 psi working pressure

C. **Testing Procedures:**

**Annular Preventer**

At a minimum, the Annular Preventer (Rotating Blow Out Preventer) will be pressure tested to 50% of the rated working pressure for a period of ten (10) minutes or until provisions of the test are met, whichever is longer. The above pressure test will be performed as required.

- At initial installation
- Whenever any seal subject to test pressure is broken
- Following any related repairs
- At a minimum of thirty (30) day intervals

In addition, the annular preventer will be functionally operated at least weekly.

**Ram Preventers**

At a minimum, the Ram Preventers and the remaining BOPE (with the exception of the annular preventer) will be pressure tested to the approved working pressure of the BOP stack (if isolated from the surface or intermediate casing by a test plug). If the BOP stack is not isolated from the casing, then the equipment will be tested to 70% of the internal yield strength of the casing. Pressure will be maintained for a period of at least ten (10) minutes or until the requirements of the test are met, whichever is longer.

The above pressure test will be performed as required.

- At initial installation
- Whenever any seal subject to test pressure is broken
- Following any related repairs
- At a minimum of thirty (30) day intervals

In addition to the above, the pipe and blind rams will be activated each trip, but not more than once each day. Each crew will conduct blow out preventer drills no less than once every week. All BOP drills and tests will be recorded in the IADC driller's log.

The Utah Division of Oil, Gas and Mining will be notified at least twenty-four (24) hours in advance of pressure tests.

**D. Choke Manifold Equipment:**

All choke lines will be straight unless turns utilize tee blocks or are targeted with running tees, and the lines will be anchored to prevent whip and vibration.

**E. Accumulator:**

The accumulator will have sufficient capacity to open the hydraulically-controlled choke line valve, close all pipe rams plus the annular preventer, and retain a minimum of 200 psi above the precharge on the closing manifold without the use of the closing unit pumps.

The fluid reservoir capacity will be double the usable fluid volume of the accumulator's system capacity and the fluid level of the reservoir will be maintained at the manufacturer's recommendations.

The BOP system will have two (2) independent power sources to close preventers. Nitrogen bottles (a minimum of 3) will be one (1) of these independent power sources and will maintain a charge equal to the manufacturer's specifications.

The accumulator precharge pressure test will be conducted prior to connecting the closing unit to the BOP stack and at least once every six (6) months thereafter. The accumulator pressure will be corrected if the measured precharge pressure is found to be above or below the maximum or minimum limits specified in Onshore Oil a Gas Order Number 2.

**F. Miscellaneous Information:**

The Blow-Out Preventer and related pressure control equipment will be installed, tested and maintained in compliance with the specifications in and the requirements of Onshore Oil and Gas Order Number 2.

The choke manifold and BOP extension rods with hand wheels will be located outside the rig substructure. The hydraulic BOP closing unit will be located at least twenty-five (25) feet from the well head and will be readily accessible to the driller. Exact locations and configurations of the hydraulic BOP closing unit will depend upon the particular rig contracted to drill this hole.

Flare lines will be installed down stream from the choke manifold, extending a minimum of one hundred-twenty five (125) feet from the center of the drill hole to a separate flare pit.

## 4. THE PROPOSED CASING AND CEMENTING PROGRAM

### A. The Casing Program

| Hole Size | Casing Size | Wt./Ft. | Grade | Joint | Depth | Description |
|---|---|---|---|---|---|---|
| 17.500" | 13.625" | 54.50 | K-55 | BTC | 2,672' | Existing |
| 12.250" | 9.625" | 40 - 47 | L/N/SS | N/A | 11,695' | Existing |
| 8.500" | 7.000" | 32 | S-95 | N/A | 14,303' | Existing |
| **5.875"** | **4.500"** | **13.50** | **N-80** | **Hyd SLX** | **11,000' to TD** | **To be run** |

All tubulars will be new or inspected to premium specifications. Casing strings will be pressure tested to 0.22 psi/ft of casing string length or to 1,500 psi whichever is greater (not to exceed 70% of the internal yield strength of the casing), after cementing and prior to drilling out from under the casing shoe. All tubulars will have safety factors exceeding 1.00 in burst, 1.00 in collapse and 1.60 in tension.

**B. The Cementing Program**

**Surface Casing:** None – Casing is in place and will not be disturbed.

**Intermediate Casing:** None – Casing are in place and will not be disturbed.

**Production Liner:** **The 4.500" production liner will be hung at 11,000'.** It will be cemented with Dowell's LiteCrete cement using caliper plus 20% volume. The cement slurry weighs 10.5 ppg and has a compressive strength of 2,000 psi in 24 hours. The liner is to be hung at 11,000' to give a double coverage of the massive salt section.

## 5. MUD PROGRAM

| Interval | Type | Weight | Remarks |
|---|---|---|---|
| KOP – TD | Foam | 4.0 – 5.0 ppg | Foam will be used to maintain Hydrostatic pressure at reservoir pressure |

## 6. EVALUATION PROGRAM

**Electric Logging Program**

| Hole Size | Mud Type | Interval | Logging Suite |
|---|---|---|---|
| 5.875" | Foam | KOP - TD | Gamma Ray in casing |

**Mud Logging Program**

| Hole Size | Interval | Sample Frequency | # of Sample Cuts |
|---|---|---|---|
| 5.875" | KOP - TD | 10' | 2 |

**Formation Integrity Test**

A formation integrity test will be conducted after drilling 15 to 20' of new hole below the window cut in the 7.000" liner. Assuming that the window will be cut at 12,100' TVD and that the drilling fluid weighs 8.50 ppg, the new formation will be tested to a maximum of 2,202 psi surface pressure for a 12.0 ppg equivalent.

**Notes:**

- The Mud loggers should monitor the wellbore fluid and flow parameters at all times, whether drilling is in progress or not.
- No cores will be taken.
- The evaluation program may change at the discretion of the wellsite geologist, with prior approval from the Authorized Officer Utah Division of Oil, Gas and Mining. Whether the well is completed as a dry hole or as a producer, *Well Completion and Recompletions Report and Log* (Form #3160-4) will be submitted to the Utah Division of Oil, Gas and Mining no later than thirty (30) days after the completion of the well or after completion of operations being performed.

- Two copies of all logs, core descriptions, core analyses, well test data, geologic summaries, sample descriptions and all other surveys or data obtained and complied during the drilling, workover, and/or completion operations will be filed with Form 3160-4. Samples (cuttings, fluids, and/or gases) will be submitted when requested by the Utah Department of Natural Resources.

8. This sidetrack is planned to plug and abandon the present well bore in the Nugget reservoir as the condensate and gas can not be segregated from the water now present in the lower portion of the reservoir; making production uneconomical. A sketch of the existing well bore is attached indicating the dual laterals in the Nugget with the drill pipe fish cemented in place and the two perforated intervals at 13,310' – 13,460' MD and 13,820' to 13,980' MD.

   The 3.500" tubing presently screwed into the drill pipe fish will be backed off mechanically at approximately 12,860' MD, pulled and layed down. A cast iron bridge plug will be set at 12,800' and 20' of cement bailed on top of it. The casing will be tested to 3,000 psi for 30 minutes. A gyro survey, run in 1999, will be utilized to set an oriented bridge plug at approximately 12,100'. The mechanical whipstock will be set into the oriented bridge plug, and a window will be milled at that depth.

   The 5.875" hole will be directionally drilled at a $90^0$ azimuth increasing the angle to approximately $50^0$. The Nugget sand will be re-entered at 13,024' TMD and a TVD of 12,841', with total depth at approximately 13,550' TMD and 13,176' TVD. This plan will give approximately 450' of lateral distance from the original borehole at the top of the Nugget as shown on the attached Profile and Plan View of the well.

   All of the milling and drilling , including the curve in the Twin Creek formation and the tangent in the Nugget reservoir, will be drilled with a foam circulation closed loop system to slightly over-balance the reservoir pressure in an effort to minimize formation damage. A pressure temperature bomb run on 10 April 2001 indicates a BHP at 12,800' TMD of 2,084 psi and a maximum temperature of $210^0$ F. Real time bottom hole pressure gauges will be utilized to maintain this slight over balance. If the well is productive, a 5.000" liner will be run from 11,000' to total measured depth and will be cemented back to the top of liner.

   Completion of the Nugget interval is anticipated to be minimal; primarily requiring perforating the prospective zones of interest with a small breakdown acid job to connect the wells natural permeability to the well bore. A string of 2.875" tubing will be run to unload liquids due to the low bottom hole pressure.

   A copy of the proposed well profile and a copy of the blowout equipment diagrams are attached..

**9. ABNORMAL CONDITIONS**

No abnormal pressures or temperatures are anticipated. Maximum anticipated bottom hole pressure is 5,000 psi.

**10. ANTICIPATED STARTING DATES AND NOTIFICATION OF OPERATIONS**

**A. Anticipated Starting Dates:**

| | |
|---|---|
| Operation Commencement date: | 01 June 2001 |
| Drilling Days | Approximately 20 days |
| Completion Days | Approximately 5 days |

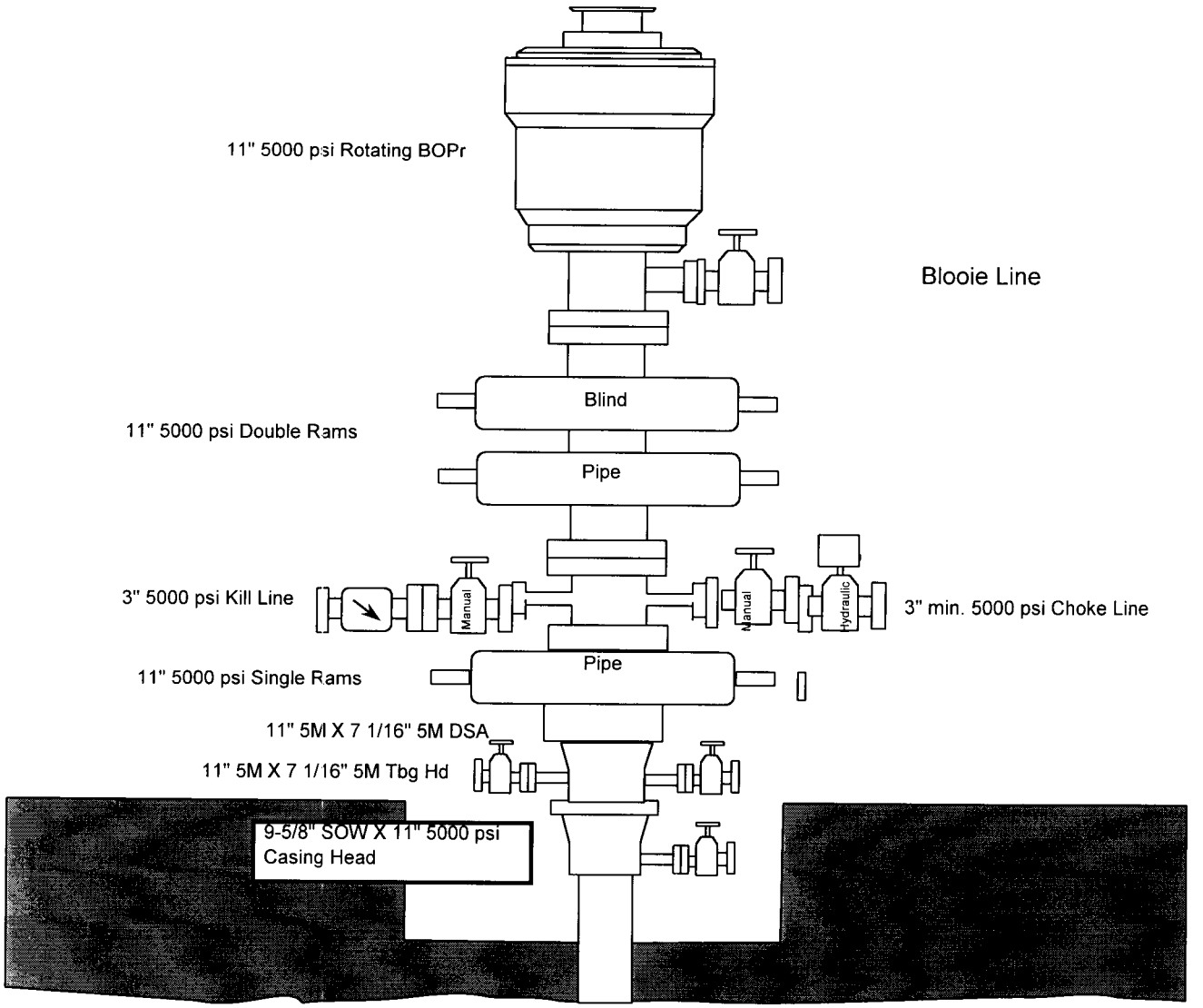
B. **Notification of Operations:** BLM and WOGCC must both be notified of Spud date.

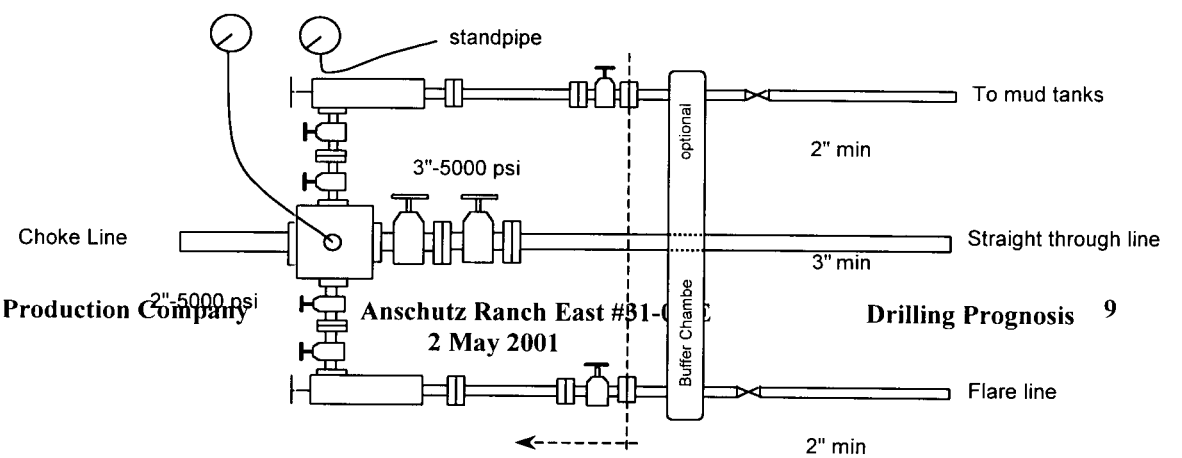
Date: 5/2/1

Prepared by: Brad Bilyeu
Brad Bilyeu

# BOPE Diagram

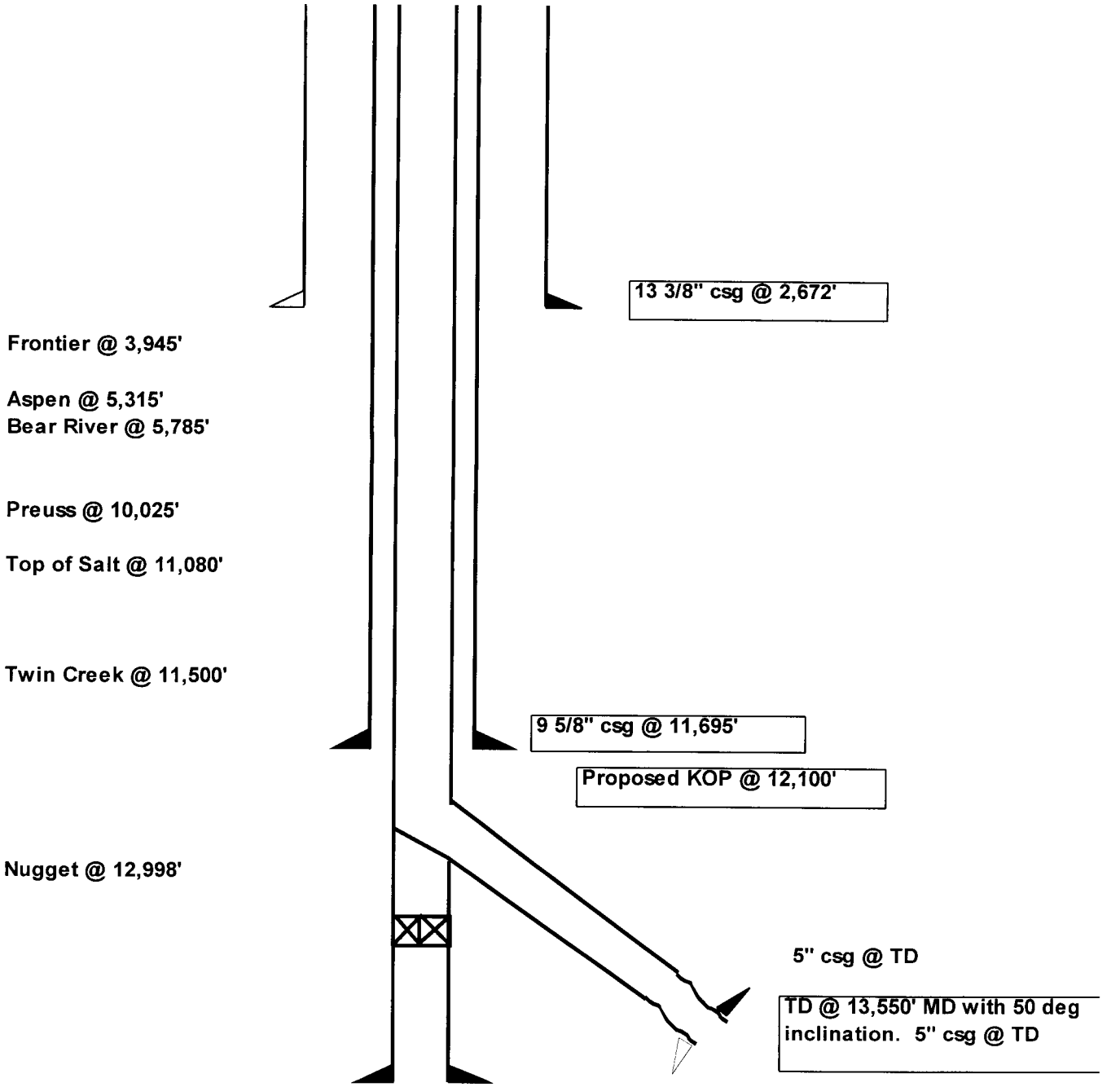
(minimum requirements)




Choke Manifold (Typical)

ANSCHUTZ RANCH EAST WELLBORE DIAGRAM W 31-04

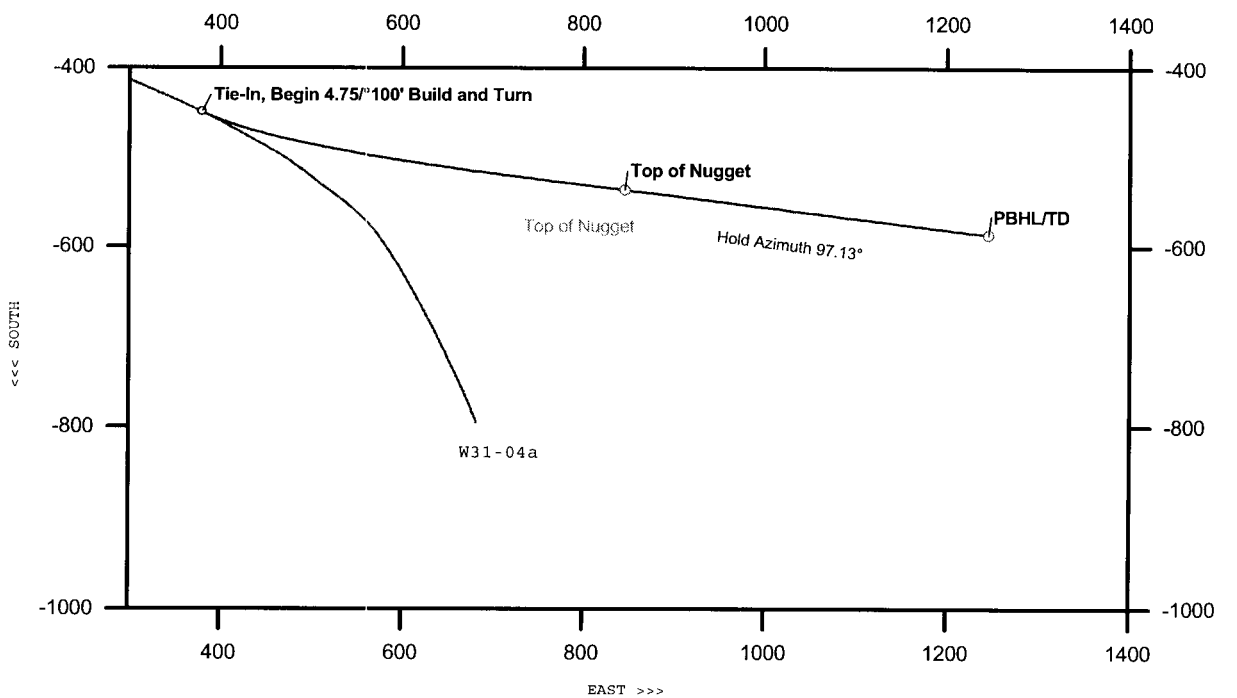


# Schlumberger

| WELL | FIELD | STRUCTURE |
|---|---|---|
| Sec 31 T4N R8E Well W31-04 | UT Summit County | Amoco Anschutz Ranch East Field W31-04 |

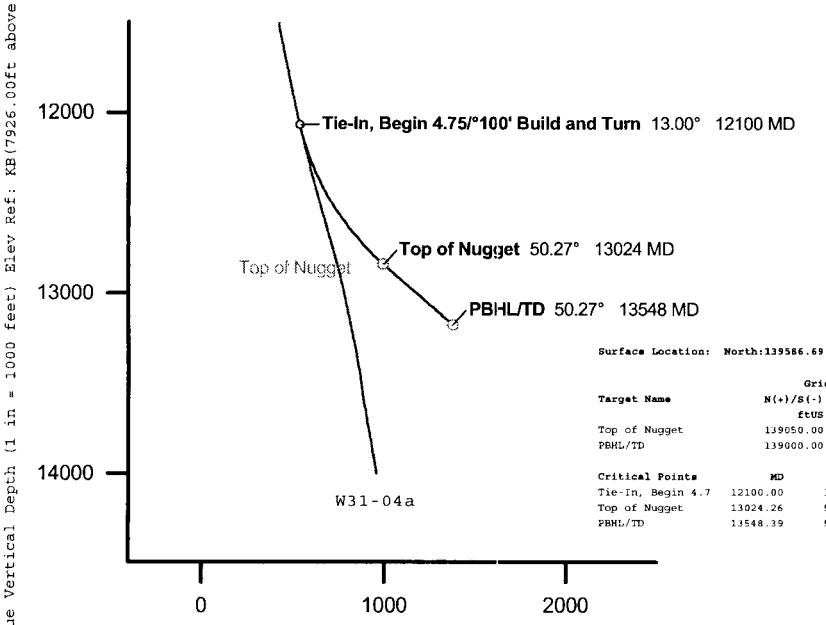
| Magnetic Parameters | Surface Location | Miscellaneous |
|---|---|---|
| Model: BGGM 2000 | Lat: N41 2 43.476 Lon: W111 5 28.176 | Slot: W31-04 Im 21-Feb-01 |
| Dip: 66.683° Mag Dec: 13.254° | North: 139586.69 ftUS East: 222003.92 ftUS | Elev Ref: KB(7926.00ft above MSL) |
| Date: February 20, 2001 FS: 53750.4 nT | Grid Conv: -0.6618° Scale Fact:1.0000 | |

PLAN VIEW Scale (1 in = 200 feet)




Vertical Section View

Proposal
Survey




Vertical Section Departure at 115.42 deg from (0.0, 0.0). (1 in = 1000 feet)

Grid North
Tot Corr ( E 13.92° )

Surface Location: North:139586.69 ftUS, East:222003.92 ftUS NAD27 Wyoming State Planes, Western Zone, US Feet

| | Grid Coord | | | Local Cocord | | | |
|---|---|---|---|---|---|---|---|
| Target Name | N(+)/S(-) ftUS | E(+)/W(-) ftUS | TVD ft | VSEC ft | N(+)/S(-) ft | E(+)/W(-) ft | Shape |
| Top of Nugget | 139050.00 | 222850.00 | 12841.00 | 994.52 | -536.68 | 846.06 | Point |
| PBHL/TD | 139000.00 | 223250.00 | 13176.00 | 1377.24 | -586.68 | 1246.05 | Point |

| Critical Points | MD | INCL | AZIM | TVD | VSEC | N(+)/S(-) | E(+)/W(-) | DLS |
|---|---|---|---|---|---|---|---|---|
| Tie-In, Begin 4.7 | 12100.00 | 13.00 | 117.00 | 12068.10 | 535.42 | -449.64 | 379.11 | 0.00 |
| Top of Nugget | 13024.26 | 50.27 | 97.13 | 12841.00 | 994.52 | -536.68 | 846.06 | 4.25 |
| PBHL/TD | 13548.39 | 50.27 | 97.13 | 13176.00 | 1377.24 | -586.68 | 1246.05 | 0.00 |

Quality Control
Date Drawn: 21-FEB-2001
Drawn by: _____
Checked by: _____
Client OK: _____

Schlumberger

# Proposed Well Profile - Geodetic Report

| | |
|---|---|
| Report Date: | February 21, 2001 |
| Client: | BP/Amoco Production Company |
| Field: | UT Summit County |
| Structure / Slot: | Amoco Anschutz Ranch East Field W31-04 / W31-04 |
| Well: | Sec 31 T4N R8E Well W31-04 |
| Borehole: | Sidetrack 20-Feb-01 |
| UWI/API#: | |
| Survey Name / Date: | W31-04 ST Rev1 lm 21-Feb-01 / February 21, 2001 |
| Tort / AHD / DDI / ERD ratio: | 86.937° / 1615.08 ft / 5.160 / 0.123 |
| Grid Coordinate System: | NAD27 Wyoming State Planes, Western Zone, US Feet |
| Location Lat/Long: | N 41 2 43.476, W 111 5 28.176 |
| Location Grid N/E Y/X: | N 139586.692 ftUS, E 222003.920 ftUS |
| Grid Convergence Angle: | -0.66183572° |
| Grid Scale Factor: | 1.00002951 |

| | |
|---|---|
| Survey / DLS Computation Method: | Minimum Curvature / Lubinski |
| Vertical Section Azimuth: | 115.420° |
| Vertical Section Origin: | N 0.000 ft, E 0.000 ft |
| TVD Reference Datum: | KB |
| TVD Reference Elevation: | 7926.0 ft relative to MSL |
| Sea Bed / Ground Level Elevation: | 0.000 ft relative to MSL |
| Magnetic Declination: | 13.254° |
| Total Field Strength: | 53750.358 nT |
| Magnetic Dip: | 66.683° |
| Declination Date: | February 20, 2001 |
| Magnetic Declination Model: | BGGM 2000 |
| North Reference: | Grid North |
| Total Corr Mag North -> Grid North: | +13.916° |
| Local Coordinates Referenced To: | Well Head |

| | | | | | | | | | Grid Coordinates | | Geographic Coordinates | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Station ID | MD (ft) | Incl (°) | Azim (°) | TVD (ft) | VSec (ft) | N/-S (ft) | E/-W (ft) | DLS (°/100ft) | Northing (ftUS) | Easting (ftUS) | Latitude | Longitude |
| Tie-In, Begin 6.0°/100' Build and Turn | 12100.00 | 13.00 | 117.00 | 12068.10 | 535.42 | -449.64 | 379.11 | 0.00 | 139137.04 | 222383.04 | N 41 2 39.077 | W 111 5 23.161 |
| | 12200.00 | 16.90 | 110.39 | 12164.70 | 561.15 | -459.82 | 402.77 | 4.25 | 139126.86 | 222406.70 | N 41 2 38.979 | W 111 5 22.851 |
| | 12300.00 | 20.93 | 106.24 | 12259.28 | 593.28 | -469.88 | 433.56 | 4.25 | 139116.80 | 222437.49 | N 41 2 38.883 | W 111 5 22.448 |
| | 12400.00 | 25.04 | 103.39 | 12351.33 | 631.63 | -479.78 | 471.31 | 4.25 | 139106.90 | 222475.24 | N 41 2 38.790 | W 111 5 21.954 |
| | 12500.00 | 29.18 | 101.29 | 12440.33 | 675.98 | -489.46 | 515.82 | 4.25 | 139097.22 | 222519.75 | N 41 2 38.699 | W 111 5 21.371 |
| | 12600.00 | 33.35 | 99.69 | 12525.79 | 726.10 | -498.86 | 566.84 | 4.25 | 139087.82 | 222570.78 | N 41 2 38.612 | W 111 5 20.704 |
| | 12700.00 | 37.53 | 98.40 | 12607.25 | 781.70 | -507.94 | 624.09 | 4.25 | 139078.74 | 222628.03 | N 41 2 38.529 | W 111 5 19.956 |
| | 12800.00 | 41.73 | 97.34 | 12684.25 | 842.49 | -516.64 | 687.26 | 4.25 | 139070.04 | 222691.20 | N 41 2 38.450 | W 111 5 19.130 |
| Begin 49.42° Tangent | 12809.86 | 42.14 | 97.24 | 12691.58 | 848.75 | -517.48 | 693.79 | 4.25 | 139069.20 | 222697.73 | N 41 2 38.442 | W 111 5 19.045 |
| | 12832.95 | 42.14 | 97.24 | 12708.71 | 863.47 | -519.43 | 709.16 | 0.00 | 139067.25 | 222713.10 | N 41 2 38.425 | W 111 5 18.844 |
| | 12900.00 | 44.99 | 97.20 | 12757.29 | 907.36 | -525.23 | 755.00 | 4.25 | 139061.45 | 222758.94 | N 41 2 38.373 | W 111 5 18.245 |
| | 13000.00 | 49.24 | 97.14 | 12825.33 | 976.93 | -534.38 | 827.68 | 4.25 | 139052.30 | 222831.62 | N 41 2 38.291 | W 111 5 17.295 |
| Top of Nugget | 13024.26 | 50.27 | 97.13 | 12841.00 | 994.52 | -536.68 | 846.06 | 4.25 | 139050.00 | 222850.00 | N 41 2 38.270 | W 111 5 17.055 |
| | 13024.36 | 50.27 | 97.13 | 12841.06 | 994.59 | -536.69 | 846.13 | 4.25 | 139049.99 | 222850.07 | N 41 2 38.270 | W 111 5 17.054 |
| PBHL/TD | 13548.39 | 50.27 | 97.13 | 13176.00 | 1377.24 | -586.68 | 1246.05 | 0.00 | 139000.00 | 223250.00 | N 41 2 37.821 | W 111 5 11.828 |

**Survey Error Model:** **Wolff & deWardt 1.0000 sigma**

**Surveying Programme:**

| MD From (ft) | MD To (ft) | EOU Freq | Survey Tool Type |
|---|---|---|---|
| 12100.00 | 13548.39 | Act-Stns | Anadrill MWD (none assigned-default tool used) |

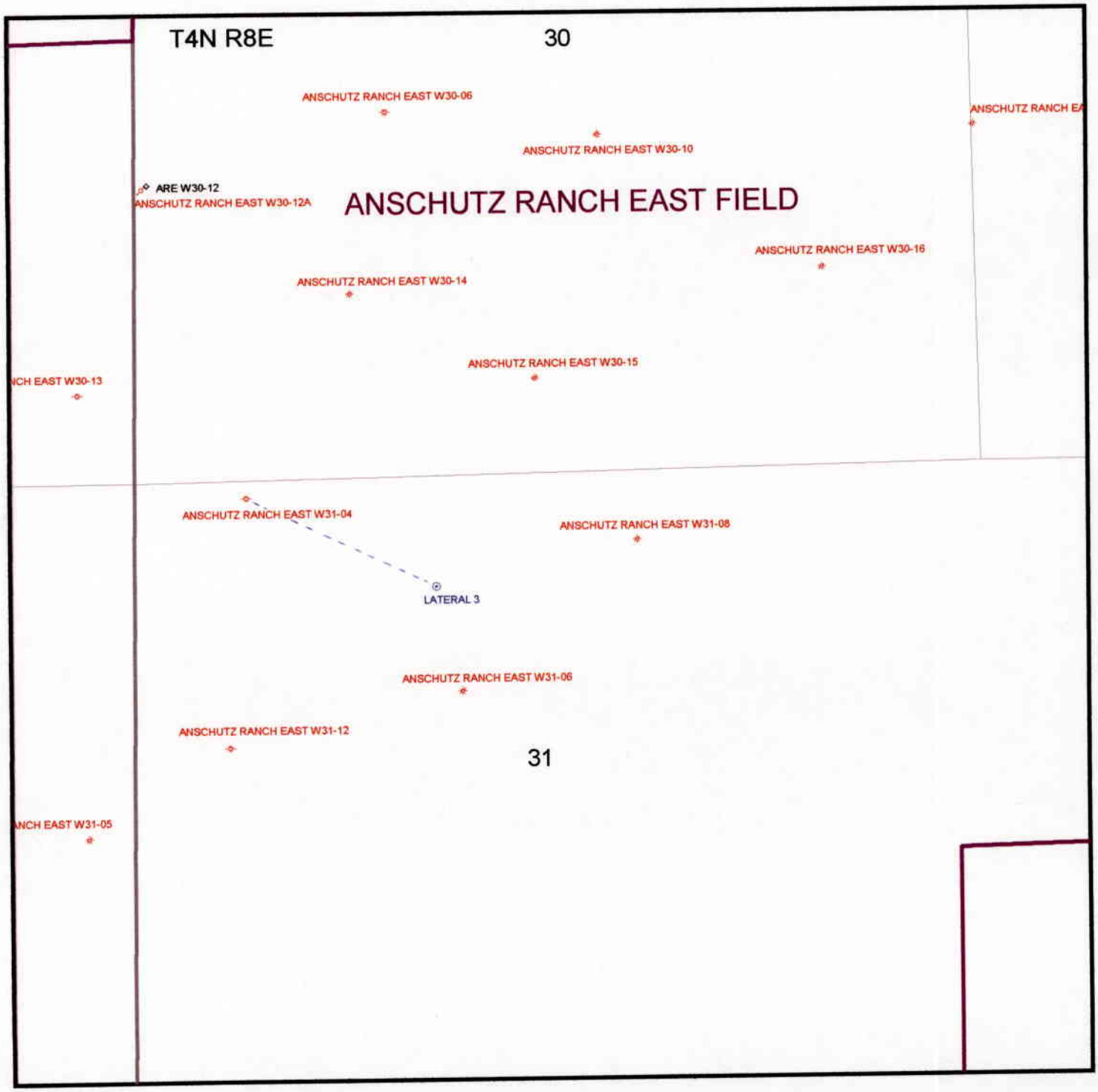
Utah Oil Gas and Mining

OPERATOR: AMOCO PROD CO (N0050)

SEC. 31, T4N, R8E

FIELD: ANSCHUTZ RANCH EAST (505)

COUNTY:SUMMIT UNIT:ANSCHUTZ RANCH EAST
CAUSE: 183-11




PREPARED BY: LCORDOVA
DATE: 11-APRIL-2001

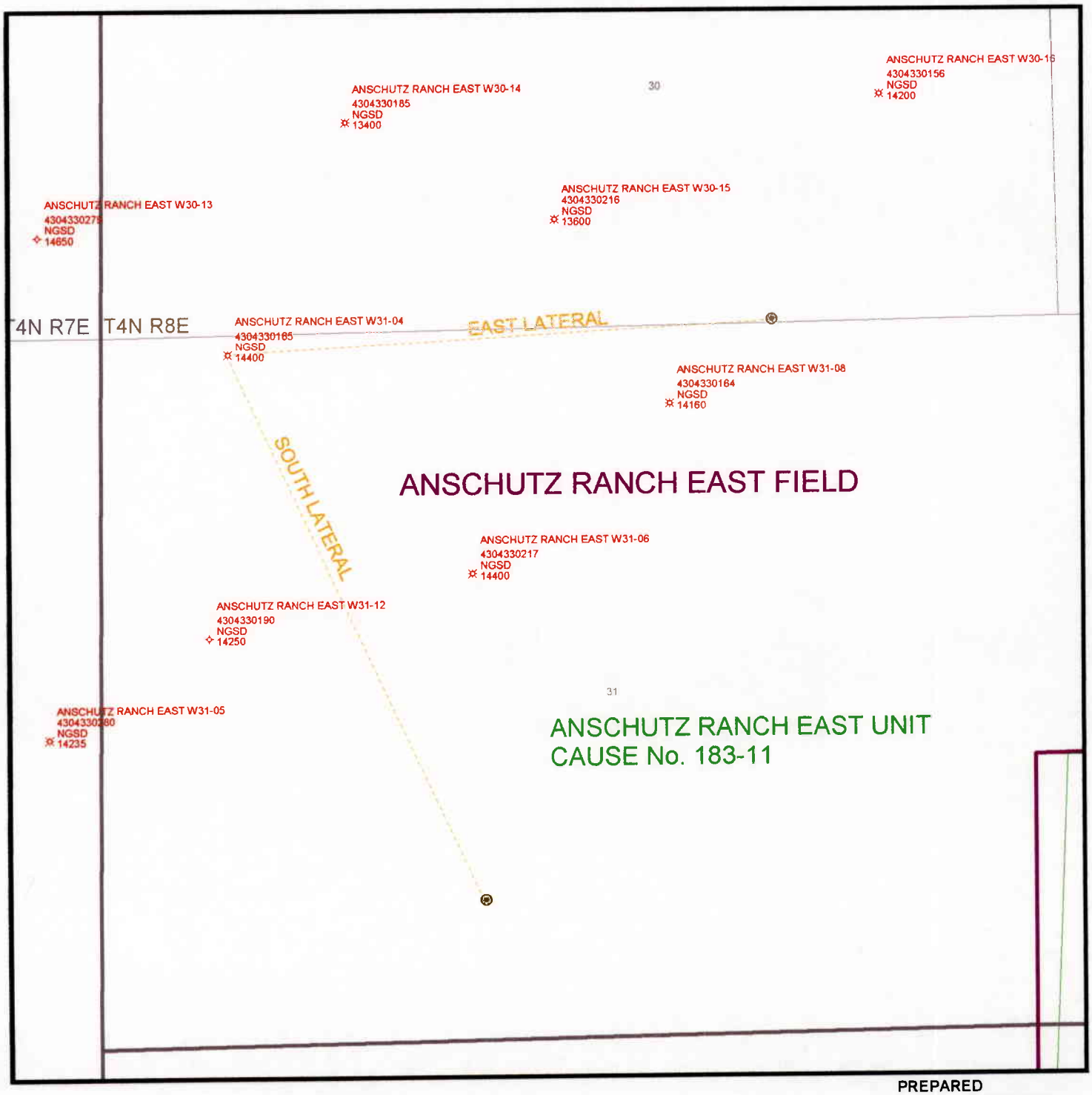
Division of Oil, Gas & Mining

OPERATOR: BP AMOCO EXPLORATION (N )

FIELD: ANSCHUTZ RANCH EAST (505)

SEC. 30 & 31, TWP 4N, RNG 8E,

COUNTY: SUMMIT CAUSE No: ANSCHUTZ RANCH EAST 183-11




PREPARED
DATE: 18-JUNE-1999

# DIVISION OF OIL, GAS AND MINING

**APPLICATION FOR PERMIT TO DRILL**
**STATEMENT OF BASIS**

**Operator Name:** BP Amoco Production Company
**Name & Number:** Anschutz Ranch East W31-04B
**API Number:** 43 -043-30165

**Location:** 1/4,1/4 NWNW Sec. 31 T. 4 N R. 8 E

**Geology/Ground Water:**
The surface casing in this well is set to 265 and has been cemented back to groung level. The new drilling activity will not require any further protection of these waters. However an intermittent spring on the west side of the location will have a french drain installed to divert water from the location under the pad on the northwest corner, and thence to the drainage on the north of the location . The spring is not currently active. H2S has been addressed by the operator and proper measures are being implemented for this operation including pre training of all drilling personnel

**Reviewer:** K. Michael Hebertson **Date:** 12 /July /1999

**Surface:**
There will be little new surface disturbance at this site. Seventeen years ago the well was drilled and the location was graded and new slopes were established to control erosion. The existing pad is nearly large enough to accommodate the extra drilling equipment that will be needed to drill the horizontal legs that are intended. An additional cut will be made on the northwest corner to extend the pad to the east and allow room for the for the needed equipment. Berms and ditches will be established to catch runoff from the location and to divert drainage around the pad. The disturbed area will be reseeded when the drilling and completion work is finished. The surface owner was contacted, but chose not to attend as he had previously reviewed the area.

**Reviewer:** K. Michael Hebertson **Date:** 12 /July / 1999

**Conditions of Approval/Application for Permit to Drill:**
**1. No disturbance of the old reserve pit.**
**2. No pit liner will be required unless a small reserve pit is deemed necessary.**

| | | | |
|---|---|---|---|
| Well name: | **05-01 Amoco W31-04C** | | |
| Operator: | **Amoco Production Co.** | LAT 3 | |
| String type: | Production Liner | | Project ID: 43-043-30165 |
| Location: | Summit Co UT | | |

**Design parameters:**

**Collapse**
Mud weight: 8.500 ppg
Design is based on evacuated pipe.

**Burst**
Max anticipated surface pressure: 0 psi
Internal gradient: 0.442 psi/ft
Calculated BHP 5,983 psi

No backup mud specified.

**Minimum design factors:**

**Collapse:**
Design factor 1.125

**Burst:**
Design factor 1.00

**Tension:**
API - tubing: 1.60 (J)
8 Round LTC: 1.80 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.50 (B)

Tension is based on air weight.
Neutral point: 13,230 ft

**Environment:**
H2S considered? No
Surface temperature: 65 °F
Bottom hole temperature: 255 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 1,500 ft

Cement top: 11,000 ft OKAY

Liner top: 11,000 ft
Non-directional string.

DIRECTIONAL
KOP @ 12,100'

| Run Seq | Segment Length (ft) | Size (in) | Nominal Weight (lbs/ft) | Grade | End Finish | True Vert Depth (ft) | Measured Depth (ft) | Drift Diameter (in) | Internal Capacity (ft³) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | N-80 | | | | | |
| 1 | 2550 | 4.5 | 13.50 | ~~L-80~~ | SuPreme LX | 13550 | 13550 | 3.795 | 67.9 |

| Run Seq | Collapse Load (psi) | Collapse Strength (psi) | Collapse Design Factor | Burst Load (psi) | Burst Strength (psi) | Burst Design Factor | Tension Load (Kips) | Tension Strength (Kips) | Tension Design Factor |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5983 | 8540 | 1.43 | 5983 | 9020 | 1.51 | 34 | ~~269~~ 283 | ~~7.84 J~~ 8.32 J OK |

BOP

5983 psi
13167 (.12) <1580>
4403psi @ SFC

∴ 5M - RSRR BOP ADEQUATE.

RAM

Prepared by: R.A. McKee
Utah Dept. of Natural Resources
Phone: 801-538-5274
FAX:
Date: May 10,2001
Salt Lake City, Utah

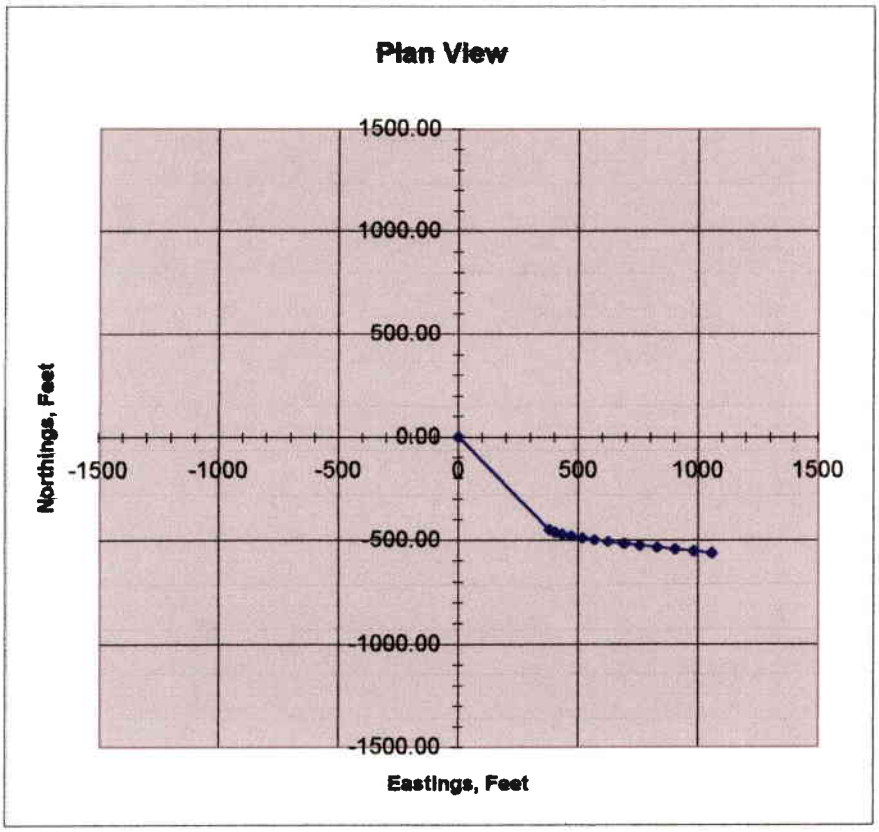
Engineering Concerns: None
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

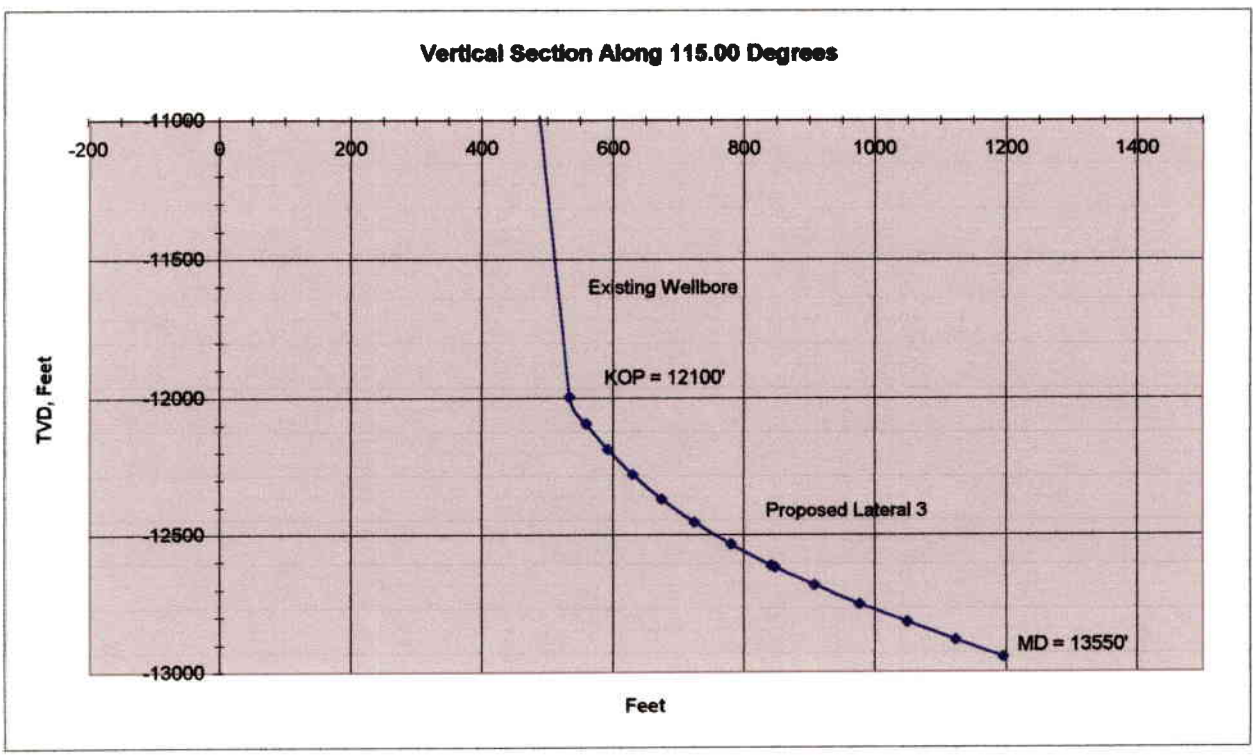
Burst strength is not adjusted for tension.

COA DIR. SURVEY W/ PLAT & VERTICAL SECTION

*Engineering responsibility for use of this design will be that of the purchaser.*

## Amoco W31-04C - Well Survey Plan and Vertical Section



# DIVISION OF OIL, GAS AND MINING

**APPLICATION FOR PERMIT TO DRILL**
**STATEMENT OF BASIS**

**Operator Name:** BP Amoco Production Company
**Name & Number:** Anschutz Ranch East W31-04B
**API Number:** 43 -043-30165

**Location:** 1/4,1/4 NWNW Sec. 31 T. 4 N R. 8 E

**Geology/Ground Water:**
The surface casing in this well is set to 265 and has been cemented back to groung level. The new drilling activity will not require any further protection of these waters. However an intermittent spring on the west side of the location will have a french drain installed to divert water from the location under the pad on the northwest corner, and thence to the drainage on the north of the location . The spring is not currently active. H2S has been addressed by the operator and proper measures are being implemented for this operation including pre training of all drilling personnel

**Reviewer:** K. Michael Hebertson **Date:** 12 /July /1999

**Surface:**
There will be little new surface disturbance at this site. Seventeen years ago the well was drilled and the location was graded and new slopes were established to control erosion. The existing pad is nearly large enough to accommodate the extra drilling equipment that will be needed to drill the horizontal legs that are intended. An additional cut will be made on the northwest corner to extend the pad to the east and allow room for the for the needed equipment. Berms and ditches will be established to catch runoff from the location and to divert drainage around the pad. The disturbed area will be reseeded when the drilling and completion work is finished. The surface owner was contacted, but chose not to attend as he had previously reviewed the area.

**Reviewer:** K. Michael Hebertson **Date:** 12 /July / 1999

**Conditions of Approval/Application for Permit to Drill:**
**1. No disturbance of the old reserve pit.**
**2. No pit liner will be required unless a small reserve pit is deemed necessary.**

| | | | |
|---|---|---|---|
| Well name: | **05-01 Amoco W31-04C** | | |
| Operator: | **Amoco Production Co.** | LAT 3 | |
| String type: | Production Liner | | Project ID: 43-043-30165 |
| Location: | Summit Co UT | | |

**Design parameters:**

**Collapse**
Mud weight: 8.500 ppg
Design is based on evacuated pipe.

**Burst**
Max anticipated surface pressure: 0 psi
Internal gradient: 0.442 psi/ft
Calculated BHP 5,983 psi

No backup mud specified.

**Minimum design factors:**

**Collapse:**
Design factor 1.125

**Burst:**
Design factor 1.00

**Tension:**
API - tubing: 1.60 (J)
8 Round LTC: 1.80 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.50 (B)

Tension is based on air weight.
Neutral point: 13,230 ft

**Environment:**
H2S considered? No
Surface temperature: 65 °F
Bottom hole temperature: 255 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 1,500 ft

Cement top: 11,000 ft OKAY

Liner top: 11,000 ft
Non-directional string.

DIRECTIONAL
KOP @ 12,100'

| Run Seq | Segment Length (ft) | Size (in) | Nominal Weight (lbs/ft) | Grade | End Finish | True Vert Depth (ft) | Measured Depth (ft) | Drift Diameter (in) | Internal Capacity (ft³) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2550 | 4.5 | 13.50 | N-80 ~~L-80~~ | SuPreme LX | 13550 | 13550 | 3.795 | 67.9 |

| Run Seq | Collapse Load (psi) | Collapse Strength (psi) | Collapse Design Factor | Burst Load (psi) | Burst Strength (psi) | Burst Design Factor | Tension Load (Kips) | Tension Strength (Kips) | Tension Design Factor |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5983 | 8540 | 1.43 | 5983 | 9020 | 1.51 | 34 | ~~269~~ 283 | ~~7.81 J~~ 8.32 J OK |

BOP

5983 psi
13167 (.12) <1580>
4403psi @ SFC

∴ 5M - RSRR BOP ADEQUATE.

RMM

Prepared by: R.A. McKee
Utah Dept. of Natural Resources
Phone: 801-538-5274
FAX:
Date: May 10,2001
Salt Lake City, Utah

Engineering Concerns: None
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

COA DIR. SURVEY W/ PLAT & VERTICAL SECTION

*Engineering responsibility for use of this design will be that of the purchaser.*

**WORKSHEET**

**APPLICATION FOR PERMIT TO DRILL**

APD RECEIVED: 04/10/2001

API NO. ASSIGNED: 43-043-30165

WELL NAME: ANSCHUTZ RANCH EAST W31-04E (LAT 3)

OPERATOR: AMOCO PRODUCTION ( N0050 )

CONTACT: KRISTINA LEE

PHONE NUMBER: 303-423-5749

PROPOSED LOCATION:

NWNW 31 040N 080E

SURFACE: 0111 FNL 0737 FWL

BOTTOM: ~~0500~~ 698 FNL ~~0500~~ 1983 FWL

SUMMIT

ANSCHUTZ RANCH EAST ( 505 )

LEASE TYPE: 4 - Fee

LEASE NUMBER: FEE

SURFACE OWNER: 4 - Fee

PROPOSED FORMATION: NGSD

| INSPECT LOCATN BY: / / | | |
|---|---|---|
| **Tech Review** | **Initials** | **Date** |
| Engineering | RAM | 5/10/01 |
| Geology | | |
| Surface | | |

RECEIVED AND/OR REVIEWED:

✓ Plat

✓ Bond: Fed[] Ind[] Sta[] Fee[4]
(No. 1031729112 )

N Potash (Y/N)

N Oil Shale (Y/N) *190-5 (B) or 190-3

✓ Water Permit
(No. 21-1592 )

N RDCC Review (Y/N)
(Date: )

Y Fee Surf Agreement (Y/N)

LOCATION AND SITING:

___ R649-2-3. Unit ANSCHUTZ RANCH EAST

___ R649-3-2. General
Siting: 460 From Qtr/Qtr & 920' Between Wells

___ R649-3-3. Exception

✓ Drilling Unit
Board Cause No: 183-11 * Unit Aprd.
Eff Date: 11-30-82
Siting:

___ R649-3-11. Directional Drill

COMMENTS: Need Presite ( Closed mud system - new presite not necessary ) mH

STIPULATIONS: (1) AT THE CONCLUSION OF DRILLING OPERATIONS, SUBMIT A COMPLETE COPY OF THE DIRECTIONAL SURVEY, INCLUDING PLAN VIEW AND VERTICAL SECTION

Michael O. Leavitt
Governor
Kathleen Clarke
Executive Director
Lowell P. Braxton
Division Director

# State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

May 15, 2001

Amoco Production Company
~~PO Box 829~~ 1013 Cheyenne Dr, Suite A (resent 5/30/01)
Evanston, WY 82930

Re: Anschutz Ranch East W-31-04E Well, 698' FNL, 1983' FWL, NW NW, Sec. 31, T. 4 North, R. 8 East, Summit County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann.§ 40-6-1 *et seq.*, Utah Administrative Code R649-3-1 *et seq.*, and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-043-30165.

Sincerely,

for John R. Baza
Associate Director

er
Enclosures
cc: Summit County Assessor

**Operator:** Amoco Production Company

**Well Name & Number** Anschutz Ranch East W-31-04E

**API Number:** 43-043-30165

**Lease:** FEE

**Location:** NW NW **Sec.** 31 **T.** 4 North **R.** 8 East

## Conditions of Approval

1. General

   Compliance with the requirements of Utah Admin. R. 649-1 *et seq.*, the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

2. Notification Requirements

   The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

   - 24 hours prior to cementing or testing casing
   - 24 hours prior to testing blowout prevention equipment
   - 24 hours prior to spudding the well
   - within 24 hours of any emergency changes made to the approved drilling program
   - prior to commencing operations to plug and abandon the well

   The following are Division of Oil, Gas and Mining contacts and their work telephone numbers (please leave a voice mail message if the person is not available to take the call):

   - Dan Jarvis at (801) 538-5338
   - Carol Daniels at (801) 538-5284 (spud)

3. Reporting Requirements

   All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

4. Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis. (Copy Attached)

5. At the conclusion of drilling operations, submit a complete copy of the directional survey, including plan view and vertical section.

Division of Oil, Gas and Mining

# OPERATOR CHANGE WORKSHEET

**ROUTING**

| | | |
|---|---|---|
| 1. GLH | | 4-KAS |
| 2. CDW✓ | | 5-LP |
| 3. JLT | | 6-FILE |

Enter date after each listed item is completed

Change of Operator (Well Sold) — Designation of Agent

**X Operator Name Change** — Merger

The operator of the well(s) listed below has changed, effective: **12-31-2001**

| **FROM:** (Old Operator): |
|---|
| AMOCO PRODUCTION COMPANY |
| Address: 501 WESTLAKE PARK BLVD |
| |
| HOUSTON, TX 77079 |
| Phone: 1-(281)-366-5328 |
| Account N0050 |
| |

| **TO:** ( New Operator): |
|---|
| BP AMERICA PRODUCTION COMPANY |
| Address: 501 WESTLAKE PARK BLVD |
| |
| HOUSTON,TX 77079 |
| Phone: 1-(281)-366-5328 |
| Account N1990 |
| |

**CA No.** **Unit:** **ANSCHUTZ RANCH EAST**

**WELL(S)**

| NAME | API NO. | ENTITY NO. | SEC. TWN RNG | LEASE TYPE | WELL TYPE | WELL STATUS |
|---|---|---|---|---|---|---|
| ARE W20-08 | 43-043-30123 | 4540 | 20-4N-8E | FEE | GW | P |
| ANSCHUTZ RANCH EAST W30-02 | 43-043-30218 | 4540 | 30-4N-8E | FEE | GW | P |
| ANSCHUTZ RANCH EAST W30-06 | 43-043-30273 | 4540 | 30-4N-8E | FEE | GW | S |
| ANSCHUTZ RANCH EAST W30-15 | 43-043-30216 | 4540 | 30-4N-8E | FEE | GW | P |
| ANSCHUTZ RANCH EAST W30-08 | 43-043-30164 | 4540 | 31-4N-8E | FEE | GW | P |
| ANSCHUTZ RANCH EAST W31-04E | 43-043-30165 | 4540 | 31-4N-8E | FEE | GW | S |
| ANSCHUTZ RANCH EAST W31-05 | 43-043-30280 | 4540 | 31-4N-8E | FEE | GW | P |
| ANSCHUTZ RANCH EAST W31-06 | 43-043-30217 | 4540 | 31-4N-8E | FEE | GW | P |
| ANSCHUTZ RANCH EAST W31-12 | 43-043-30190 | 4540 | 31-4N-8E | FEE | GW | S |
| ANSCHUTZ RANCH EAST W32-04 | 43-043-30162 | 4540 | 32-4N-8E | FEE | GW | P |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

## OPERATOR CHANGES DOCUMENTATION

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 12/13/2001

2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 12/13/2001

3. The new company has been checked through the **Department of Commerce, Division of Corporations Database on:** 12/14/2001

4. Is the new operator registered in the State of Utah: YES Business Number: PENDING

5. If **NO**, the operator was contacted contacted on: N/A

6. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the (merger, name change, or operator change) for all wells listed on Federal or Indian leases on: N/A

7. **Federal and Indian Units:** The BLM or BIA has approved the successor of unit operator for wells listed on: N/A

8. **Federal and Indian Communization Agreements ("CA"):** The BLM or the BIA has approved the operator change for all wells listed involved in a CA on: N/A

9. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject,** for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: N/A

## DATA ENTRY:

1. Changes entered in the **Oil and Gas Database on:** 12/17/2001

2. Changes have been entered on the **Monthly Operator Change Spread Sheet on:** 12/17/2001

3. Bond information entered in RBDMS on: 12/11/2001

4. Fee wells attached to bond in RBDMS on: 12/17/2001

## STATE BOND VERIFICATION:

1. State well(s) covered by Bond No.: N/A

## INDIAN BOND VERIFICATION:

1. Indian well(s) covered by Bond No.: N/A

## FEDERAL BOND VERIFICATION:

1. Federal well(s) covered by Bond No.: N/A

## FEE WELLS - BOND VERIFICATION/LEASE INTEREST OWNER NOTIFICATION:

1. (R649-3-1) The **NEW** operator of any fee well(s) listed has furnished a bond: 103172911249

2. The **FORMER** operator has requested a release of liability from their bond on: N/A
   The Division sent response by letter on: N/A

3. (R649-2-10) The **FORMER** operator of the Fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: 12/19/2001

**COMMENTS:**

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

# SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

| | |
|---|---|
| 5. LEASE DESIGNATION AND SERIAL NUMBER: | |
| 6. IF INDIAN, ALLOTTEE OR TRIBE NAME: | |
| 7. UNIT or CA AGREEMENT NAME: | See Attached |
| 1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER See Attached | 8. WELL NAME and NUMBER: See Attached |
| 2. NAME OF OPERATOR: Amoco Production Company | 9. API NUMBER: Attached |
| 3. ADDRESS OF OPERATOR: 501 Westlake Park Blvd CITY Houston STATE TX ZIP 77079 — PHONE NUMBER: (281) 366-5328 | 10. FIELD AND POOL, OR WILDCAT: See Attached |
| 4. LOCATION OF WELL — FOOTAGES AT SURFACE: See Attached — COUNTY: See Attached | |
| QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: | STATE: UTAH |

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ☑ NOTICE OF INTENT (Submit in Duplicate) | ☐ ACIDIZE | ☐ DEEPEN | ☐ REPERFORATE CURRENT FORMATION |
| Approximate date work will start: _____ | ☐ ALTER CASING | ☐ FRACTURE TREAT | ☐ SIDETRACK TO REPAIR WELL |
| | ☐ CASING REPAIR | ☐ NEW CONSTRUCTION | ☐ TEMPORARILY ABANDON |
| | ☐ CHANGE TO PREVIOUS PLANS | ☐ OPERATOR CHANGE | ☐ TUBING REPAIR |
| | ☐ CHANGE TUBING | ☐ PLUG AND ABANDON | ☐ VENT OR FLARE |
| ☐ SUBSEQUENT REPORT (Submit Original Form Only) | ☐ CHANGE WELL NAME | ☐ PLUG BACK | ☐ WATER DISPOSAL |
| Date of work completion: | ☐ CHANGE WELL STATUS | ☐ PRODUCTION (START/RESUME) | ☐ WATER SHUT-OFF |
| _____ | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ RECLAMATION OF WELL SITE | ☑ OTHER: Operator Name Change |
| | ☐ CONVERT WELL TYPE | ☐ RECOMPLETE - DIFFERENT FORMATION | |

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Amoco Production Company proposes to change its name to BP America Production Company, effective December 31, 2001. Mailing addresses and designated agents shall remain the same.

Attached to this sundry is a listing of wells currently operated by Amoco Production Company. This list includes all wells with the exception of those wells which have a plugged or D&A status.

Also attached for the Board's file is a copy of the Board Resolution approving the name change.

NAME (PLEASE PRINT) Alan Wood TITLE Regulatory Engineer

SIGNATURE _____ DATE 12/11/2001

(This space for State use only)

RECEIVED
DEC 13 2001
DIVISION OF
OIL, GAS AND MINING

(5/2000) (See Instructions on Reverse Side)

UNITED STATES OF AMERICA §
STATE OF TEXAS §
COUNTY OF HARRIS §
CITY OF HOUSTON §

**CERTIFICATE**

M. S. Haskins, of lawful age, first being duly sworn on oath, deposes and says:

1. That she is the duly elected, qualified and acting Assistant Secretary of Amoco Production Company, a corporation organized and existing under the laws of the State of Delaware, U.S.A.;

2. That on November 12, 2001, by consent action of the Board of Directors of Amoco Production Company (hereinafter referred to as "Company"), the following resolutions were adopted:

> WHEREAS, in connection with BP America Inc.'s ("BP") integration of Atlantic Richfield Company ("ARCO") and Vastar Resources, Inc. ("Vastar"), BP has elected to reorganize, consolidate and merge its upstream onshore Lower 48 assets into a single legal entity to align BP's legal structure with its business organization and to improve operating efficiencies; and
>
> WHEREAS, BP desires Amoco Production Company ("Company") to be such single legal entity for the purposes of such reorganization, consolidation and merger; and
>
> WHEREAS such reorganization, consolidation and merger shall be accomplished by December 31, 2001 pursuant to a Reorganization Agreement ("Agreement") by and between ARCO and BP Company North America Inc. ("BP Company NA"), the parent of Company, resulting in ARCO's upstream onshore Lower 48 assets being transferred to Company and Vastar being merged into Company; and
>
> WHEREAS, pursuant to such Agreement, asset, stock and liability transfers will occur in consideration for Class B common stock of BP Company NA and Company's agreement to assume all obligations and indemnify ARCO for all past and future liabilities relating to such transfers; and
>
> WHEREAS, in connection with such reorganization, Company desires to change its name to BP America Production Company, effective December 31, 2001 with corporate seal as follows; and

WHEREAS all officers and directors of Company will remain unchanged.

NOW, THEREFORE, BE IT,

RESOLVED, Company will accept asset, stock and liability transfers effective December 31, 2001 pursuant to the Agreement and will assume all obligations and indemnify ARCO for all past or future liabilities relating to such transfers.

FURTHER RESOLVED, Company will change its name and corporate seal to BP America Production Company, effective December 31, 2001 and all officers and directors will remain unchanged.

3. That the aforesaid resolutions have not been amended, rescinded, or annulled, but remain in full force and effect on the date hereof.

EXECUTED in the City of Houston, State of Texas, on this the 13 day of November, 2001.

[Corporate Seal]

M. S. Haskins

SUBSCRIBED and sworn to before me this 13 day of November, 2001.

(Notary Seal)

DENISE ROBERTSON
Notary Public, State of Texas
My Commission Expires
October 12, 2004

NOTARY PUBLIC, STATE OF TEXAS

| API Well Number | Operator | Well Name | Well Type | Well Status | Field Name | Sec | Twp-Rng |
|---|---|---|---|---|---|---|---|
| 43-043-30096-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W16-14 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 16 | 4N-8E |
| 43-043-30106-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST 34-2 | SWD | Active Well | ANSCHUTZ RANCH EAST | 34 | 4N-7E |
| 43-043-30123-00-00 | AMOCO PRODUCTION CO | ARE W20-08 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 20 | 4N-8E |
| 43-043-30129-00-00 | AMOCO PRODUCTION CO | ARE 29-04ST1 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 29 | 4N-8E |
| 43-043-30130-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST E21-14 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 21 | 4N-8E |
| 43-043-30135-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W21-04 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 21 | 4N-8E |
| 43-043-30136-00-00 | AMOCO PRODUCTION CO | ARE W29-02 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 29 | 4N-8E |
| 43-043-30138-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W16-06 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 16 | 4N-8E |
| 43-043-30139-00-00 | AMOCO PRODUCTION CO | ISLAND RANCHING C-1 | SWD | Active Well | ANSCHUTZ RANCH EAST | 26 | 4N-7E |
| 43-043-30143-00-00 | AMOCO PRODUCTION CO | CHAMPLIN 372 AMOCO C 1 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 23 | 4N-7E |
| 43-043-30145-00-00 | AMOCO PRODUCTION CO | ARE W20-14 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 20 | 4N-8E |
| 43-043-30148-00-00 | AMOCO PRODUCTION CO | ARE W20-16 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 20 | 4N-8E |
| 43-043-30154-00-00 | AMOCO PRODUCTION CO | ARE W29-12 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 29 | 4N-8E |
| 43-043-30156-00-00 | AMOCO PRODUCTION CO | ARE W30-16 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 30 | 4N-8E |
| 43-043-30157-00-00 | AMOCO PRODUCTION CO | ARE W36-16 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 36 | 4N-7E |
| 43-043-30159-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W20-06 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 20 | 4N-8E |
| 43-043-30161-00-00 | AMOCO PRODUCTION CO | ISLAND RANCHING D-1 | Gas Well | Shut_In | **WEBER FORMATION** | 14 | 4N-7E |
| 43-043-30162-00-00 | AMOCO PRODUCTION CO | ARE W32-04 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 32 | 4N-8E |
| 43-043-30164-00-00 | AMOCO PRODUCTION CO | ARE W31-08 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 31 | 4N-8E |
| 43-043-30165-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W31-04 E | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 31 | 4N-8E |
| 43-043-30167-00-00 | AMOCO PRODUCTION CO | ARE W36-08 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 36 | 4N-7E |
| 43-043-30168-00-00 | AMOCO PRODUCTION CO | CHAMPLIN 387 B1A | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 9 | 3N-7E |
| 43-043-30170-00-00 | AMOCO PRODUCTION CO | CHAMPLIN 372 D-1 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 23 | 4N-7E |
| 43-043-30176-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W17-16 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 17 | 4N-8E |
| 43-043-30183-00-00 | AMOCO PRODUCTION CO | ARE W30-08 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 30 | 4N-8E |
| 43-043-30185-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W30-14 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 30 | 4N-8E |
| 43-043-30188-00-00 | AMOCO PRODUCTION CO | ARE W01-06 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 1 | 3N-7E |
| 43-043-30190-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W31-12 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 31 | 4N-8E |
| 43-043-30204-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W19-16 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 19 | 4N-8E |
| 43-043-30209-00-00 | AMOCO PRODUCTION CO | ARE W1-02 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 1 | 3N-7E |
| 43-043-30215-00-00 | AMOCO PRODUCTION CO | ARE W30-10 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 30 | 4N-8E |
| 43-043-30216-00-00 | AMOCO PRODUCTION CO | ARE W30-15 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 30 | 4N-8E |
| 43-043-30217-00-00 | AMOCO PRODUCTION CO | ARE W31-06 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 31 | 4N-8E |
| 43-043-30218-00-00 | AMOCO PRODUCTION CO | ARE W30-02 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 30 | 4N-8E |

| API Well Number | Operator | Well Name | Well Type | Well Status | Field Name | Sec | Twp-Rng |
|---|---|---|---|---|---|---|---|
| 43-043-30220-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W20-12 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 20 | 4N-8E |
| 43-043-30226-00-00 | AMOCO PRODUCTION CO | ARE E28-06 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 28 | 4N-8E |
| 43-043-30227-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W36-10 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 36 | 4N-7E |
| 43-043-30228-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W20-02 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 20 | 4N-8E |
| 43-043-30229-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W20-10 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 20 | 4N-8E |
| 43-043-30231-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W16-12 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 16 | 4N-8E |
| 43-043-30238-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W20-04 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 20 | 4N-8E |
| 43-043-30248-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W30-12A | GIW | Active Well | ANSCHUTZ RANCH EAST | 30 | 4N-8E |
| 43-043-30250-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W29-06A | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 29 | 4N-8E |
| 43-043-30251-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W29-14A | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 29 | 4N-8E |
| 43-043-30255-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W36-14 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 36 | 4N-7E |
| 43-043-30257-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST E28-12 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 28 | 4N-8E |
| 43-043-30265-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W2-10 | GIW | Active Well | ANSCHUTZ RANCH EAST | 2 | 3N-7E |
| 43-043-30270-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W01-04 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 1 | 3N-7E |
| 43-043-30271-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W01-12 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 1 | 3N-7E |
| 43-043-30272-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W19-08 | GIW | Active Well | ANSCHUTZ RANCH EAST | 19 | 4N-8E |
| 43-043-30273-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W30-06 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 30 | 4N-8E |
| 43-043-30277-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W11-1 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 11 | 3N-7E |
| 43-043-30279-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W30-13 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 25 | 4N-7E |
| 43-043-30280-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W31-05 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 31 | 4N-8E |
| 43-043-30283-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W12-04 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 2 | 3N-7E |
| 43-043-30286-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W20-09 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | 20 | 4N-8E |
| 43-043-30291-00-00 | AMOCO PRODUCTION CO | ANSCHUTZ RANCH EAST W20-03 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | 20 | 4N-8E |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
Michael O. Leavitt, Governor
Robert Morgan, Executive Director
Lowell P. Braxton, Division Director
1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

August 21, 2002

**AMENDED**
Kristina Lee
BP America Production Co
501 Westlake Park Blvd
Houston TX 77079

Re: APD Rescinded – Anschutz Ranch East W 31-04E , Sec. 31, T. 4N, R. 8E
Summit County, Utah API No. 43-043-30165

Dear Ms. Lee:

The Application for Permit to Drill (APD) for the subject well which was approved by the Division of Oil, Gas and Mining on May 15, 2001 to plug back, sidetrack and to re-enter to the Nugget formation is hereby rescinded, effective August 20, 2002, as per your request.

A new APD must be filed with this office for approval prior to the commencement of any future work on the subject location.

If any previously unreported operations have been performed in regard to the above mentioned, it is imperative that you notify the Division immediately.

Sincerely,

Diana Mason
Engineering Technician

cc: Well File

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

# SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5. LEASE DESIGNATION AND SERIAL NUMBER:

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME: See Attached

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER See Attached

8. WELL NAME and NUMBER: See Attached

2. NAME OF OPERATOR: BP America Production Company

9. API NUMBER: Attached

3. ADDRESS OF OPERATOR: 501 WestLake Park Blv CITY Houston STATE TX ZIP 77079

PHONE NUMBER: (281) 366-2000

10. FIELD AND POOL, OR WILDCAT: See Attached

4. LOCATION OF WELL

FOOTAGES AT SURFACE: See Attached

COUNTY: See Attached

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ☑ NOTICE OF INTENT (Submit in Duplicate) | ☐ ACIDIZE | ☐ DEEPEN | ☐ REPERFORATE CURRENT FORMATION |
| Approximate date work will start: _____ | ☐ ALTER CASING | ☐ FRACTURE TREAT | ☐ SIDETRACK TO REPAIR WELL |
| | ☐ CASING REPAIR | ☐ NEW CONSTRUCTION | ☐ TEMPORARILY ABANDON |
| | ☐ CHANGE TO PREVIOUS PLANS | ☑ OPERATOR CHANGE | ☐ TUBING REPAIR |
| | ☐ CHANGE TUBING | ☐ PLUG AND ABANDON | ☐ VENT OR FLARE |
| ☐ SUBSEQUENT REPORT (Submit Original Form Only) | ☐ CHANGE WELL NAME | ☐ PLUG BACK | ☐ WATER DISPOSAL |
| Date of work completion: | ☐ CHANGE WELL STATUS | ☐ PRODUCTION (START/RESUME) | ☐ WATER SHUT-OFF |
| _____ | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ RECLAMATION OF WELL SITE | ☐ OTHER: _____ |
| | ☐ CONVERT WELL TYPE | ☐ RECOMPLETE - DIFFERENT FORMATION | |

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

BP America Production Company, effective May 1, 2003, has transferred its interest in the attached list of properties to :

Merit Energy Company
13727 Noel Road, Suite 500
Dallas, TX 75240

Transfer of operations is effective July 1, 2003.

By Merit Energy Company

Name Fred N. Diem Title V.P.

Signature [signature] Date 7/1/03

BP America Production Company
NAME (PLEASE PRINT) David G. Peterson TITLE Attorney-In-Fact

SIGNATURE [signature] DATE 6/26/03

(This space for State use only)

RECEIVED
JUL 03 2003
DIV. OF OIL, GAS & MINING

(5/2000) (See Instructions on Reverse Side)

## BP OPERATED PROPERTIES TRANSFERRED TO MERIT ENERGY COMPANY

| API Well Number | Operator | Well Name | Well Type | Well Status | Field Name | County Name | Location (Twp-Rng) | Section | Qtr/Qtr | Ft. NS | NS | Ft. EW | EW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 43-043-30096-00-00 | BP AMERICA PRODUCTION CO | ARE W16-14 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 16 | NWSW | 2137 | S | 686 | W |
| 43-043-30106-00-00 | BP AMERICA PRODUCTION CO | ARE 34-2 | Water Disposal | Active Well | ANSCHUTZ RANCH | SUMMIT | 4N-7E | 34 | NWNW | 1036 | N | 1100 | W |
| 43-043-30123-00-00 | BP AMERICA PRODUCTION CO | ARE W20-08 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 20 | SENE | 2202 | N | 1592 | E |
| 43-043-30129-00-00 | BP AMERICA PRODUCTION CO | ARE 29-04ST1 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 29 | NWNW | 627 | N | 435 | W |
| 43-043-30130-00-00 | BP AMERICA PRODUCTION CO | ARE E21-14 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 21 | NWSW | 2365 | S | 200 | W |
| 43-043-30135-00-00 | BP AMERICA PRODUCTION CO | ARE W21-04 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 21 | NWNW | 1063 | N | 401 | W |
| 43-043-30136-00-00 | BP AMERICA PRODUCTION CO | ARE W29-02 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 29 | NWNE | 662 | N | 2460 | E |
| 43-043-30138-00-00 | BP AMERICA PRODUCTION CO | ARE W16-06 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 16 | SENE | 1314 | N | 618 | E |
| 43-043-30139-00-00 | BP AMERICA PRODUCTION CO | ISLAND RANCHING C-1 | Water Disposal | Active Well | ANSCHUTZ RANCH | SUMMIT | 4N-7E | 26 | SWSE | 1324 | S | 1722 | E |
| 43-043-30143-00-00 | BP AMERICA PRODUCTION CO | CHAMPLIN 372 AMOCO C 1 | Gas Well | Shut_In | ANSCHUTZ RANCH | SUMMIT | 4N-7E | 23 | NWNW | 860 | N | 536 | W |
| 43-043-30145-00-00 | BP AMERICA PRODUCTION CO | ARE W20-14 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 20 | NWSW | 1518 | S | 1283 | W |
| 43-043-30148-00-00 | BP AMERICA PRODUCTION CO | ARE W20-16 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 20 | SWSE | 257 | S | 1640 | E |
| 43-043-30154-00-00 | BP AMERICA PRODUCTION CO | ARE W29-12 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 29 | NWSW | 2204 | S | 22 | W |
| 43-043-30156-00-00 | BP AMERICA PRODUCTION CO | ARE W30-16 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 30 | NESE | 1345 | S | 968 | E |
| 43-043-30157-00-00 | BP AMERICA PRODUCTION CO | ARE W36-16 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-7E | 36 | SESE | 890 | S | 447 | E |
| 43-043-30159-00-00 | BP AMERICA PRODUCTION CO | ARE W20-06 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 20 | NWNW | 1291 | N | 936 | W |
| 43-043-30162-00-00 | BP AMERICA PRODUCTION CO | ARE W32-04 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 32 | NWNW | 642 | N | 791 | W |
| 43-043-30164-00-00 | BP AMERICA PRODUCTION CO | ARE W31-08 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 31 | NWNE | 468 | N | 2201 | E |
| 43-043-30165-00-00 | BP AMERICA PRODUCTION CO | ARE W31-04E | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 31 | NWNW | 111 | N | 737 | W |
| 43-043-30167-00-00 | BP AMERICA PRODUCTION CO | ARE W36-08 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-7E | 36 | SENE | 1641 | N | 1183 | E |
| 43-043-30168-00-00 | BP AMERICA PRODUCTION CO | CHAMPLIN 387 B1A | Gas Well | Shut_In | ANSCHUTZ RANCH | SUMMIT | 3N-7E | 9 | SWNW | 1837 | N | 1286 | W |
| 43-043-30170-00-00 | BP AMERICA PRODUCTION CO | CHAMPLIN 372 D-1 | Gas Well | Producing Well | ANSCHUTZ RANCH | SUMMIT | 4N-7E | 23 | NESE | 2170 | S | 680 | E |
| 43-043-30176-00-00 | BP AMERICA PRODUCTION CO | ARE W17-16 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 17 | NWSE | 1765 | S | 1444 | E |
| 43-043-30183-00-00 | BP AMERICA PRODUCTION CO | ARE W30-08 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 30 | SENE | 2109 | N | 665 | E |
| 43-043-30185-00-00 | BP AMERICA PRODUCTION CO | ARE W30-14 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 30 | SESW | 1195 | S | 1405 | W |
| 43-043-30188-00-00 | BP AMERICA PRODUCTION CO | ARE W01-06 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 3N-7E | 1 | SENW | 1777 | N | 1666 | W |
| 43-043-30190-00-00 | BP AMERICA PRODUCTION CO | ARE W31-12 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 31 | SWNW | 1778 | N | 640 | W |
| 43-043-30204-00-00 | BP AMERICA PRODUCTION CO | ARE W19-16 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 19 | SWSE | 1229 | S | 1350 | E |
| 43-043-30209-00-00 | BP AMERICA PRODUCTION CO | ARE W01-02 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 3N-7E | 1 | NENW | 386 | N | 2013 | W |
| 43-043-30215-00-00 | BP AMERICA PRODUCTION CO | ARE W30-10 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 30 | NWSE | 2230 | S | 2432 | E |
| 43-043-30216-00-00 | BP AMERICA PRODUCTION CO | ARE W30-15 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 30 | SESW | 626 | S | 2848 | E |
| 43-043-30217-00-00 | BP AMERICA PRODUCTION CO | ARE W31-06 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 31 | SENW | 1397 | N | 2181 | W |
| 43-043-30218-00-00 | BP AMERICA PRODUCTION CO | ARE W30-02 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 30 | NWNE | 715 | N | 2182 | E |
| 43-043-30220-00-00 | BP AMERICA PRODUCTION CO | ARE W20-12 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 20 | NWSW | 2531 | S | 7 | W |
| 43-043-30226-00-00 | BP AMERICA PRODUCTION CO | ARE E28-06 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 28 | SENW | 1900 | N | 1652 | W |
| 43-043-30227-00-00 | BP AMERICA PRODUCTION CO | ARE W36-10 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-7E | 36 | NESW | 2315 | S | 3185 | E |
| 43-043-30228-00-00 | BP AMERICA PRODUCTION CO | ARE W20-02 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 20 | NWNE | 319 | N | 2000 | E |
| 43-043-30229-00-00 | BP AMERICA PRODUCTION CO | ARE W20-10 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 20 | SENW | 2560 | N | 2567 | W |
| 43-043-30231-00-00 | BP AMERICA PRODUCTION CO | ARE W16-12 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 16 | SWNW | 2756 | S | 454 | W |
| 43-043-30238-00-00 | BP AMERICA PRODUCTION CO | ARE W20-04 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 20 | NWNW | 702 | N | 414 | W |
| 43-043-30248-00-00 | BP AMERICA PRODUCTION CO | ARE W30-12A | Gas Injection | Inactive Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 30 | NWSW | 1886 | S | 47 | W |
| 43-043-30250-00-00 | BP AMERICA PRODUCTION CO | ARE W29-06A | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 29 | SENW | 1513 | N | 1548 | W |
| 43-043-30251-00-00 | BP AMERICA PRODUCTION CO | ARE W29-14A | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 29 | NWSW | 1786 | S | 795 | W |
| 43-043-30255-00-00 | BP AMERICA PRODUCTION CO | ARE W36-14 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-7E | 36 | SESW | 901 | S | 1780 | W |
| 43-043-30257-00-00 | BP AMERICA PRODUCTION CO | ARE E28-12 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 28 | NWSW | 1994 | S | 806 | W |
| 43-043-30265-00-00 | BP AMERICA PRODUCTION CO | ARE W2-10 | Gas Injection | Inactive Well | ANSCHUTZ RANCH EAST | SUMMIT | 3N-7E | 2 | NWSE | 1959 | S | 1463 | E |
| 43-043-30270-00-00 | BP AMERICA PRODUCTION CO | ARE W01-04 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 3N-7E | 1 | SWNW | 697 | N | 465 | W |
| 43-043-30271-00-00 | BP AMERICA PRODUCTION CO | ARE W01-12 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 3N-7E | 1 | NWSW | 2072 | S | 1669 | W |
| 43-043-30272-00-00 | BP AMERICA PRODUCTION CO | ARE W19-08 | Gas Injection | Inactive Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 19 | SENE | 2227 | N | 301 | E |

## BP OPERATED PROPERTIES TRANSFERRED TO MERIT ENERGY COMPANY

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 43-043-30273-00-00 | BP AMERICA PRODUCTION CO | ARE W30-06 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 30 SENW | 2393 S | 1645 W |
| 43-043-30277-00-00 | BP AMERICA PRODUCTION CO | ARE W11-1 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 3N-7E | 11 NENE | 533 N | 1486 E |
| 43-043-30279-00-00 | BP AMERICA PRODUCTION CO | ARE W30-13 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-7E | 25 SESE | 597 S | 382 E |
| 43-043-30280-00-00 | BP AMERICA PRODUCTION CO | ARE W31-05 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 31 SWNW | 2361 N | 282 E |
| 43-043-30283-00-00 | BP AMERICA PRODUCTION CO | ARE W12-04 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 3N-7E | 2 SESE | 373 S | 865 E |
| 43-043-30286-00-00 | BP AMERICA PRODUCTION CO | ARE W20-09 | Gas Well | Producing Well | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 20 SENE | 2360 N | 430 E |
| 43-043-30291-00-00 | BP AMERICA PRODUCTION CO | ARE W20-03 | Gas Well | Shut_In | ANSCHUTZ RANCH EAST | SUMMIT | 4N-8E | 20 SESW | 641 S | 1810 W |

# State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
(801) 538-5340 telephone
(801) 359-3940 fax
(801) 538-7223 TTY
www.nr.utah.gov

Michael O. Leavitt
Governor
Robert L. Morgan
Executive Director
Lowell P. Braxton
Division Director


August 26, 2003

Bruce Williams
BP America Production Company
501 WestLake Park Blvd
Houston, TX 77079

Subject: Notification of Sale or Transfer of Fee Lease Interest

Dear Mr. Williams:

The Division has processed your request for an operator change from BP America Production Company to Merit Energy Company effective July 1, 2003 for the attached list of fee wells.

Utah Administrative Code Rule R649-2-10 states: "The owner of a lease shall provide notification to any person with an interest in such lease, when all or part of that interest in the lease is sold or transferred".

This letter is written to advise you of your responsibility to notify all individuals with an interest in these leases (royalty interest and working interest) of the changer. Please provide written documentation of this notification to:

Utah Royalty Owners Association
PO Box 1292
Roosevelt, Utah 84066

Your assistance in this matter is appreciated.

Sincerely,

Earlene Russell

Earlene Russell
Engineering Technician

Attachment

cc: Merit Energy Company
Utah Royalty Owners Association

Division of Oil, Gas and Mining

# OPERATOR CHANGE WORKSHEET

| ROUTING |
|---|
| 1. GLH |
| 2. CDW |
| 3. FILE |

**X Change of Operator (Well Sold)** **Designation of Agent/Operator**

Operator Name Change Merger

The operator of the well(s) listed below has changed, effective: **7/1/2003**

| **FROM:** (Old Operator): | **TO:** ( New Operator): |
|---|---|
| N1990-BP America Production Company<br>501 WestLake Park Blvd<br>Houston, TX 77079<br>Phone: (281) 366-2000 | N4900-Merit Energy Company<br>13727 Noel Road, Suite 500<br>Dallas, TX 75240<br>Phone: (972) 628-1558 |

**CA No.** **Unit:** **ANSCHUTZ RANCH EAST**

## WELL(S)

| NAME | SEC | TWN | RNG | API NO | ENTITY NO | LEASE TYPE | WELL TYPE | WELL STATUS |
|---|---|---|---|---|---|---|---|---|
| ARE W01-06 | 01 | 030N | 070E | 4304330188 | 4540 | FEE | GW | P |
| ARE W36-16 | 36 | 040N | 070E | 4304330157 | 4540 | FEE | GW | P |
| ARE W36-08 | 36 | 040N | 070E | 4304330167 | 4540 | FEE | GW | S |
| ARE W16-14 | 16 | 040N | 080E | 4304330096 | 4540 | FEE | GW | S |
| ARE W16-06 | 16 | 040N | 080E | 4304330138 | 4540 | FEE | GW | S |
| ARE W17-16 | 17 | 040N | 080E | 4304330176 | 4540 | FEE | GW | S |
| ARE W20-08 | 20 | 040N | 080E | 4304330123 | 4540 | FEE | GW | S |
| ARE W20-14 | 20 | 040N | 080E | 4304330145 | 4540 | FEE | GW | P |
| ARE W20-16 | 20 | 040N | 080E | 4304330148 | 4540 | FEE | GW | P |
| ARE W20-06 | 20 | 040N | 080E | 4304330159 | 4540 | FEE | GW | S |
| ARE E21-14 | 21 | 040N | 080E | 4304330130 | 4540 | FEE | GW | S |
| ARE W21-04 | 21 | 040N | 080E | 4304330135 | 4540 | FEE | GW | S |
| ARE 29-04ST1 | 29 | 040N | 080E | 4304330129 | 4540 | FEE | GW | P |
| ARE W29-02 | 29 | 040N | 080E | 4304330136 | 4540 | FEE | GW | P |
| ARE W29-12 | 29 | 040N | 080E | 4304330154 | 4540 | FEE | GW | P |
| ARE W30-16 | 30 | 040N | 080E | 4304330156 | 4540 | FEE | GW | P |
| ARE W30-08 | 30 | 040N | 080E | 4304330183 | 4540 | FEE | GW | P |
| ARE W30-14 | 30 | 040N | 080E | 4304330185 | 4540 | FEE | GW | S |
| ARE W31-08 | 31 | 040N | 080E | 4304330164 | 4540 | FEE | GW | P |
| ARE W31-04E | 31 | 040N | 080E | 4304330165 | 4540 | FEE | GW | S |
| ARE W32-04 | 32 | 040N | 080E | 4304330162 | 4540 | FEE | GW | P |

## OPERATOR CHANGES DOCUMENTATION

**Enter date after each listed item is completed**

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 7/3/2003
2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 7/3/2003
3. The new company was checked on the **Department of Commerce, Division of Corporations Database on:** 8/7/2003
4. Is the new operator registered in the State of Utah: YES Business Number: 1348145-0143
5. If **NO**, the operator was contacted contacted on:

6. (R649-9-2)Waste Management Plan has been received on: IN PLACE

7. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: n/a

8. **Federal and Indian Units:**
The BLM or BIA has approved the successor of unit operator for wells listed on: n/a

9. **Federal and Indian Communization Agreements ("CA"):**
The BLM or BIA has approved the operator for all wells listed within a CA on: n/a

10. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject,** for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: n/a

## DATA ENTRY:

1. Changes entered in the **Oil and Gas Database on:** 8/26/2003
2. Changes have been entered on the **Monthly Operator Change Spread Sheet on:** 8/26/2003
3. Bond information entered in RBDMS on: 8/26/2003
4. Fee wells attached to bond in RBDMS on: 8/26/2003

## STATE WELL(S) BOND VERIFICATION:

1. State well(s) covered by Bond Number: n/a

## FEDERAL WELL(S) BOND VERIFICATION:

1. Federal well(s) covered by Bond Number: n/a

## INDIAN WELL(S) BOND VERIFICATION:

1. Indian well(s) covered by Bond Number: n/a

## FEE WELL(S) BOND VERIFICATION:

1. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number 103912218

2. The **FORMER** operator has requested a release of liability from their bond on: n/a
The Division sent response by letter on: n/a

## LEASE INTEREST OWNER NOTIFICATION:

3. (R649-2-10) The **FORMER** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: 8/26/2003

**COMMENTS:**

Well File
43-043-30165

State of Utah

Department of
Natural Resources

Division of
Oil, Gas & Mining

ROBERT L. MORGAN
*Executive Director*

LOWELL P. BRAXTON
*Division Director*

MICHAEL O. LEAVITT
*Governor*

OLENE S. WALKER
*Lieutenant Governor*

January 22, 2004

CERTIFIED MAIL #7002 0510 0003 8602 4798

Lance Taylor
Merit Energy Company
13727 Noel Road, Suite 500
Dallas, TX 75240-7312

Re: Extended Shut-in and Temporary Abandoned Well Requirements for Fee or State Leases.

Dear Mr. Taylor:

Merit Energy Company, as of January 2004, has twenty-four (24) Fee Lease Wells (see attachment A) that are currently in non-compliance for extended shut-in or temporary abandonment status. This includes twenty (20) Fee Lease Wells with returned Sundry Notices and attached requirement sheet dated November 19, 2003. Wells SI/TA beyond twelve (12) consecutive months requires filing a Sundry Notice (R649-3-36-1). Wells with five (5) years non-activity or non-productivity shall be plugged, unless the Division grants approval for extended shut-in time upon a showing of good cause by the operator (649-3-36-1.3.3). For extended SI/TA consideration the operator shall provide the Utah Division of Oil, Gas & Mining with the following:

1. Reasons for SI/TA of the well (R649-3-36-1.1).
2. The length of time the well is expected to be SI/TA (R649-3-36-1.2), and
3. An explanation and supporting data if necessary, for showing the well has integrity, meaning that the casing, cement, equipment condition, static fluid level, pressure, existence or absence of Underground Sources of Drinking Water and other factors do not make the well a risk to public health and safety or the environment (R649-3-36-1.3).

Submitting the information suggested below may help show well integrity and may help qualify your well for extended SI/TA. **Note: As of July 1, 2003, wells in violation of the SI/TA rule R649-3-36 may be subject to full cost bonding (R649-3-1-4.2, 4.3).**

1. Wellbore diagram, and
2. Copy of recent casing pressure test, and
3. Current pressures on the wellbore (tubing pressure, casing pressure, and casing/casing annuli pressure) showing wellbore has integrity, and
4. Fluid level in the wellbore, and
5. An explanation of how the submitted information proves integrity.

If the required information is not received within 30 days of the date of this notice, further actions may be initiated. If you have any questions concerning this matter, please contact me at (801) 538-5281.

Sincerely,

Dustin K. Doucet
Petroleum Engineer

jc
cc: John Baza
Well File

| | Well Name | API | Lease Type | Years Inactive |
|---|---|---|---|---|
| 1 | ARE W20-06 | 43-043-30159 | Fee | 1 Year 2 Months |
| 2 | ARE W31-04E | 43-043-30165 | Fee | 1 Year 3 Months |
| 3 | ARE W36-10 | 43-043-30227 | Fee | 1 Year 3 Months |
| 4 | ARE W36-08 | 43-043-30167 | Fee | 1 Year 7 Months |

Wells with returned Sundry Notices and attached requirement sheet dated November 19, 2003

| | | | | |
|---|---|---|---|---|
| 1 | ARE W21-04 | 43-043-30135 | Fee | 1 Year 10 Months |
| 2 | Champlin 372 Amoco C1 | 43-043-30143 | Fee | 1 Year 11 Months |
| 3 | ARE W16-06 | 43-043-30138 | Fee | 1 Year 11 Months |
| 4 | ARE W01-12 | 43-043-30271 | Fee | 2 Years 4 Months |
| 5 | ARE W30-02 | 43-043-30218 | Fee | 3 Years 2 Months |
| 6 | ARE W36-14 | 43-043-30255 | Fee | 4 Years 5 Months |
| 7 | ARE W30-06 | 43-043-30273 | Fee | 5 Years 4 Months |
| 8 | ARE W20-02 | 43-043-30228 | Fee | 5 Years 4 Months |
| 9 | ARE W30-13 | 43-043-30279 | Fee | 5 Years 6 Months |
| 10 | ARE W19-16 | 43-043-30204 | Fee | 5 Years 8 Months |
| 11 | ARE W20-4 | 43-043-30238 | Fee | 6 Years 3 Months |
| 12 | ARE W31-12 | 43-043-30190 | Fee | 7 Years 3 Months |
| 13 | ARE W01-04 | 43-043-30270 | Fee | 7 Years 4 Months |
| 14 | ARE W11-01 | 43-043-30277 | Fee | 7 Years 4 Months |
| 15 | ARE W20-03 | 43-043-30291 | Fee | 8 Years 1 Month |
| 16 | ARE W16-14 | 43-043-30096 | Fee | 8 Years 1 Month |
| 17 | ARE 16-12 | 43-043-30231 | Fee | 8 Years 3 Months |
| 18 | Champlin 387 B1A | 43-043-30168 | Fee | 8 Years 6 Months |
| 19 | ARE W17-16 | 43-043-30176 | Fee | 8 Years 7 Months |
| 20 | ARE E21-14 | 43-043-30130 | Fee | 10 Years 8 Months |

Attachment A

State of Utah

Department of
Natural Resources

Division of
Oil, Gas & Mining

ROBERT L. MORGAN
*Executive Director*

LOWELL P. BRAXTON
*Division Director*

MICHAEL O. LEAVITT
*Governor*

OLENE S. WALKER
*Lieutenant Governor*

March 5, 2004

CERTIFIED RETURN RECEIPT NO. 7002 0510 0003 8602 4880

Mr. Lance Taylor
Merit Energy Company
13727 Noel Road, Suite 500
Dallas, TX 75240

Re: Extended Shut-in and Temporary Abandoned Well Requirements for Fee or State Leases dated January 22, 2004.

Dear Mr. Taylor,

The Division of Oil, Gas and Mining (DOGM) is in receipt of your letter dated February 13, 2004 in regards to the twenty-four (24) shut-in wells operated by Merit Energy Company (Merit). DOGM accepts Merit's plan of action to recomplete all twenty-four wells by year-end 2004. Many of the recompletions are dependent upon the success of electric submersible pumps; if this experimental procedure is not successful, keep the Division advised of any changes in Merit's plan of action. Based upon the plan of action and other information provided, DOGM approves the twenty-four (24) wells for extended shut-in until January 1, 2005. Please submit recompletion procedures and notice of intent sundries upon finalization.

For reference, Attachment A lists the wells subject to this request. If you have any questions or need additional assistance in regards to the above matters please contact me at (801) 538-5281.

Sincerely,

Dustin Doucet
Petroleum Engineer

1594 West North Temple, Suite 1210, PO Box 145801, Salt Lake City, UT 84114-5801
telephone (801) 538-5340 • facsimile (801) 359-3940 • TTY (801) 538-7223 • *www.ogm.utah.gov*

Utah!
*Where ideas connect*

| | Well Name | API | Lease Type | Years Inactive |
|---|---|---|---|---|
| 1 | ARE W20-06 | 43-043-30159 | Fee | 1 Year 2 Months |
| 2 | ARE W31-04E | 43-043-30165 | Fee | 1 Year 3 Months |
| 3 | ARE W36-10 | 43-043-30227 | Fee | 1 Year 3 Months |
| 4 | ARE W36-08 | 43-043-30167 | Fee | 1 Year 7 Months |

Wells with returned Sundry Notices and attached requirement sheet dated November 19, 2003

| | | | | |
|---|---|---|---|---|
| 1 | ARE W21-04 | 43-043-30135 | Fee | 1 Year 10 Months |
| 2 | Champlin 372 Amoco C1 | 43-043-30143 | Fee | 1 Year 11 Months |
| 3 | ARE W16-06 | 43-043-30138 | Fee | 1 Year 11 Months |
| 4 | ARE W01-12 | 43-043-30271 | Fee | 2 Years 4 Months |
| 5 | ARE W30-02 | 43-043-30218 | Fee | 3 Years 2 Months |
| 6 | ARE W36-14 | 43-043-30255 | Fee | 4 Years 5 Months |
| 7 | ARE W30-06 | 43-043-30273 | Fee | 5 Years 4 Months |
| 8 | ARE W20-02 | 43-043-30228 | Fee | 5 Years 4 Months |
| 9 | ARE W30-13 | 43-043-30279 | Fee | 5 Years 6 Months |
| 10 | ARE W19-16 | 43-043-30204 | Fee | 5 Years 8 Months |
| 11 | ARE W20-4 | 43-043-30238 | Fee | 6 Years 3 Months |
| 12 | ARE W31-12 | 43-043-30190 | Fee | 7 Years 3 Months |
| 13 | ARE W01-04 | 43-043-30270 | Fee | 7 Years 4 Months |
| 14 | ARE W11-01 | 43-043-30277 | Fee | 7 Years 4 Months |
| 15 | ARE W20-03 | 43-043-30291 | Fee | 8 Years 1 Month |
| 16 | ARE W16-14 | 43-043-30096 | Fee | 8 Years 1 Month |
| 17 | ARE 16-12 | 43-043-30231 | Fee | 8 Years 3 Months |
| 18 | Champlin 387 B1A | 43-043-30168 | Fee | 8 Years 6 Months |
| 19 | ARE W17-16 | 43-043-30176 | Fee | 8 Years 7 Months |
| 20 | ARE E21-14 | 43-043-30130 | Fee | 10 Years 8 Months |

Attachment A

Return-path: <Lance.Taylor@meritenergy.com>
Received: from imail.meritenergy.com [208.133.141.18]
by UTSTDP13.state.ut.us; Tue, 24 Feb 2004 07:06:49 -0700
Subject: Anschutz Ranch East Unit
To: clintondworshak@utah.gov
Cc: Rusty Ginnetti <Rusty.Ginnetti@meritenergy.com>,
Arlene Valliquette <Arlene.Valliquette@meritenergy.com>,
Dennis Longwell <Dennis.Longwell@meritenergy.com>
X-Mailer: Lotus Notes Release 5.0.10 March 22, 2002
Message-ID: <OF2FAC50A1.BE12C251-ON86256E44.004B0584-86256E44.004D8670@meritenergy.com>
From: Lance Taylor <Lance.Taylor@meritenergy.com>
Date: Tue, 24 Feb 2004 08:06:46 -0600
X-MIMETrack: Serialize by Router on imail/Meritenergy(Release 6.0.3|September 26, 2003) at 02/24/2004 08:06:49 AM
MIME-Version: 1.0
Content-type: text/plain; charset=US-ASCII

Mr. Dworshak,

I'd like to confirm our 2/23/04 telephone conversation in response to my letter dated 2/13/04 regarding extended shut in and temporarily abandoned wellbores in the Anschutz Ranch East Unit ("ARE Unit") of Summit county Utah. It is Merit Energy Company's intention to utilize each wellbore to it's full capacity. As such, Merit is in the process of attempting to reactivate the wellbores in question. Several wellbore specific workovers have been identified, and the approximate timing of each is mentioned in my original letter.

However, the majority of the reactivation work depends on the successful utilization of electric submersible pumps for artificial lift. It is the timing of this project that I would like to address. As you know, this is a capital intensive project, so Merit plans to do the appropriate research prior to implementation. Merit intends to test the idea on the ARE W36-10 within the next 8-12 weeks. Following a 4-12 week test period, Merit will perform a strenuous economic and operational evaluation. If it is determined that the project is valid, full scale implementation could begin as early as June. However, due to the complexity of the equipment, depth of the wells, and unavailability of service rigs, Merit anticipates this project will take several months, possibly one year, to complete. Due to the large volumes of water to be produced by this project, it is likely that one or more of the shut in wells will need to be reactivated as salt water disposal wells. All regulatory and state documentation will be completed prior to SWD conversion.

Finally, if the ESP project is unsuccessful, several of these wellbore have recompletion potential in shallower formations. Specifically, Merit has identified the Jurassic aged Twin Creek formation as a possible recompletion target. Completion practices must be researched and developed in order to ensure economic quantities of hydrocarbons. Again, all state and federal permits will be approved prior to project implementation.

If after all our efforts to economically reactivate these wells fail, Merit Energy will begin the plug and abandonment process. I trust this will clear up any issues of timing. If you have further questions or concerns please feel free to contact me at any of the numbers below.

Regards,

Lance L. Taylor
Operations Engineer-Rockies Region
Merit Energy Company
direct: 972-628-1651
fax: 972-701-0351
mobile: 972-998-9116
lance.taylor@meritenergy.com

MERIT ENERGY COMPANY

13727 Noel Road, Suite 500
Dallas, TX 75240
Ph: 972-701-8377 Fx: 972-960-1252
www.meritenergy.com

Date: February 13, 2004

Subject: Extended Shut-in wells in the Anschutz Ranch East Field

Dear Mr. Doucet:

In response to your letter dated January 22, 2004, I would like to submit the attached supporting documentation regarding our extended shut-in wells. Merit Energy Company purchased an operating interest in the Anschutz Ranch East Unit from BP Production Company effective July 1, 2003, and has spent the last seven months evaluating the production capability of all active and inactive wells in the field. This process has resulted in workovers that have reestablished production in several of these wells, and revealed future opportunities for all of the others. Here is a quick synopsis of our plans for each well.

- **ARE W20-06-** Workover is planned to immediately reactive this well by running smaller tubing, and putting the well on gas lift. Should be reactivated by mid year 2004.
- **ARE W31-04-** BP attempted a directional reentry of this wellbore in 2001, during which time the drill pipe was inadvertently cemented in the horizontal section of the wellbore. Merit is investigating methods to effectively stimulate this wellbore and return it to production. If unable to do so, it will be plugged.
- **ARE W36-10-** This well will be the first test candidate for an experimental production method for artificial lifting gas wells. An electric submersible pump will be run in this well in the next couple of months in an attempt to reestablish production by removing large volumes of water from the formation. If this project is successful it could lead to the reactivation of virtually every inactive well in the field. The project is approved internally, and we are waiting on equipment and supplies before mobilizing a service rig.
- **ARE W36-08-** This well has been reactivated following a workover last fall. A sundry notice was filed and approved by the Utah Oil and Gas Commission.
- **ARE W21-04-** Surface tubing pressure indicates this well may be capable of producing again. However attempts to return this well to production with the current wellbore configuration have not been successful. Merit plans to install smaller tubing and gas lift on this well. If that is unsuccessful, this well is also a candidate for an electric submersible pump installation. If all attempts to reactivate the Nugget formation fail, this well is a recompletion candidate in the Twin Creek formation.
- **Champlin 372 C-1-** This well is capable of producing for a few days at a time, but quickly loads up with water and dies. Again, this well is a candidate for an electric submersible pump installation, or may be used as a salt water disposal well if additional capacity is needed due to the ESP program.
- **ARE W16-06-** This well will have an electric submersible pump installed if the program is successful. Otherwise it will be plugged.
- **ARE W01-12-** This well will have an electric submersible pump installed if the program is successful. It is also considered for an uphole recompletion.
- **ARE W30-02-** An attempt was made to return this well to production last fall, but was unsuccessful due to high water production. Pending the success of the W36-10, this well will also have an electric submersible pump installed.
- **ARE W36-14-** This well will have an electric submersible pump installed if the program is successful. It is also considered for an uphole recompletion.
- **ARE W30-06-** This well will have an electric submersible pump installed if the program is successful. It is also considered for an uphole recompletion.
- **ARE W20-02-** A workover has been approved internally to reactivate this well, and should begin in the next few weeks A sundry notice was filed and approved by the Utah Oil and Gas Commission.
- **ARE W30-13-** This well will have an electric submersible pump installed if the program is successful. It is also considered for an uphole recompletion.
- **ARE W19-16-** This well will have an electric submersible pump installed if the program is successful. It is also considered for an uphole recompletion.

RECEIVED
FEB 20 2004
DIV. OF OIL, GAS & MINING

- **ARE W20-04-** This well will have an electric submersible pump installed if the program is successful. It is also considered for an uphole recompletion.
- **ARE W31-12-** An attempt was made to reactivate this well in late 2003, but was unsuccessful. A sundry notice was filed and approved by the Utah Oil and Gas Commission. An uphole recompletion in the Twin Creek formation is planned and will be completed in the next few months.
- **ARE W01-04-** This well will have an electric submersible pump installed if the program is successful. It is also considered for an uphole recompletion.
- **ARE W11-01-** This well will have an electric submersible pump installed if the program is successful. Otherwise it will be plugged.
- **ARE W20-03-** This well will have an electric submersible pump installed if the program is successful. It is also considered for an uphole recompletion.
- **ARE W16-14-** This well will have an electric submersible pump installed if the program is successful. It is also considered for salt water disposal well if additional capacity is needed.
- **ARE W16-12-** This well will have an electric submersible pump installed if the program is successful. It is also considered for salt water disposal well if additional capacity is needed.
- **Champlin 387 B-1A-** Merit Energy is in the process of obtaining records from BP for this well. Once historical information is obtained, we will evaluate all feasible methods to return this well to producing status. Otherwise it will be plugged.
- **ARE W17-16-** This well will have an electric submersible pump installed if the program is successful. It is also considered for salt water disposal well if additional capacity is needed.
- **ARE E21-14-** This well was returned to producing status on 12/19/03.

In addition to this information, I have enclosed pressure data for all wells, and a wellbore schematic for all wells except the Champlin 387 B-1A. The static bottom hole pressures and static fluid levels were collected in September 2003 with bottom hole gauges. If you need any further information, please contact me at 972-628-1651 or electronically at lance.taylor@meritenergy.com.

Regards,

Lance L. Taylor
Operations Engineer

Cc: Rusty Ginnetti
Arlene Valliquette
Dennis Longwell

Attachments: (1) page of pressure data, (23) wellbore schematics

C1.nt

State of Utah

Department of
Natural Resources

Division of
Oil, Gas & Mining

ROBERT L. MORGAN
*Executive Director*

LOWELL P. BRAXTON
*Division Director*

MICHAEL O. LEAVITT
*Governor*

OLENE S. WALKER
*Lieutenant Governor*

January 22, 2004

CERTIFIED MAIL #7002 0510 0003 8602 4798

Lance Taylor
Merit Energy Company
13727 Noel Road, Suite 500
Dallas, TX 75240-7312

Re: Extended Shut-in and Temporary Abandoned Well Requirements for Fee or State Leases.

Dear Mr. Taylor:

Merit Energy Company, as of January 2004, has twenty-four (24) Fee Lease Wells (see attachment A) that are currently in non-compliance for extended shut-in or temporary abandonment status. This includes twenty (20) Fee Lease Wells with returned Sundry Notices and attached requirement sheet dated November 19, 2003. Wells SI/TA beyond twelve (12) consecutive months requires filing a Sundry Notice (R649-3-36-1). Wells with five (5) years non-activity or non-productivity shall be plugged, unless the Division grants approval for extended shut-in time upon a showing of good cause by the operator (649-3-36-1.3.3). For extended SI/TA consideration the operator shall provide the Utah Division of Oil, Gas & Mining with the following:

1. Reasons for SI/TA of the well (R649-3-36-1.1).
2. The length of time the well is expected to be SI/TA (R649-3-36-1.2), and
3. An explanation and supporting data if necessary, for showing the well has integrity, meaning that the casing, cement, equipment condition, static fluid level, pressure, existence or absence of Underground Sources of Drinking Water and other factors do not make the well a risk to public health and safety or the environment (R649-3-36-1.3).

Submitting the information suggested below may help show well integrity and may help qualify your well for extended SI/TA. **Note: As of July 1, 2003, wells in violation of the SI/TA rule R649-3-36 may be subject to full cost bonding (R649-3-1-4.2, 4.3).**

1. Wellbore diagram, and
2. Copy of recent casing pressure test, and
3. Current pressures on the wellbore (tubing pressure, casing pressure, and casing/casing annuli pressure) showing wellbore has integrity, and
4. Fluid level in the wellbore, and
5. An explanation of how the submitted information proves integrity.

If the required information is not received within 30 days of the date of this notice, further actions may be initiated. If you have any questions concerning this matter, please contact me at (801) 538-5281.

Sincerely,

Dustin K. Doucet
Petroleum Engineer

jc
cc: John Baza
Well File

| | Well Name | API | Lease Type | Years Inactive |
|---|---|---|---|---|
| 1 | ARE W20-06 | 43-043-30159 | Fee | 1 Year 2 Months |
| 2 | **ARE W31-04E** | **43-043-30165** | **Fee** | **1 Year 3 Months** |
| 3 | ARE W36-10 | 43-043-30227 | Fee | 1 Year 3 Months |
| 4 | ARE W36-08 | 43-043-30167 | Fee | 1 Year 7 Months |

Wells with returned Sundry Notices and attached requirement sheet dated November 19, 2003

| | | | | |
|---|---|---|---|---|
| 1 | ARE W21-04 | 43-043-30135 | Fee | 1 Year 10 Months |
| 2 | Champlin 372 Amoco C1 | 43-043-30143 | Fee | 1 Year 11 Months |
| 3 | ARE W16-06 | 43-043-30138 | Fee | 1 Year 11 Months |
| 4 | ARE W01-12 | 43-043-30271 | Fee | 2 Years 4 Months |
| 5 | ARE W30-02 | 43-043-30218 | Fee | 3 Years 2 Months |
| 6 | ARE W36-14 | 43-043-30255 | Fee | 4 Years 5 Months |
| 7 | ARE W30-06 | 43-043-30273 | Fee | 5 Years 4 Months |
| 8 | ARE W20-02 | 43-043-30228 | Fee | 5 Years 4 Months |
| 9 | ARE W30-13 | 43-043-30279 | Fee | 5 Years 6 Months |
| 10 | ARE W19-16 | 43-043-30204 | Fee | 5 Years 8 Months |
| 11 | ARE W20-4 | 43-043-30238 | Fee | 6 Years 3 Months |
| 12 | ARE W31-12 | 43-043-30190 | Fee | 7 Years 3 Months |
| 13 | ARE W01-04 | 43-043-30270 | Fee | 7 Years 4 Months |
| 14 | ARE W11-01 | 43-043-30277 | Fee | 7 Years 4 Months |
| 15 | ARE W20-03 | 43-043-30291 | Fee | 8 Years 1 Month |
| 16 | ARE W16-14 | 43-043-30096 | Fee | 8 Years 1 Month |
| 17 | ARE 16-12 | 43-043-30231 | Fee | 8 Years 3 Months |
| 18 | Champlin 387 B1A | 43-043-30168 | Fee | 8 Years 6 Months |
| 19 | ARE W17-16 | 43-043-30176 | Fee | 8 Years 7 Months |
| 20 | ARE E21-14 | 43-043-30130 | Fee | 10 Years 8 Months |

Attachment A

MERIT ENERGY COMPANY

13727 Noel Road · Suite 500 · Dallas, Texas 75240
**Ph** 972.701.8377 · **Fx** 972.960.1252 · www.meritenergy.com

January 7, 2005

State of Utah – Department of Natural Resources
Division of Oil, Gas, & Mining
Attn: Mr. Dustin Doucet
PO Box 145801
Salt Lake City, UT 84114-5801

Dear Mr. Doucet:

This letter is in response to a telephone conversation that I had with Clint Dworshak on December 6, 2004. At that time, he requested that I provide information on Merit Energy Company's shut-in wells at Anschutz Ranch East, proving that the ground waters are protected.

Enclosed, please find a summary sheet, as well as wellbore diagrams for the subject wells.

If you have any questions or wish to discuss this further, please contact me at (972) 628-1550 or electronically at mike.mercer@meritenergy.com.

Sincerely,

Michael L. Mercer
Engineering

# UTAH DOGM – SI WELL LIST

**Wells to be Reactivated in 2005**

- CHAMPLIN 372 C1
  - Packer at 8,320 (MD) 6,648 (TVD)
  - Top of cement (TOC) at 4,906
  - Tubing Pressure 1250#
  - Casing Pressure 0#
  - The 4-1/2" liner is cemented in place at 5090 (below the TOC). The tubing pressure and casing pressure are different. Therefore, the casing and tubing are not in communication and the ground waters are protected.
- ARE W16-06
  - Packer at 13,398
  - Top of cement (TOC) at 12,640
  - Tubing Pressure 0#
  - Casing Pressure 0#
  - The packer is located below the TOC. When Merit set the packer in October 2004, we pressure tested the annulus to 500 psi and it held. Therefore, the casing has integrity and the ground waters are protected.
- ARE W30-02
  - Packer at none
  - Top of cement (TOC) at 12,452
  - Tubing Pressure 0#
  - Casing Pressure 0#
  - Fluid Level 8200' from Surface
  - On 09/02/03, Merit ran a packer in this well and sat it at 13055' (below the TOC). The casing and packer were pressure tested to 1500 psi and held. The packer has since been removed and there is open-ended tubing in the well. However, the casing has integrity and the ground waters are protected.
- ARE W36-14
  - Packer at 13,988
  - Top of cement (TOC) at 13,700
  - Tubing Pressure 400#
  - Casing Pressure 0#
  - The packer is set below the TOC. The tubing pressure and casing pressure are different. Therefore, the casing and tubing are not in communication and the ground waters are protected.
- ARE W30-06
  - Packer at 13,450
  - Top of cement (TOC) at 11,200 (7" casing)
  - Tubing Pressure 0#
  - Casing Pressure 0#
  - The packer is set below the TOC. The 9-5/8" casing string has cement f/ 11911-7940. The 13-3/8" casing has cement f/ 5745-1200. With no pressure on the casing, and three strings of casing (7", 9-5/8", 13-3/8"), the ground waters are protected.
- ARE W30-13
  - Packer at 12,320
  - Top of cement (TOC) at 12,200
  - Tubing Pressure 300#
  - Casing Pressure 0#
  - The packer is set below the TOC. The tubing pressure and casing pressure are different. Therefore, the casing and tubing are not in communication and the ground waters are protected.

# UTAH DOGM – SI WELL LIST

- ARE W31-12
  - Packer at none
  - Top of cement (TOC) at 10,700
  - Casing Pressure 100#
  - Fluid Level 1000' from Surface
  - There is not a packer or tubing in this well. The static fluid level is 1000' from surface. There is a 13-3/8" casing string set at 2846', a 9-5/8" casing string set at 10272', and a 7" tie-back casing string set at 9919'. These three casing strings are protecting the ground waters.

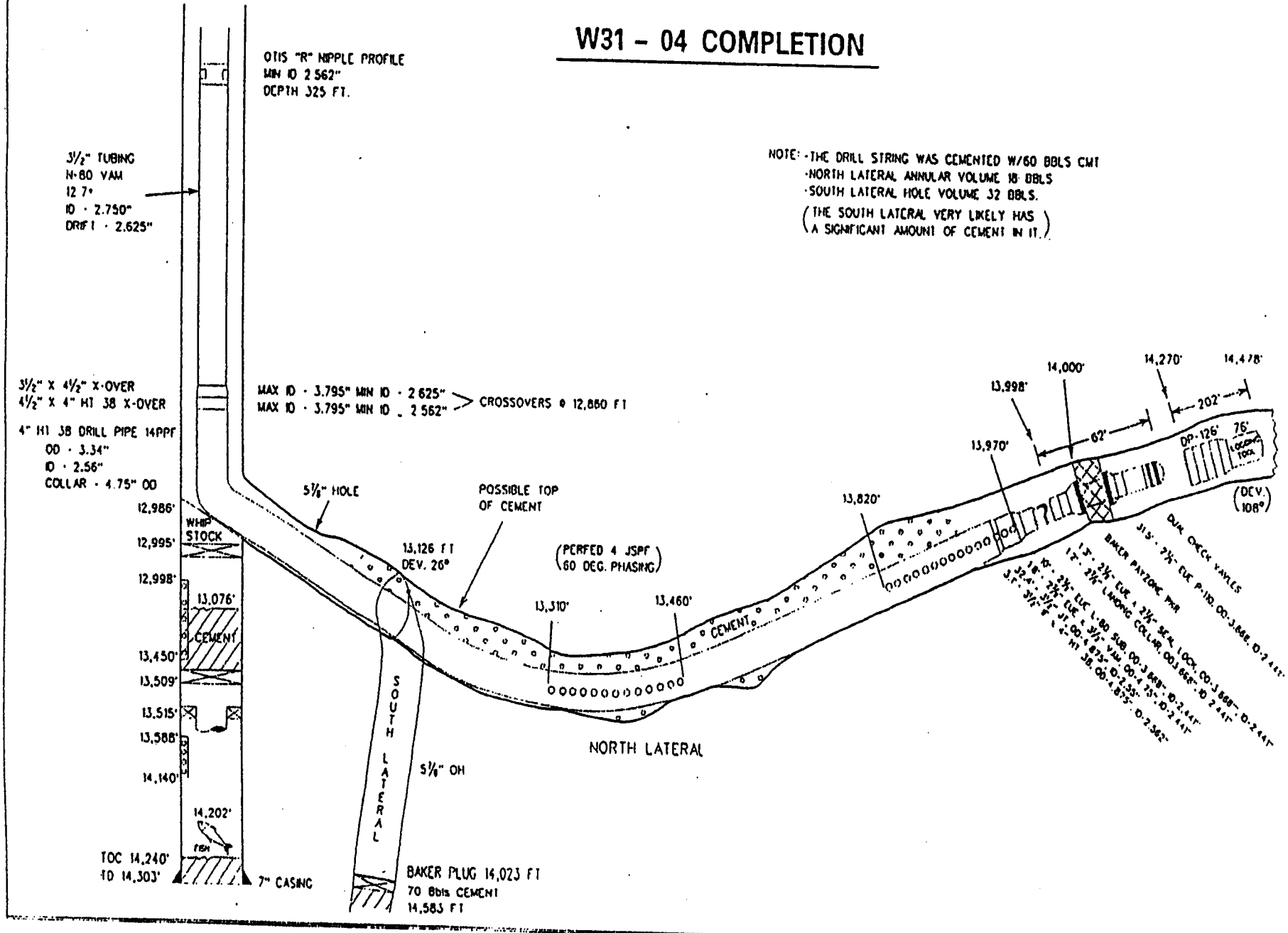
**Wells with No Immediate Plans**

- ARE W31-04
  - Packer at 14,000
  - Top of cement (TOC) at 11,900
  - Tubing Pressure 1100#
  - Casing Pressure 50#
  - This well is a horizontal sidetrack. The primary cement job on the original production casing had a TOC at 11,900. The kick-off point for the horizontal leg is below this depth. Additionally, the drill string was cemented in the horizontal section with the TOC estimated to be between 13126 and 13310. Based on the fact that the tubing and casing pressures are different, the two are not in communication and therefore, the ground waters are protected.
- ARE W01-12
  - Packer at 14,317
  - Top of cement (TOC) at 14,290
  - Tubing Pressure 300#
  - Casing Pressure 0#
  - The packer is located below the TOC. The tubing pressure and casing pressure are different. Therefore, the casing and tubing are not in communication and the ground waters are protected.
- ARE W19-16
  - Packer at 9,756
  - Top of cement (TOC) at unknown
  - Tubing Pressure 1000#
  - Casing Pressure 0#
  - The packer is located in the "Tie-Back" casing string. The tubing pressure and casing pressure are different. Therefore, the casing and tubing are not in communication and the ground waters are protected.
- ARE W20-04
  - Packer (PBR) at 10,489
  - Top of cement (TOC) at 9,415 (9-5/8" & 9-7/8" casing string)
  - Tubing Pressure 0#
  - Casing Pressure 0#
  - Fluid Level 9600' from Surface
  - The tubing is tied into the 5" liner with a polish bore receptacle (PBR) at 10,489. The TOC for the intermediate casing is above this point (at 9,415). The static fluid level is at 9600' (below the TOC), therefore, the ground waters are protected.
- ARE W01-04
  - Packer at 13,891
  - Top of cement (TOC) at 13,600
  - Tubing Pressure 1400#
  - Casing Pressure 100#
  - The packer is located below the TOC. The tubing pressure and casing pressure are different. Therefore, the casing and tubing are not in communication and the ground waters are protected.

# UTAH DOGM – SI WELL LIST

- ARE W11-01
  - Packer at 12,733
  - Top of cement (TOC) at 12,100
  - Tubing Pressure 1500#
  - Casing Pressure 50#
  - The packer is located below the TOC. The tubing pressure and casing pressure are different. Therefore, the casing and tubing are not in communication and the ground waters are protected.
- ARE W20-03
  - Packer at 13,271
  - Top of cement (TOC) at 12,600
  - Tubing Pressure 1400#
  - Casing Pressure 75#
  - The packer is located below the TOC. The tubing pressure and casing pressure are different. Therefore, the casing and tubing are not in communication and the ground waters are protected.
- ARE W16-14
  - Packer (PBR) at 10,500
  - Top of cement (TOC) at 9,650 (9-5/8" casing)
  - Tubing Pressure 1500#
  - Casing Pressure 850#
  - The tubing is tied into the 4-1/2" liner with a PBR at 10,500. This is below the TOC for the 9-5/8" casing string. The tubing pressure and casing pressure are different. Therefore, the casing and tubing are not in communication and the ground waters are protected.
- ARE W16-12
  - Packer at 10,304
  - Top of cement (TOC) at 10,100 (9-5/8" casing)
  - Tubing Pressure 50#
  - Casing Pressure 0#
  - The packer is located below the TOC. The tubing pressure and casing pressure are different. Therefore, the casing and tubing are not in communication and the ground waters are protected.
- CHAMPLIN 387 B1A
  - Tubing Pressure 0#
  - Casing Pressure 0#
  - Fluid Level 5200' from surface
  - Merit has no wellfiles regarding this well. We are currently trying to obtain information on this well
- ARE W17-16
  - Packer (PBR) at 10,237
  - Top of cement (TOC) at 10,371 (7-5/8" casing)
  - Tubing Pressure 0#
  - Casing Pressure 0#
  - Fluid Level 8400' from Surface
  - The tubing is tied into the 5" liner with a PBR at 10,237. There is a 13-3/8" casing string set at 2526', a 9-5/8" casing string set at 10701', and a 7" tie-back casing string set at 10237'. These three casing strings are protecting the ground waters.

# W31 - 04 COMPLETION



# MERIT ENERGY COMPANY

## Anschutz Ranch East Unit

| | WELLS | API Number | Tubing Pressure | Casing Pressure | STATUS ON / OFF | Static BHP | Static Fluid Level |
|---|---|---|---|---|---|---|---|
| 1 | ARE# W20-06 | 43-043-30159 | 100 | 200 | Shut In | 1835 | 7500-9000' |
| 2 | ARE# W31-04E | 43-043-30165 | 1200 | 0 | Shut In | ? | ? |
| 3 | ARE# W36-10 | 43-043-30227 | 100 | 0 | Shut In | 3042 | 7500-9000' |
| 4 | ARE# W36-08 | 43-043-30167 | 100 | 100 | Producing | 2844 | 6000-7500' |
| | | | | | | | |
| Wells with returned Sundry Notices and attached requirement sheet dated November 19, 2003 | | | | | | | |
| 1 | ARE# W21-04 | 43-043-30135 | 1850 | 450 | Shut In | 4130 | 12000' |
| 2 | Champlin 372 Amoco #C-1 | 43-043-30143 | 0 | 0 | Shut In | ? | ? |
| 3 | ARE# W16-06 | 43-043-30138 | 0 | 0 | Shut In | ? | ? |
| 4 | ARE# W01-12 | 43-043-30271 | 600 | 0 | Shut In | 4181 | 7500-9000' |
| 5 | ARE# W30-02 | 43-043-30218 | 0 | 0 | Shut In | ? | ? |
| 6 | ARE# W36-14 | 43-043-30255 | 2200 | 1500 | Shut In | 3420 | Perfs |
| 7 | ARE# W30-06 | 43-043-30273 | 0 | 0 | Shut In | 2397 | 6000-7500' |
| 8 | ARE# W20-02 | 43-043-30228 | 100 | 100 | Shut In | ? | ? |
| 9 | ARE# W30-13 | 43-043-30279 | 900 | 0 | Shut In | 3030 | 7500-9000' |
| 10 | ARE# W19-16 | 43-043-30204 | 1400 | 0 | Shut In | 2645 | Perfs |
| 11 | ARE# W20-04 | 43-043-30238 | 0 | 0 | Shut In | ? | ? |
| 12 | ARE# W31-12 | 43-043-30190 | 20 | 450 | Shut In | 3494 | 4500-6000' |
| 13 | ARE# W01-04 | 43-043-30270 | | | Shut In | 4505 | 7500-9000' |
| 14 | ARE# W11-01 | 43-043-30277 | 1300 | 50 | Shut In | 4575 | 6000-7500' |
| 15 | ARE# W20-03 | 43-043-30291 | 1800 | 75 | Shut In | 3890 | 10500' |
| 16 | ARE# W16-14 | 43-043-30096 | 0 | 800 | Shut In | 4570 | 6000-7500' |
| 17 | ARE#16-12 | 43-043-30231 | 0 | 0 | Shut In | 4781 | 1500-3000' |
| 18 | Champlin 387 #B-1A | 43-043-30168 | 0 | 0 | Shut In | ? | ? |
| 19 | ARE# W17-16 | 43-043-30176 | 1100 | 0 | Shut In | 4734 | 3000-4500' |
| 20 | ARE# E21-14 | 43-043-30130 | 200 | 150 | Producing | 3926 | Perfs |

RECEIVED
FEB 2 0 2004
DIV. OF OIL, GAS & MINING

# MERIT ENERGY COMPANY

## Anschutz Ranch East Unit

| | WELLS | API Number | Tubing Pressure | Casing Pressure | STATUS ON / OFF | Static BHP | Static Fluid Level |
|---|---|---|---|---|---|---|---|
| 1 | ARE# W20-06 | 43-043-30159 | 100 | 200 | Shut In | 1835 | 7500-9000' |
| 2 | ARE# W31-04E | 43-043-30165 | 1200 1100 | 0 50 | Shut In | ? | ? |
| 3 | ARE# W36-10 | 43-043-30227 | 100 | 0 | Shut In | 3042 | 7500-9000' |
| 4 | ARE# W36-08 | 43-043-30167 | 100 | 100 | Producing | 2844 | 6000-7500' |
| Wells with returned Sundry Notices and attached requirement sheet dated November 19, 2003 | | | | | | | |
| 1 | ARE# W21-04 | 43-043-30135 | 1850 | 450 | Shut In | 4130 | 12000' |
| 2 | Champlin 372 Amoco #C-1 | 43-043-30143 | 1250 0 | 0 0 | Perfs 6648' Shut In | ? | ? |
| 3 | ARE# W16-06 | 43-043-30138 | 0 0 | 0 0 | Shut In | ? | ± 2100' ? |
| 4 | ARE# W01-12 | 43-043-30271 | 600 300 | 0 0 | Shut In | 4181 | 7500-9000' |
| 5 | ARE# W30-02 | 43-043-30218 | 0 0 | 0 0 no packer | Shut In | ? | 8200' ? |
| 6 | ARE# W36-14 | 43-043-30255 | 2200 400 | 1500 0 | Perfs 14,066 Shut In | 3420 | Perfs |
| 7 | ARE# W30-06 | 43-043-30273 | 0 0 | 0 0 | Shut In | 2397 | 6000-7500' |
| 8 | ARE# W20-02 | 43-043-30228 | 100 | 100 | Shut In | ? | ? |
| 9 | ARE# W30-13 | 43-043-30279 | 900 300 | 0 0 | Shut In | 3030 | 7500-9000' |
| 10 | ARE# W19-16 | 43-043-30204 | 1400 1000 | 0 0 | Shut In | 2645 | Perfs |
| 11 | ARE# W20-04 | 43-043-30238 | 0 0 | 0 0 | Shut In | ? | 9600 ? |
| 12 | ARE# W31-12 | 43-043-30190 | 20 100 | 100 450 no packer | Shut In | 3494 | 1000' 4500-6000' |
| 13 | ARE# W01-04 | 43-043-30270 | 1400 | 100 | Shut In | 4505 | 7500-9000' |
| 14 | ARE# W11-01 | 43-043-30277 | 1300 1500 | 50 50 | Shut In | 4575 | 6000-7500' |
| 15 | ARE# W20-03 | 43-043-30291 | 1800 1400 | 75 75 | Shut In | 3890 | 10500' |
| 16 | ARE# W16-14 | 43-043-30096 | 0 1500 | 800 850 | Perfs 12816 Shut In | 4570 | 6000-7500' |
| 17 | ARE#16-12 | 43-043-30231 | 0 50 | 0 0 | Shut In | 4781 | 1500-3000' |
| 18 | Champlin 387 #B-1A | 43-043-30168 | 0 0 | 0 0 | Shut In | ? | 5200 ? |
| 19 | ARE# W17-16 | 43-043-30176 | 1100 0 | 0 0 | Perfs 13806' Shut In | 4734 | 8400' 3000-4500' |
| 20 | ARE# E21-14 | 43-043-30130 | 200 | 150 | Producing | 3926 | Perfs |

Champlin 372 → Pressure from 0 to 1250 psi (tubing) No FL perfs @ 6648' BHP

ARE 36-14 → Csg pressure from 1500 to 0 Tbg press from 2200 to 400 FL @ 14066' Perfs @ 14066' BHP = 3420 psi (1732 psi surf)

ARE W16-14 → Tbg from 0 to 1500 psi Csg remained @ ± 850 psi FL @ 6000', perfs @ 12816 BHP = 4570 psi

ARE W17-16 → Tbg from 100 to 0 FL from 4000' to 8400' FL @ 4000' perfs @ 13806' BHP = 4734 psi FL @ 8400'

RECEIVED
FEB 20 2004
DIV. OF OIL, GAS & MINING

**From:** Mike Mercer <Mike.Mercer@meritenergy.com>
**To:** "Dustin Doucet" <dustindoucet@utah.gov>
**Date:** 4/7/2005 3:12:05 PM
**Subject:** Re: SI/TA integrity questions

On the W16-14, the production foreman did have to replace the gauge to get the new (correct) reading.

On the W17-16, the pressures and fluid levels were actually taken off of a swab report (they did not get "static" readings), which explains why the fluid level (and tubing pressure) was so much lower.

Hope this takes care of you, if not, please call.

Thanks

Michael L. Mercer
Engineering
Merit Energy Company
13727 Noel Road, Suite 500
Dallas, TX 75240
(972) 628-1550 Direct
(972) 960-1252 Fax

"Dustin Doucet" <dustindoucet@utah.gov>
03/11/2005 04:14 PM

To <Mike.Mercer@meritenergy.com>
cc
Subject Re: SI/TA integrity questions

Mike,

Thanks for the info. A couple more questions. On the 16-14 and 17-16 do you figure the readings or guages were incorrect last year or is their some other reason for the change in pressures?

Dustin

>>> Mike Mercer <Mike.Mercer@meritenergy.com> 03/11/05 1:48 PM >>>

Dustin,

Sorry it has taken me so long to get back with you...in response to your
email, most are easily explained...(see below in red)

Regarding the W30-14, we are installing ESPs on either side of this well,
we have a service company designing gas lift for this well and are evaluating a reactivation following the ESP installations. If we do not
have the well reactivated in the next couple of months, I will provide you
with the wellbore diagram, pressures, and fluid level.

Let me know if you need anything else. Thanks

Michael L. Mercer
Engineering
Merit Energy Company
13727 Noel Road, Suite 500
Dallas, TX 75240
(972) 628-1550 Direct
(972) 960-1252 Fax

"Dustin Doucet"
<dustindoucet@uta
h.gov>

To <mike.mercer@meritenergy.com>

02/16/2005 04:04 PM

cc

Subject SI/TA integrity questions

Mike,

I finally looked at the packet you provided us at our January 10th meeting and had questions that you may be able to answer on four wells.
My questions deal with pressure and fluid level changes that I didn't have enough info to explain why they changed. Also, I want to give you
a heads up that another well came on to the SI/TA list this year. It is
the ARE W 30-14 (API 43-043-30185). A similar plan/integrity scenario will have to be followed on this well as we've done with the current SI/TA wells. The four wells that I had questions on are as follows:

Champlin 372 - Tbg pressure went from 0 last year to 1250 psi this year SWAB TESTED 2004

ARE W 36-14 - Tbg pressure went from 2200 to 400 psi, csg pressure went
from 1500 to 0 WE PULLED THE OLD PKR, RAN A TEST PKR, SWABBED TESTED, AND
RAN THE ESP (WE HAVE HAD PROBLEMS, BUT WE HAVE ESTABLISHED COMMERCIAL PRODUCTION)

ARE W 16-14 - Tbg pressure went from 0 to 1500 psi, csg pressure did stay constant at ~ 850psi which is probably good, although pressure on the backside doesn't make me feel all warm and fuzzy WE HAVE NOT DONE ANYTHING

ARE W 17-16 - Tbg pressure went from 1100 to 0 psi, FL went from 4000' to 8400' opposite of what you would expect hydrostatically based off of
the pressure change SWAB TESTED 2004 (FUTURE ESP INSTALLATION)

All in all I don't have a lot of concern for lack of integrity, but if you could provide me with some explanations as to why some of these changes occured on these 4 wells, I would appreciate it. The good news
is that you are reactivating two of the four wells this year.
Hopefully, this email makes some sense. Give me a call if you like and
we can discuss or respond via email. Thanks.

Dustin

Dustin Doucet
Petroleum Engineer

MERIT ENERGY COMPANY

13727 Noel Road · Suite 500 · Dallas, Texas 75240
**Ph** 972.701.8377 · **Fx** 972.960.1252 · www.meritenergy.com

November 10, 2004

State of Utah – Department of Natural Resources
Division of Oil, Gas, & Mining
Attn: Mr. Dustin Doucet
PO Box 145801
Salt Lake City, UT 84114-5801

Dear Mr. Doucet:

In a letter dated February 13, 2004, Merit Energy Company informed the DOGM of plans to reactivate twenty-four (24) shut-in wells. Based on this information, on March 5, 2004, the DOGM granted Merit a shut-in extension until January 1, 2005. In April, the engineer working the Anschutz Ranch East (Anschutz) field left Merit. He was replaced by a second engineer that left Merit in August. As a result of this turnover, there has been no continuity at Anschutz. Regretfully, Merit will not have these wells reactivated by January 1, 2005.

I took over as the Operations Engineer at Anschutz in August. On October 6, 2004, I called to discuss this situation with you. You requested that Merit submit a letter stating what work has been completed as well as our future plans.

The largest problem at Anschutz is water. Several wells have loaded up and died as a result of water production. Merit has been investigating several methods to remove the water and reestablish commercial gas production.

"Co-production"
As outlined in the February letter, Merit had plans to attempt "co-production" at Anschutz. "Co-production" is simply utilizing an electric submersible pump (ESP) to remove the water. Our first test candidate was the ARE W36-10. On July 15, 2004, we started the ESP. To date, results have been exceptional. The maximum gas rate that we have seen is 355 mcfd. This is more than enough to justify the cost of the installation. Average production has been 200 mcfd and 1200 bwpd.

The only drawback to "co-production" is installing power to location. Without knowing how the well will perform, Merit is hesitant to invest the capital upfront for power installation. Additionally, it took the power company approximately six months to perform the installation.

Although Merit is pleased with the results of "co-production", we have developed a new plan. We are currently preparing a generator to provide temporary power to location. Future installations will be performed on a temporary basis. If the well proves to be a success, an order for permanent power will be placed with the power company. This allows Merit the flexibility to test several shut-in wells without spending unnecessary capital.

We are currently in the process of preparing the ARE W16-06 for an ESP installation. Additional wells that are currently identified for potential ESP installations are the ARE W30-02, W30-06, W30-13, and W36-14. Merit anticipates having these wells tested during 2005. Further installations will be determined based on the success of the above mentioned wells.

RECEIVED
NOV 12 2004
DIV. OIL, GAS & MINING

Capillary Strings
Merit has also begun utilizing capillary strings to inject soap downhole to assist the well in lifting the produced water. We currently have five (5) capillary strings in service at Anschutz and are planning on installing four (4) more before the end of the year.

Gas Lift
Although gas lift is not new to Anschutz, Merit has been trying to extend its capabilities. Our first hurdle regarding gas lift is obtaining additional lift gas capacity. We currently utilize sales gas for gas lift. Based on our current compression, we are limited to 4 mmcfd of lift gas. In addition to increasing our gas lift capability, Merit is exploring the idea of utilizing nitrogen for gas lift.

With that being said, we currently have seventeen wells capable of being gas lifted. Due to our limited lift gas capacity, only six (6) wells are currently being gas lifted.

Additionally, Merit is working with several service companies to explore ways to gas lift from below the packer. There are several wells at Anschutz that have one to two thousand feet of pay. As a result, conventional gas lift may or may not be effective. We have tried one method of gas lifting from below the packer and the results are great. However, this method is not a "cure-all". It will only work on select wells. We will continue to look for wells capable of being lifted in this manner. We are in the process of identifying a candidate to test another method of gas lifting from below the packer. As soon as the well is identified, the installation will be performed.

While Merit is still in the early phase of developing completion techniques to adequately produce the wells at Anschutz, we are making great progress. We have had to think "out-of-the-box" to come up with creative ways to remove the water and increase the gas and are exhausting all resources to improve production and reduce idle wellbores.

I have attached the February 13 letter as well as our current plans for the 24 wells.

If you have any questions or require additional information, please contact me at (972) 628-1550 or electronically at mike.mercer@meritenergy.com.

Sincerely,

Michael L. Mercer
Operations Engineering

MERIT ENERGY COMPANY

13727 Noel Road, Suite 500
Dallas, TX 75240
Ph: 972-701-8377 Fx: 972-960-1252
www.meritenergy.com

Date: February 13, 2004

Subject: Extended Shut-in wells in the Anschutz Ranch East Field

Dear Mr. Doucet:

In response to your letter dated January 22, 2004, I would like to submit the attached supporting documentation regarding our extended shut-in wells. Merit Energy Company purchased an operating interest in the Anschutz Ranch East Unit from BP Production Company effective July 1, 2003, and has spent the last seven months evaluating the production capability of all active and inactive wells in the field. This process has resulted in workovers that have reestablished production in several of these wells, and revealed future opportunities for all of the others. Here is a quick synopsis of our plans for each well.

- **ARE W20-06-** Workover is planned to immediately reactive this well by running smaller tubing, and putting the well on gas lift. Should be reactivated by mid year 2004.
- **ARE W31-04-** BP attempted a directional reentry of this wellbore in 2001, during which time the drill pipe was inadvertently cemented in the horizontal section of the wellbore. Merit is investigating methods to effectively stimulate this wellbore and return it to production. If unable to do so, it will be plugged.
- **ARE W36-10-** This well will be the first test candidate for an experimental production method for artificial lifting gas wells. An electric submersible pump will be run in this well in the next couple of months in an attempt to reestablish production by removing large volumes of water from the formation. If this project is successful it could lead to the reactivation of virtually every inactive well in the field. The project is approved internally, and we are waiting on equipment and supplies before mobilizing a service rig.
- **ARE W36-08-** This well has been reactivated following a workover last fall. A sundry notice was filed and approved by the Utah Oil and Gas Commission.
- **ARE W21-04-** Surface tubing pressure indicates this well may be capable of producing again. However attempts to return this well to production with the current wellbore configuration have not been successful. Merit plans to install smaller tubing and gas lift on this well. If that is unsuccessful, this well is also a candidate for an electric submersible pump installation. If all attempts to reactivate the Nugget formation fail, this well is a recompletion candidate in the Twin Creek formation.
- **Champlin 372 C-1-** This well is capable of producing for a few days at a time, but quickly loads up with water and dies. Again, this well is a candidate for an electric submersible pump installation, or may be used as a salt water disposal well if additional capacity is needed due to the ESP program.
- **ARE W16-06-** This well will have an electric submersible pump installed if the program is successful. Otherwise it will be plugged.
- **ARE W01-12-** This well will have an electric submersible pump installed if the program is successful. It is also considered for an uphole recompletion.
- **ARE W30-02-** An attempt was made to return this well to production last fall, but was unsuccessful due to high water production. Pending the success of the W36-10, this well will also have an electric submersible pump installed.
- **ARE W36-14-** This well will have an electric submersible pump installed if the program is successful. It is also considered for an uphole recompletion.
- **ARE W30-06-** This well will have an electric submersible pump installed if the program is successful. It is also considered for an uphole recompletion.
- **ARE W20-02-** A workover has been approved internally to reactivate this well, and should begin in the next few weeks A sundry notice was filed and approved by the Utah Oil and Gas Commission.
- **ARE W30-13-** This well will have an electric submersible pump installed if the program is successful. It is also considered for an uphole recompletion.
- **ARE W19-16-** This well will have an electric submersible pump installed if the program is successful. It is also considered for an uphole recompletion.

- **ARE W20-04-** This well will have an electric submersible pump installed if the program is successful. It is also considered for an uphole recompletion.
- **ARE W31-12-** An attempt was made to reactivate this well in late 2003, but was unsuccessful. A sundry notice was filed and approved by the Utah Oil and Gas Commission. An uphole recompletion in the Twin Creek formation is planned and will be completed in the next few months.
- **ARE W01-04-** This well will have an electric submersible pump installed if the program is successful. It is also considered for an uphole recompletion.
- **ARE W11-01-** This well will have an electric submersible pump installed if the program is successful. Otherwise it will be plugged.
- **ARE W20-03-** This well will have an electric submersible pump installed if the program is successful. It is also considered for an uphole recompletion.
- **ARE W16-14-** This well will have an electric submersible pump installed if the program is successful. It is also considered for salt water disposal well if additional capacity is needed.
- **ARE W16-12-** This well will have an electric submersible pump installed if the program is successful. It is also considered for salt water disposal well if additional capacity is needed.
- **Champlin 387 B-1A-** Merit Energy is in the process of obtaining records from BP for this well. Once historical information is obtained, we will evaluate all feasible methods to return this well to producing status. Otherwise it will be plugged.
- **ARE W17-16-** This well will have an electric submersible pump installed if the program is successful. It is also considered for salt water disposal well if additional capacity is needed.
- **ARE E21-14-** This well was returned to producing status on 12/19/03.

In addition to this information, I have enclosed pressure data for all wells, and a wellbore schematic for all wells except the Champlin 387 B-1A. The static bottom hole pressures and static fluid levels were collected in September 2003 with bottom hole gauges. If you need any further information, please contact me at 972-628-1651 or electronically at lance.taylor@meritenergy.com.

Regards,

Lance L. Taylor
Operations Engineer

Cc: Rusty Ginnetti
Arlene Valliquette
Dennis Longwell

Attachments: (1) page of pressure data, (23) wellbore schematics

| | Well Name | API | Lease Type | Years Inactive |
|---|---|---|---|---|
| 1 | ARE W20-06 | 43-043-30159 | Fee | 1 Year 2 Months |
| 2 | ARE W31-04E | 43-043-30165 | Fee | 1 Year 3 Months |
| 3 | ARE W36-10 | 43-043-30227 | Fee | 1 Year 3 Months |
| 4 | ARE W36-08 | 43-043-30167 | Fee | 1 Year 7 Months |

Wells with returned Sundry Notices and attached requirement sheet dated November 19, 2003

| | | | | |
|---|---|---|---|---|
| 1 | ARE W21-04 | 43-043-30135 | Fee | 1 Year 10 Months |
| 2 | Champlin 372 Amoco C1 | 43-043-30143 | Fee | 1 Year 11 Months |
| 3 | ARE W16-06 | 43-043-30138 | Fee | 1 Year 11 Months |
| 4 | ARE W01-12 | 43-043-30271 | Fee | 2 Years 4 Months |
| 5 | ARE W30-02 | 43-043-30218 | Fee | 3 Years 2 Months |
| 6 | ARE W36-14 | 43-043-30255 | Fee | 4 Years 5 Months |
| 7 | ARE W30-06 | 43-043-30273 | Fee | 5 Years 4 Months |
| 8 | ARE W20-02 | 43-043-30228 | Fee | 5 Years 4 Months |
| 9 | ARE W30-13 | 43-043-30279 | Fee | 5 Years 6 Months |
| 10 | ARE W19-16 | 43-043-30204 | Fee | 5 Years 8 Months |
| 11 | ARE W20-4 | 43-043-30238 | Fee | 6 Years 3 Months |
| 12 | ARE W31-12 | 43-043-30190 | Fee | 7 Years 3 Months |
| 13 | ARE W01-04 | 43-043-30270 | Fee | 7 Years 4 Months |
| 14 | ARE W11-01 | 43-043-30277 | Fee | 7 Years 4 Months |
| 15 | ARE W20-03 | 43-043-30291 | Fee | 8 Years 1 Month |
| 16 | ARE W16-14 | 43-043-30096 | Fee | 8 Years 1 Month |
| 17 | ARE 16-12 | 43-043-30231 | Fee | 8 Years 3 Months |
| 18 | Champlin 387 B1A | 43-043-30168 | Fee | 8 Years 6 Months |
| 19 | ARE W17-16 | 43-043-30176 | Fee | 8 Years 7 Months |
| 20 | ARE E21-14 | 43-043-30130 | Fee | 10 Years 8 Months |

Attachment A

# UTAH DOGM – SI WELL LIST

- **ARE W20-06** – worked over in 2004, selectively swab tested individual zones. Installed gas lift (GL) equipment. Currently intermittently producing when lift gas is available.
- **ARE W31-04** – no immediate plans, will evaluate for reactivation.
- **ARE W36-10** – installed ESP. The well is producing.
- **ARE W36-08** – the well was reactivated in the fall of 2003. A capillary string was installed in September 2004. The well is producing.
- **ARE W21-04** – worked over in 2004. Installed GL equipment. Currently intermittently producing when lift gas is available.
- **CHAMPLIN 372 C1** – swabbed in October 2004. Swab results were encouraging. There are no production facilities or flowlines in place. We are in the process of purchasing a gas testing unit. Once the unit is in our possession, we will flow test this well and evaluate the economics of installing surface facilities.
- **ARE W16-06** – swabbed in November 2004. Currently sizing ESP and reconditioning generator for test. Anticipate having ESP running by end of the year.
- **ARE W01-12** – no immediate plans, will evaluate for reactivation.
- **ARE W30-02** – plan to install ESP in 2005 for test.
- **ARE W36-14** – plan to install ESP in 2005 for test.
- **ARE W30-06** – plan to install ESP in 2005 for test.
- **ARE W20-02** – worked over in 2004. Installed GL equipment. Currently intermittently producing when lift gas is available.
- **ARE W30-13** – plan to install ESP in 2005 for test.
- **ARE W19-16** – no immediate plans, will evaluate for reactivation.
- **ARE W20-04** – no immediate plans, will evaluate for reactivation.
- **ARE W31-12** – plan to test the Nugget, if unsuccessful, will attempt a Twin Creek completion.
- **ARE W01-04** – no immediate plans, will evaluate for reactivation.
- **ARE W11-01** – no immediate plans, will evaluate for reactivation.
- **ARE W20-03** – no immediate plans, will evaluate for reactivation.
- **ARE W16-14** – no immediate plans, will evaluate for reactivation.
- **ARE W16-12** – no immediate plans, will evaluate for reactivation.
- **CHAMPLIN 387 B1A** – no immediate plans, will evaluate for reactivation.
- **ARE W17-16** – no immediate plans, will evaluate for reactivation.
- **ARE E21-14** – the well was reactivated in December 2003. The well is producing.

JON M. HUNTSMAN, JR.
*Governor*

GARY R. HERBERT
*Lieutenant Governor*

**State of Utah**

**Department of Natural Resources**

MICHAEL R. STYLER
*Executive Director*

**Division of Oil, Gas & Mining**

MARY ANN WRIGHT
*Acting Division Director*

April 8, 2005

Merit Energy Company
Attn: Michael L. Mercer
13727 Noel Road, Suite 500
Dallas, Texas 75240

Re: Approval for Extension of Shut-in or Temporarily Abandoned Status for Wells on Fee or State Leases

Dear Mr. Mercer:

The Division of Oil, Gas and Mining (the "Division") is in receipt of your letters dated November 10, 2004 (received by the Division on November 12, 2004) and January 7, 2005 (received by the Division on January 10, 2005) in regards to the twenty-four (24) shut-in wells operated by Merit Energy Company ("Merit"). The Division understands that six of these wells were put back into production in 2004. Merit's original plan was to return all twenty-four wells to production in 2004. Because of power restrictions, etc., Merit was unable to achieve that target. It is now the Division's understanding that Merit plans to return seven more wells to production in 2005 by installing an ESP. The Division understands that Merit is also investigating other methods to assist in lifting the water (e.g. capillary strings). Depending on the success of the wells with ESP's installed, the wells currently on Gas Lift, and the success of the other methods, the remaining 11 wells will either be plugged or put into production.

Based on the submitted information and plan of action, the Division approves your request for extended SI/TA for the eighteen (18) remaining SI/TA wells (see attachment A) until January 1, 2006. The operator should continue to monitor the wells by documenting pressures and fluid levels on a periodic basis. Any significant change in pressure or fluid level should be reported to the Division immediately. Remedial action may be necessary.

In addition to the twenty-four wells mentioned above, Merit also has one new well for 2005 that requires approval for extended SI/TA. The well is the ARE W30-14 (API # 43-043-30185). Our records indicate that this well has been SI/TA since February of 2003. Merit must submit their future plans for this well and information that demonstrates the well has integrity and is not a risk to public health and safety or the environment (R649-3-36-1.1 to 1.3).

The required information should be submitted to the Division within 30 days of the date of this letter or further actions may be initiated. If you have any questions or need additional assistance in regards to the above matters please contact me at (801) 538-5281.

Sincerely,

Dustin Doucet
Petroleum Engineer

DKD:jc
Attachment
cc: Well File

# ATTACHMENT A

4N 8E 31

| | Well Name | API | Lease Type | Years Inactive |
|---|---|---|---|---|
| 1 | ARE W31-04E | 43-043-30165 | Fee | 2 Year 3 Months |
| 2 | Champlin 372 Amoco C 1 | 43-043-30143 | Fee | 2 Year 11 Months |
| 3 | ARE W16-06 | 43-043-30138 | Fee | 2 Year 11 Months |
| 4 | ARE W01-12 | 43-043-30271 | Fee | 3 Years 4 Months |
| 5 | ARE W30-02 | 43-043-30218 | Fee | 4 Years 2 Months |
| 6 | ARE W36-14 | 43-043-30255 | Fee | 5Years 5 Months |
| 7 | ARE W30-06 | 43-043-30273 | Fee | 6 Years 4 Months |
| 8 | ARE W30-13 | 43-043-30279 | Fee | 6 Years 6 Months |
| 9 | ARE W19-16 | 43-043-30204 | Fee | 6 Years 8 Months |
| 10 | ARE W20-04 | 43-043-30238 | Fee | 7 Years 3 Months |
| 11 | ARE W31-12 | 43-043-30190 | Fee | 8 Years 3 Months |
| 12 | ARE W01-04 | 43-043-30270 | Fee | 8 Years 4 Months |
| 13 | ARE W11-01 | 43-043-30277 | Fee | 8 Years 4 Months |
| 14 | ARE W20-03 | 43-043-30291 | Fee | 9 Years 1 Month |
| 15 | ARE W16-14 | 43-043-30096 | Fee | 9 Years 1 Month |
| 16 | ARE W16-12 | 43-043-30231 | Fee | 9 Years 3 Months |
| 17 | Champlin 387 B1A | 43-043-30168 | Fee | 9 Years 6 Months |
| 18 | ARE W17-16 | 43-043-30176 | Fee | 9 Years 7 Months |

JON M. HUNTSMAN, JR.
*Governor*

GARY R. HERBERT
*Lieutenant Governor*

# State of Utah
**DEPARTMENT OF NATURAL RESOURCES**

MICHAEL R. STYLER
*Executive Director*

**Division of Oil, Gas and Mining**

JOHN R. BAZA
*Division Director*

August 26, 2008

CERTIFIED MAIL NO. 7004 2510 0004 1824 6053

43 043 30165
ARE W31-04E
4N 8E 31

Mr. Michael Mercer
Merit Energy Company
13727 Noel Road, Suite 500
Dallas, TX 75240

Re: **Third Notice** of Extended Shut-in and Temporarily Abandoned Well Requirements for Fee or State Leases

Dear Mr. Mercer:

As of July 2008, Merit Energy Company has fifteen (15) Fee Lease Wells that are in non-compliance with the requirements for extended shut-in or temporarily abandoned (SI/TA) status (see attachment A). All wells SI/TA beyond twelve (12) consecutive months require the filing of a Sundry Notice in accordance with R649-3-36-1 for Utah Division of Oil, Gas & Mining ("Division") approval. Wells with five (5) years non-activity or non-productivity shall be plugged, unless the Division grants approval for extended shut-in time upon a showing of good cause by the operator (R649-3-36-1.3.3).

On January 22, 2004 the Division notified Merit by certified mail 24 wells were on the SI/TA list. Merit responded by letters of February 13, 2004, November 10, 2004, and January 5, 2005, with evaluation plans for each of the 24 wells. By the time an extension of SI/TA status was granted to Merit by the Division on April 8, 2005, six of the original 24 wells had been returned to production.

To date, 10 of the original 24 wells remain as SI/TA. Two wells were producing briefly in 2005 but have since returned to SI/TA status. These wells are listed as number 8 and number 10 on Attachment A. Two additional wells (ARE W36-08 API# 43-043-30167 & ARE 29-04 ST1 API# 43-043-30129) were producing briefly for 3 months in 2007, but are now showing as SI, and will soon be added to this list.

Five (5) new wells have been added to the current list. These are the wells numbered 11 through 15 on Attachment A

1594 West North Temple, Suite 1210, PO Box 145801, Salt Lake City, UT 84114-5801
telephone (801) 538-5340 • facsimile (801) 359-3940 • TTY (801) 538-7458 • *www.ogm.utah.gov*

UTAH DNR OIL, GAS & MINING

Please submit your plans to produce or plug these wells to DOGM within 30 days of this notice or a Notice of Violation (NOV) will be issued.

For extended SI/TA consideration of each well on the SI/TA list, the operator shall provide the Division with the following:

1. Reasons for SI/TA of the well (R649-3-36-1.1).
2. The length of time the well is expected to be SI/TA (R649-3-36-1.2), and
3. An explanation and supporting data if necessary, showing the well has integrity, meaning that the casing, cement, equipment condition, static fluid level, pressure, existence/or absence of Underground Sources of Drinking Water, and other factors do not make the well a risk to public health and safety or the environment (R649-3-36-1.3).

Submitting the information suggested below may help show well integrity and may help qualify your well for extended SI/TA. **Note: As of July 1, 2003, wells in violation of the SI/TA rule R649-3-36 may be subject to full cost bonding (R649-3-1-4.2, 4.3).**

1. Wellbore diagram, and
2. Copy of recent casing pressure test, and
3. Current pressures on the wellbore (tubing pressure, casing pressure, and casing/casing annuli pressure) showing wellbore has integrity, and
4. Fluid level in the well bore, and
5. An explanation of how the submitted information proves integrity.

If the required information is not received within 30 days of the date of this notice, further actions will be initiated. If you have any questions concerning this matter, please contact me at (801) 538-5281.

Sincerely,

Dustin K. Doucet
Petroleum Engineer

JP/js
Attachment
cc: Well File
Operator Compliance File

# ATTACHMENT A

| | Well Name | API | Lease Type | Years Inactive |
|---|---|---|---|---|
| 1 | CHAMPLIN 387 B1A | 43-043-30168 | Fee | 14 Years 3 Months |
| 2 | ARE W16-12 | 43-043-30231 | Fee | 12 Years 11 Months |
| 3 | ARE W16-14 | 43-043-30096 | Fee | 12 Years 9 Months |
| 4 | ARE W31-12 | 43-043-30190 | Fee | 11 Years 11 Months |
| 5 | ARE W31-04E | 43-043-30165 | Fee | 5 Years 10 Months |
| 6 | CHAMPLIN 372 AMOCO C 1 | 43-043-30143 | Fee | 6 Years 8 Months |
| 7 | ARE W16-06 | 43-043-30138 | Fee | 3 Years 1 Month |
| 8 | ARE W20-06 | 43-043-30159 | Fee | 2 Years 10 Months |
| 9 | ARE W17-16 | 43-043-30176 | Fee | 1 Year 9 Months |
| 10 | ARE W20-02 | 43-043-30228 | Fee | 2 Years 0 Months |
| **Newly Added** | | | | |
| 11 | ARE W20-12 | 43-043-30220 | Fee | 2 Years 3 Months |
| 12 | ARE W31-06 | 43-043-30217 | Fee | 1 Year 5 Months |
| 13 | ARE W31-08 | 43-043-30164 | Fee | 1 Year 6 Months |
| 14 | ARE W36-16 | 43-043-30157 | Fee | 1 Year 3 Months |
| 15 | ARE E28-06 | 43-043-30226 | Fee | 1 Year 1 Month |

JON M. HUNTSMAN, JR.
*Governor*

GARY R. HERBERT
*Lieutenant Governor*

# State of Utah
**DEPARTMENT OF NATURAL RESOURCES**

MICHAEL R. STYLER
*Executive Director*

**Division of Oil Gas and Mining**

JOHN R. BAZA
*Division Director*

January 21, 2009

Mr. Nicholas Tunnell
Merit Energy Company
13727 Noel Road, Suite 500
Dallas, TX 75240

43 043 30165
ARE W31-04E
4N 8E 31

Subject: Extended Shut-in and Temporary Abandoned Well Requirements for Fee or State Leases dated August 26, 2008.

Dear Mr. Tunnell:

The Division of Oil, Gas and Mining (the Division) is in receipt of your letter dated October 17, 2008 in regards to the fifteen (15) shut-in or temporarily abandoned (SI/TA) Fee Lease Wells (Attachment A) operated by Merit Energy Company (Merit).

The Division does not object to the proposed work on the said wells. Several of the wells listed look as though they may have integrity. However, due to insufficient evidence the Division is unable to grant extended SI/TA status for these wells. Not enough data was received per R649-3-36 providing proof of integrity or lengths of time wells are expected to be shut-in. The Divisions preferred method of demonstrating well integrity is to perform an MIT. Please submit the necessary information to bring these wells back into compliance. Please note, approval will be necessary prior to continuing with the planned work for these wells.

Please submit an individual sundry for each well along with required information to help expedite approval and documentation processes. If the required information is not received within 30 days of the date of this notice, further actions may be initiated. If you have any questions concerning this matter, please contact me at (801) 538-5281.

Sincerely,

Dustin K. Doucet
Petroleum Engineer

DKD/JP/js
Enclosure
cc: Well Files
Compliance File
N:\O&G Reviewed Docs\ChronFile\PetroleumEngineer\SITA

1594 West North Temple, Suite 1210, PO Box 145801, Salt Lake City, UT 84114-5801
telephone (801) 538-5340 • facsimile (801) 359-3940 • TTY (801) 538-7458 • *www.ogm.utah.gov*

UTAH DNR OIL, GAS & MINING

## ATTACHMENT A

| | Well Name | API | Lease Type | Years Inactive |
|---|---|---|---|---|
| 1 | CHAMPLIN 387 B1A | 43-043-30168 | Fee | 14 Years 3 Months |
| 2 | ARE W16-12 | 43-043-30231 | Fee | 12 Years 11 Months |
| 3 | ARE W16-14 | 43-043-30096 | Fee | 12 Years 9 Months |
| 4 | ARE W31-12 | 43-043-30190 | Fee | 11 Years 11 Months |
| 5 | ARE W31-04E | 43-043-30165 | Fee | 5 Years 10 Months |
| 6 | CHAMPLIN 372 AMOCO C 1 | 43-043-30143 | Fee | 6 Years 8 Months |
| 7 | ARE W16-06 | 43-043-30138 | Fee | 3 Years 1 Month |
| 8 | ARE W20-06 | 43-043-30159 | Fee | 2 Years 10 Months |
| 9 | ARE W17-16 | 43-043-30176 | Fee | 1 Year 9 Months |
| 10 | ARE W20-02 | 43-043-30228 | Fee | 2 Years 0 Months |
| 11 | ARE W20-12 | 43-043-30220 | Fee | 2 Years 3 Months |
| 12 | ARE W31-06 | 43-043-30217 | Fee | 1 Year 5 Months |
| 13 | ARE W31-08 | 43-043-30164 | Fee | 1 Year 6 Months |
| 14 | ARE W36-16 | 43-043-30157 | Fee | 1 Year 3 Months |
| 15 | ARE E28-06 | 43-043-30226 | Fee | 1 Year 1 Month |

MERIT ENERGY COMPANY

13727 Noel Road · Suite 500 · Dallas, Texas 75240
Ph 972.701.8377 · Fx 972.960.1252 · www.meritenergy.com

October 17, 2008

State of Utah – Department of Natural Resources
Division of Oil, Gas, & Mining
Attn: Mr. Dustin Doucet
PO Box 145801
Salt Lake City, UT 84114-5801

Dear Mr. Doucet:

In response to your letter dated August 26, 2008, I would like to submit the attached supporting documentation regarding our extended shut-in wells.

Enclosed, please find a summary sheet with Merit Energy Company's future plans for each of the wells listed in your letter, a sheet with explanations and supporting data showing each well's integrity, as well as wellbore diagrams for the subject wells.

If you have any questions or wish to discuss this further, please contact me at (972) 628-1084 or electronically at nick.tunnell@meritenergy.com.

Sincerely,

Nicholas R. Tunnell
Operations Engineer
Merit Energy Company

# UTAH DOGM – SI WELL LIST

| Last Work | Integrity | Comp 2004 | |
|---|---|---|---|
| | NP | ✓ | • **CHAMPLIN 387 B1A** – Plan to P&A well in March 2009 due to availability of rig. Bridge broken, missing valves |
| 3/95 | ~~OK~~ | ✓ | • **ARE W16-12** – Plan to run slickline to verify PBTD, swab test Nugget to evaluate potential, if unsuccessful, will attempt a Twin Creek completion. |
| | ? | ✓ | • **ARE W16-14** – Plan to run slickline to verify PBTD, swab test Nugget to evaluate potential, if unsuccessful, will attempt a Twin Creek completion. |
| 1/04 | | ✓ | • **ARE W31-12** – Plan to swab test the Nugget, if unsuccessful, will attempt a Twin Creek completion. |
| 11/99 | ✓ | ✓ | • **ARE W31-04** – Plan to swab test Nugget, if unsuccessful, will attempt a Twin Creek completion. |
| 2001 | ~~OK~~ | ✓ | • **CHAMPLIN 372 C1** – Swabbed in October 2004. Swab results were encouraging. There are no production facilities or flowlines in place. Merit is in the process of trying to buy a flowline in the area to tie into, at which point Merit will attempt to reactivate the well in the Nugget or attempt a Twin Creek completion. 4 ½" liner run after patch ? Hole in Csg @ 3612 Csg patch |
| 2001 | | ✓ | • **ARE W16-06** – Ran ESP in the well, unsuccessful due to water volumes, will attempt a Twin Creek completion. 1 string Tite spot @ 8000' to 8200' |
| 2004 | OK | ✓ | • **ARE W20-06** – Tested upper zone of Nugget in 2004, unsuccessful, plan to drill out cement & CIBP and produce lower zone. |
| | | ✓ | • **ARE W17-16** – SI due to availability of gas lift gas, gas is available, plan to kick well off with gas lift, if unsuccessful, will attempt a Twin Creek completion. |
| 2000 | | ✓ | • **ARE W20-02** – Installed conventional gas lift, unsuccessful, plan to run survey to evaluate reverse gas lift potential, if unsuccessful, will attempt Twin Creek completion. |
| 2003 | | | • **ARE W20-12** – Installed conventional gas lift, cycling gas, plan to run survey to evaluate reverse gas lift potential, if unsuccessful, will attempt Twin Creek completion. |
| 2004 | OK | | • **ARE W31-06** – Plan to install reverse gas lift to reactivate well, if unsuccessful, will attempt Twin Creek completion. 2 strings Tite spot @ 6416 (2001) |
| | NP | | • **ARE W31-08** – Rig on location, squeezed off casing leak, drilling out cement, plan to install reverse gas lift to reactivate well, if unsuccessful, will attempt Twin Creek completion. Tite spot @ 11095' to 11099' |
| | ✓ | | • **ARE W36-16** – Coil tubing gas lift design in the well, plan to pull the coil tubing and install reverse gas lift to reactivate well, if unsuccessful, will attempt Twin Creek completion. 2 strings |
| 2005 | OK | | • **ARE W28-06** – Collapsed casing at 12,678', will attempt a Twin Creek completion. collapse @ 12678' 2 strings |

# UTAH DOGM – SI WELL LIST

**Wells to be Reactivated in 2009**

- ARE W16-12
  - Packer at 10,304
  - Top of cement (TOC) at 10,100 (9-5/8" casing)
  - Tubing Pressure 50#
  - Casing Pressure 0#
  - The packer is located below the TOC. The tubing pressure and casing pressure are different. Therefore, the casing and tubing are not in communication and the ground waters are protected.

Tbg Csg
Insp 2007 0 0
2006 0 0
2005 0 130
2004 100 0
2003 0 0

- ARE W16-14
  - Packer (PBR) at 10,500
  - Top of cement (TOC) at 9,650 (9-5/8" casing)
  - Tubing Pressure 1650#
  - Casing Pressure 850#
  - The tubing is tied into the 4-1/2" liner with a PBR at 10,500. This is below the TOC for the 9-5/8" casing string. The tubing pressure and casing pressure are different. Therefore, the casing and tubing are not in communication and the ground waters are protected.

2007 0 NA
2006 0 NA
2005 0 NA
2004 1500 850
2003 100 0
1990 4600 1575

- ARE W31-12
  - Packer at none
  - Top of cement (TOC) at 10,700
  - Casing Pressure 100#
  - Fluid Level 1000' from Surface
  - There is not a packer or tubing in this well. The static fluid level is 1000' from surface. There is a 13-3/8" casing string set at 2846', a 9-5/8" casing string set at 10272', and a 7" tie-back casing string set at 9919'. These three casing strings are protecting the ground waters.

2007 NA NA
2006 NA NA
2005 NA NA
2004 NA NA
2003 480 0

- ARE W31-04
  - Packer at 14,000
  - Top of cement (TOC) at 11,900
  - Tubing Pressure 1000#
  - Casing Pressure 0#
  - This well is a horizontal sidetrack. The primary cement job on the original production casing had a TOC at 11,900. The kick-off point for the horizontal leg is below this depth. Additionally, the drill string was cemented in the horizontal section with the TOC estimated to be between 13126 and 13310. Based on the fact that the tubing and casing pressures are different, the two are not in communication and therefore, the ground waters are protected.

2007 30 20
2006 150 0
2005 150 30
2004 1200 25
2003 0 0

- CHAMPLIN 372 C1
  - Packer at 8,320 (MD) 6,648 (TVD)
  - Top of cement (TOC) at 4,906
  - Tubing Pressure 0#
  - Casing Pressure 0#
  - The 4-1/2" liner is cemented in place at 5090 (below the TOC).

2007 0 0
2006 600 0
2005 0 0
2004 0 0
2003 0 0

- ARE W16-06
  - Packer at none
  - Top of cement (TOC) at 12,640
  - Casing Pressure 0#
  - When Merit set a packer in October 2004, we pressure tested the annulus to 500 psi and it held. Therefore, the casing has integrity and the ground waters are protected.

2007 NA NA
2006 NA NA
2004 NA NA
2003 0 0

- ARE W20-06
  - Packer at 12,858'
  - Top of cement (TOC) at 9,650' (9-5/8" casing)
  - Tubing Pressure 0#
  - Casing Pressure 0#
  - When Merit set the packer in June 2004, we pressure tested the annulus to 500 psi and it held. There is a 13-3/8" casing string set at 5411', a 9-5/8" casing string set at 11330',

2007 120 100
2006 220 250
2005 350 350
2004 NA 0
2003 0 0

# UTAH DOGM – SI WELL LIST

and a 7" tie-back casing string set at 10079'. These three casing strings are protecting the ground waters.

- ARE W17-16
  - Packer — 13,747'
  - Top of cement (TOC) at — 10,371' (7-5/8" casing)
  - Tubing Pressure — 78#
  - Casing Pressure — 53#
  - There is a 13-3/8" casing string set at 2526', a 9-5/8" casing string set at 10701', and a 7" tie-back casing string set at 10237'. These three casing strings are protecting the ground waters.

2007 1180 1300
2006 0 1100
2005 0 80
2004 0 0
2003 0 0

- ARE W20-02
  - Packer at — 12,646'
  - Top of cement (TOC) at — 8,910' (7" casing)
  - Tubing Pressure — 384#
  - Casing Pressure — 310#
  - There is a 13-3/8" casing string set at 5140', a 9-5/8" casing string set at 10934', and a 7" casing string set at 13928'. These three casing strings are protecting the ground waters.

2007 464 500
2006 150 1200
2005 100 1150
2004 0 1000
2003 0 0
1990 5500 0

- ARE W20-12
  - Packer at — 12,863'
  - Top of cement (TOC) at — 10,372' (9-5/8" casing)
  - Tubing Pressure — 912#
  - Casing Pressure — 930#
  - There is a 13-3/8" casing string set at 5362', a 9-5/8" casing string set at 11245', and a 7" tie-back casing string set at 10109'. These three casing strings are protecting the ground waters.

2007 435 1050
2005 NA 680
2004 180 800
2003 0 0

no truck ok

- ARE W31-06
  - Packer at — 10284'
  - Top of cement (TOC) at — 9996' (7" casing)
  - Tubing Pressure — 0#
  - Casing Pressure — 0#
  - There is a 13-3/8" casing string set at 2301', a 9-5/8" casing string set at 10689', and a 7" casing string set at 14033'. These three casing strings are protecting the ground waters.

2007 0 NA
2006 250 NA
2005 0 425
2004 110 940
2003 200 920

- ARE W36-16
  - Packer (PBR) at — 10,680
  - Top of cement (TOC) at — 10,172 (7" casing)
  - Tubing Pressure — 1357#
  - Casing Pressure — 0#
  - The packer is located below the TOC. The tubing pressure and casing pressure are different. Therefore, the casing and tubing are not in communication and the ground waters are protected.

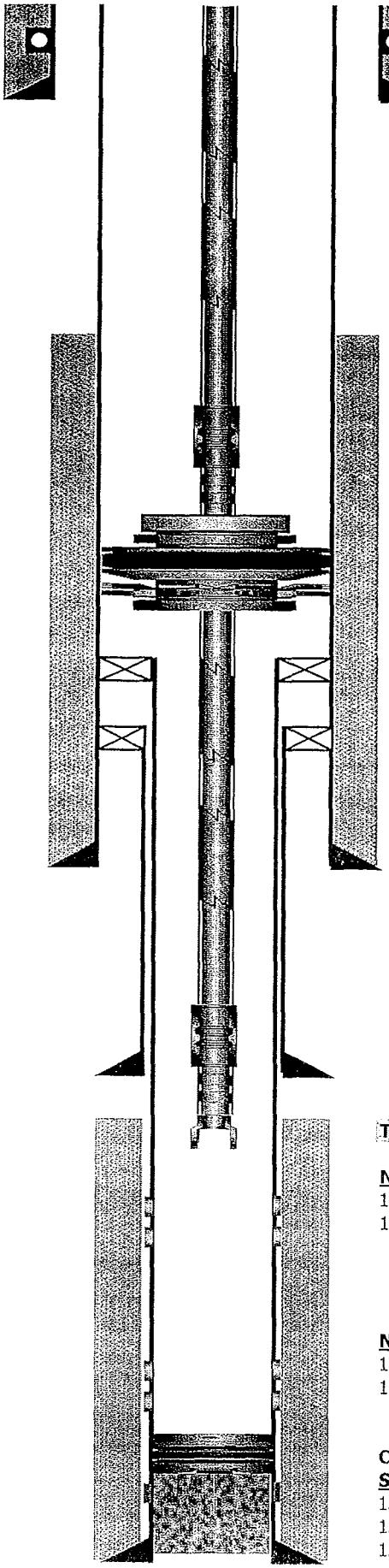
2007 1200 0
2006 250 0
2005 500 100
2004 250 0
2003 180 0

- ARE E28-06
  - Packer at — none
  - Top of cement (TOC) at — 11,900' (7" casing)
  - Tubing Pressure — 0#
  - Casing Pressure — 0#
  - There is a 13-3/8" casing string set at 3988', a 9-5/8" casing string set at 12990', and a 7" tie-back casing string set at 12313'. These three casing strings are protecting the ground waters.

2007 NA 0
2005 0 0
2004 180 0
2003 200 1350

ARE W31-08

2007 1220 NA
2005 0 0
2004 NA 0
2003 180 0



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| WELL NAME: | **ARE W16-12** | | | | FIELD: | **ANSCHUTZ RANCH EAST** | |
| QTR QTR: | | SEC: | **16** | TWN: | **4N** | RNG: | **8E** |
| COUNTY: | **SUMMIT** | | ST: | **UT** | SPUD DATE: | | |
| KB: **7387** | GL: | **7360** | TD: | **15112** | PBTD: | **13395** | |
| LAST UPDATED: | **10/11/04** | | | BY: | **MIKE MERCER** | | |

**CASING DETAILS**

| PURPOSE | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| SURFACE | 13-3/8" | 61-72# | S-80, HC-95 | 4862' |
| INTERMEDIATE | 9-5/8", 9-7/8" | 53.5-62.8# | S-95, S-105 | 11757' |
| INTERMEDIATE | 7-5/8" | 45.3# | P-110 | F/10852-12102 |
| PRODUCTION | 5" | 17.93# | P-110 | F/10473-15105 |

**TUBING DETAILS**

| DESCRIPTION | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| KB | | | | 27.00 |
| XO | 3-1/2" X 2-7/8" | | | |
| 229 JTS | 2-7/8" | 8.7# | PH-6 | |
| XO | | | | |
| 89 JTS | 2-7/8" | 8.6# | L-80 | |
| R-NIPPLE | 2.215" | | | 10,272.00 |
| 1 JT | 2-7/8" | 8.7# | L-80 | |
| BAKER 51A2 | | | | 10,304.00 |
| XO | 2-7/8" X 2-3/8" | | | |
| 86 JTS | 2-3/8" | 4.7# | J-55 CS-HYDR | |
| XN NIPPLE | 1.875" W/ 1.791 | | | 12,981.00 |
| 1 JT | 2-3/8" | 4.7# | J-55 CS-HYDR | |
| XO | | | | |
| WL REENTRY | | | | 13,015.00 |

Based on 06/02/95 WBS

**WELL HISTORY:**

| | |
|---|---|
| Apr-85 | Sqz Z2, perf Z1 & Z2 |
| Aug-86 | Sqz upper Z1 |
| Sep-86 | Reperf lower Z1 & Z2 |
| Jul-87 | PLT run |
| Jul-89 | Opened 9-5/8" casing |
| Sep-91 | Re-sqzd and mechanically isolated upper Z1 |
| May-95 | Downsized f/ 3-1/2" to 2-3/8" tubing. Reperf Z1 & upper Z2 |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

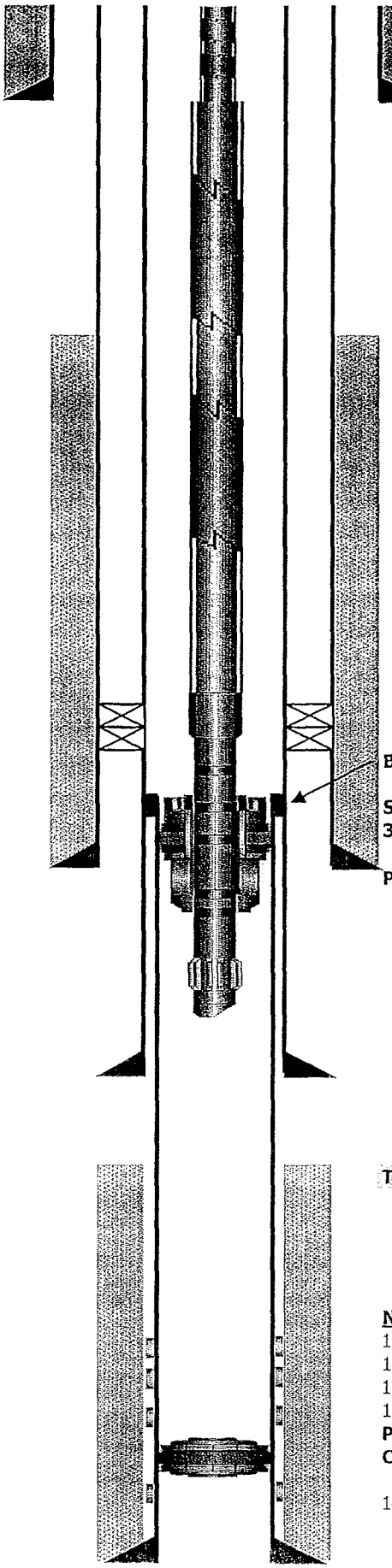
**TOC @ 12890'**

**NUGGET PERFS**
13130-156, 13166-181
13194-232, 13240-244

**NUGGET PERFS**
13252-264, 13275-313
13325-344, 13352-376

**CICR @ 13420' w/ 25' cmt on top**
**SQZD PERFS**
13394-474, 13480-520
13552-648, 13684-728
13738-750

DV TOOL. 13-3/8" @ 1992'



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| WELL NAME: | **ARE W16-14** | | | | FIELD: | **ANSCHUTZ RANCH EAST** | |
| QTR QTR: | | SEC: | **16** | TWN: | **4N** | RNG: | **8E** |
| COUNTY: | **SUMMIT** | | ST: | **UT** | SPUD DATE: | | |
| KB: | **7324** | GL: | **7305** | TD: | **14050** | PBTD: | **13516** |
| LAST UPDATED: | | **10/08/04** | | BY: | | **MIKE MERCER** | |

**CASING DETAILS**

| PURPOSE | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| SURFACE | 13-3/8" | 61-68# | | 2040' |
| INTERMEDIATE | 9-5/8", 9-7/8" | 40-62.8# | | 11091' |
| INTERMEDIATE | 7-5/8" | 39# | | F/10331-11310 |
| PRODUCTION | 4-1/2" | 13.5# | SS-95, P-110 | F/10500-14045 |
| PRODUCTION | 7" | 23-29# | | F/0-10331 |

**TUBING DETAILS**

| DESCRIPTION | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| KB | | | | 19.00 |
| 1 JT | 3-1/2" | 12.7# | N-80 Vam | 50.24 |
| PUP JT | 3-1/2" | 12.7# | N-80 Vam | 56.19 |
| PUP JT | 3-1/2" | 12.7# | N-80 Vam | 66.27 |
| XO | 3-1/2" X 4-1/2" | | | 67.12 |
| 323 JTS | 4-1/2" | 12.7# | N-80 Hydril | 10,493.23 |
| XO | 4-1/2" X 3-1/2" | | | 10,494.00 |
| Seal Assembly | | | | 10,511.20 |
| | | | | |
| | | | | |
| | | | | |

Based on 04/07/85 Pulling Report

**Baker Model A Simplex Hangar & Tie back sleeve**

**Size 80-40 Model G-22 Locator Seal Assembly. Landed w/ 6' out, 11' in 30,000# to pull out of PBR**

**PBR @ 10500'**

**TOC @ 11570'**

**WELL HISTORY:**

| | |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

**NUGGET PERFS**

12816-864, 12890-990
13016-076, 13100-180
13202-250, 13332-376
13400-464, 13500-515
**PBTD 13516 (Fill)**
**CIBP @ 13630**

14720-740

# ANSCHUTZ RANCH EAST UNIT W31-12

Summit County, Utah
Location: 640' FWL & 1778' FNL Sec 31-T4N-R8E
Elevation: 7870' GL/ 7890' KB
Last Updated by LLT 2/12/2004

**13-3/8" Surface Casing @ 2846'**
61# J-55 STC (85')
48# H-40 STC (1112')
54.5# K-55 STC (826')
61#J-55 STC (845')
Cmtd w/ 3500 sxs 13.2 ppg 50/50 poz & 500 sxs 15.8 ppg class "G"

Production Tubing removed 1/6/04

**7" Production Casing into Tie Back @ 9,919'**
29# N-80 LTC (86')
23# SOO-95 LTC (5423')
23# S-95 LTC (513')
26# N-80 LTC (3303')
29# N-80 LTC (504')
Cmtd w/ 200 sxs 15.8 ppg class "G"

9-5/8"x4-1/2" TIW hydr hanger @ 9,927'
**4" ID TIW PBR @ 9,937'**
9-5/8"x7-5/8" TIW hydr hanger @ 10,030'

**9-5/8" Intermediate Casing @ 10,272'**
53.5# N-80 LTC (83')
43.5# N-80 LTC (520')
40# N-80 LTC (3608')
43.5# N-80 LTC (1606')
47# N-80 LTC (2204')
53.5# N-80 LTC (2191')
Cmtd w/ 500 sxs 14.2 ppg 50/50 poz & 300 sxs 15.8 ppg class "G"

**7-5/8" Intermediate Liner @ 10,030-11,159'**
45.3# P-110 FL4S
Cmtd w/ 600 sxs 16.1ppg class "G"

TOC ?

**Nugget Sand Z1 & Z2 Perfs**
12752-72, 12800-20, 12854-94, 12960-80, 13035-55, 13022-100, 13120-188

**CIBP @13,202' w/ cmt to 13,190'**

**Nugget Sand Z3 Perfs**
13210-72, 13294-402, 13426-94, 13520-78, 13640-720, 13760-850, 13872-956, 13980-98, 14048-141, 14168-270, 14292-326

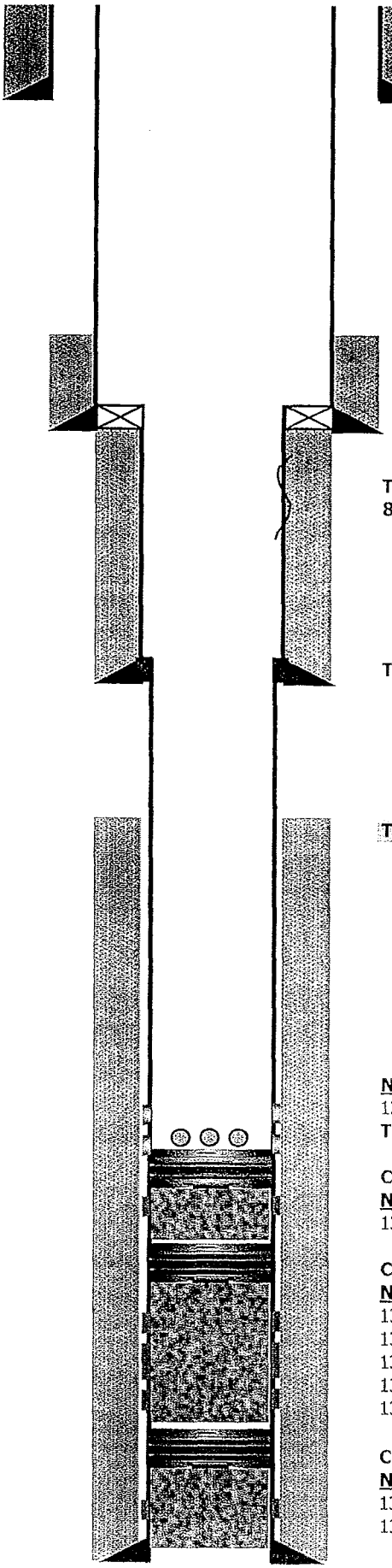
**4-1/2" Production Liner @ 9919-14418'**
15.1# P-110 LTC
7"x4-1/2" TIW Tie Back Sleeve @ 9919'
9-5/8"x7-5/8" TIW hydraulic hanger @ 9927'
4" ID TIW polished bore recepticle @ 9937'
Cmt'd w/ 140 sxs 11.0 ppg Dowell "Hi Lift" & 170 sxs 9.0 ppg Amoco "Bubble" *(CBL shows poor bond)*

FISH
FISH

PBTD: 14,338'
TD: 14,418'

**WELL HISTORY & NOTES**
**2/82 Champlin 458E-3 Spud by Amoco**
**10/27/82 TD @ 14,418'**
**11/30/82 Complete @ Zone 3 Producer**
Perf 14,210-70' @ 4 spf & 90° phasing
Acidize w/ 6,255g 7.5% in 3 wash stages
Perf 13900-56' @ 4 spf & 90° phasing
Acidize w/ 5,250g 7.5% & 250# BAF
Set CIBP above all perfs
Perf 13042-578(OA) @ 4 spf & 90° phasing
Acidize w/ 22,000g 7.5% & 1500# BAF
**5/13/82 Squeeze Zone 3 and Reperf**
Sqz w/ total of 500sx in 3 tries under CICR
Drill out all to 14,370'
TCP perf 13872-14326 OA @ 6 spf & 60°
**10/11/89 Add Zone 2 Perfs**
TCP perf 13022-850 OA @ 6 spf & 60°
**12/12/89 Acidize All**
Pump 3,000g 15% HCL
**4/20/90 Lost spinner tool @ 14,000'**
**11/93 convert to Injector**
**7/16/96 Attempted water shut-off**
Dump 10,180# 20/40 sand & 60' cmt (tag @ 13,266' by WLM)
**Missing Reports of CIBP set @ 12,537'**
**12/22/00 Pull tbg and clean out**
Clean out cmt/sand & CIBP down to cmt @ 13,266'. No tbg in well.
**1/10/01 Run new 3-1/2" tbg**
Caliper shows good csg/liner above 10,318'
**11/13/03 Install 2-3/8" tbg**
Set CIBP @ 13,202' w/ 10' cmt. TCP perf 12,854-94' @ 4 spf. Stimulate entire Nugget interval w/ propellant sleeves. Unable to swab down. Suspect cement integrity issues. RDMO to evaluate.
**1/6/04 TOH w/ 2-3/8" tbg**
**1/9/04 Ran Pulsed Neutron Log**
**1/14/04 Ran Cement Mapping Tool**
**All in dications are water influx is via fractures in the formation. Evaluate isolation/recompletion options.

Printed 10/14/2008



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| WELL NAME: | **ARE W16-06** | | | | FIELD: | **ANSCHUTZ RANCH EAST** | |
| QTR QTR: | | SEC: | **16** | TWN: | **4N** | RNG: | **8E** |
| COUNTY: | **SUMMIT** | | ST: | **UT** | SPUD DATE: | | |
| KB: **7344** | GL: **7314** | TD: | **13493** | PBTD: | | | |
| LAST UPDATED: | **09/13/05** | | | BY: | **MIKE MERCER** | | |

**CASING DETAILS**

| PURPOSE | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| SURFACE | 13-3/8" | 54.5# | K-55 | 1998' |
| INTERMEDIATE | 9-5/8" | 40-47# | S-95 | 7999' |
| INTERMEDIATE | 7-5/8" | 45.3# | P-110 | F/7657-12044 |
| PRODUCTION | 4-1/2" | 13.5# | P-110 | F/11007-13957 |

**TUBING DETAILS**

| DESCRIPTION | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| KB | | | | 30.00 |

**Tite Spot**
**8060-8200**

**TOL @ 11007'**

**TOC @ 12640'**

**NUGGET PERFS**
13440-458, 13480-548
**Three cones off bit**

**CICR @ 13563'**
**NUGGET PERFS (SQZD)**
13578-610, 13664-685

**CIBP @ 13688' (PARTIAL**
**NUGGET PERFS (SQZD)**
13755-770, 13770-80
13792-794, 13794-796
13800 (SQZ)
13812-830
13835 (SQZ)

**CICR @ 13850'**
**NUGGET PERFS (SQZD)**
13896-908
13918 (SQZ)

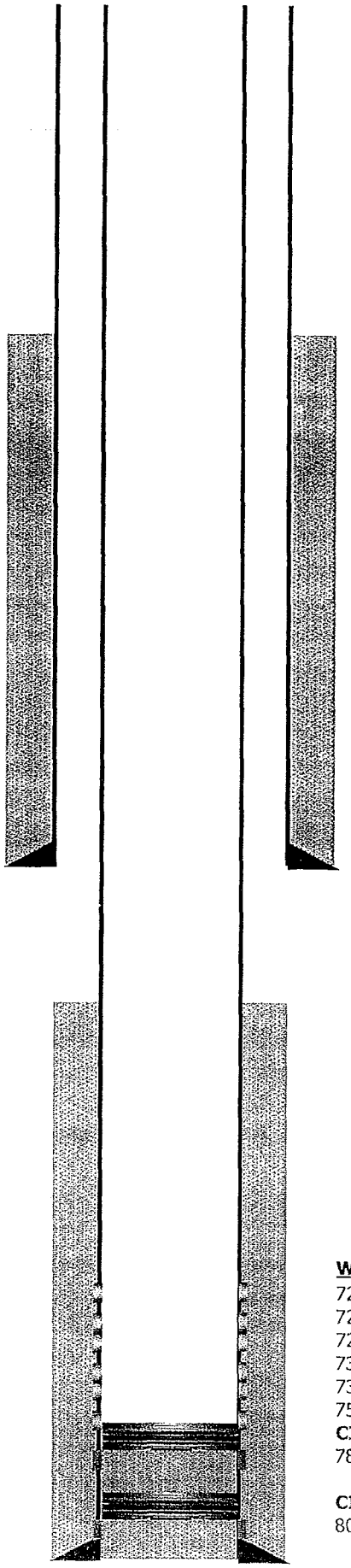
**WELL HISTORY:**

| | |
|---|---|
| Oct-81 | Perf 13918, sqz w/ 150 sxs. Perf 13835, sqz w/ 100 sxs |
| | Perf 13800, sqz w/ 230 sxs |
| | Perf 13896-908, acidize w/ 1200g 7.5% HCL. |
| | Set CICR @ 13850, sqz w/ 100 sxs |
| | Perf 13812-830, acidize w/ 1350g 7.5% HCL |
| Nov-81 | Perf 13794-796. Sqz 13794-796, 13812-830 w/ 200 sxs |
| | Perf 13770-780, acidize w/ 500g 7.5% HCL |
| | Perf 13755-780. Sqz 13755-780 w/ 150 sxs |
| Dec-81 | Perf 13792-794. Sqz w/ ??? Sxs |
| | Perf 13755-770, acidize w/ 1500g 15% HCL |
| | Set CICR @ 13687, sqz w/ ??? Sxs |
| Jan-82 | DO CICR to 13688. Perf 13664-685, acidize w/ 2200g 7.5% HCL |
| | Perf 13440-458, 13480-548, 13578-610 |
| | Acidize w/ 9000g 7.5% HCL |
| 08/06/91 | Set CICR @ 13563, sqz w/ 380 sxs |
| 08/12/91 | Milled tite spot in casing f/ 8060-8200 w/ 6.28" OD tapered mill |
| 08/18/91 | Perf 13440-458, 13480-548 thru tubing |
| 04/10/01 | TIH w/ 3-3/4" bit, tag fill @ 13449', DO to 13498 |
| 04/11/01 | Lost 3 cones off of bit |
| 04/13/01 | 2 magnet runs, no recovery, impression block, circle in center |
| 04/20/01 | Tag @ 13498, washover fill to 13508. Rec'd sand. |
| 04/25/01 | SD WO. SI well w/ 27' landing joint. |
| | |
| | |

**OTHER INFORMATION:**

PBTD - 13498'. Bottom 50' of perfs are covered up.

# MERIT ENERGY COMPANY



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| WELL NAME: | **CHAMPLIN 387 B1A** | | | FIELD: | **ANSCHUTZ RANCH EAST** | | |
| QTR QTR: | | SEC: | **9** | TWN: | **3N** | RNG: | **7E** |
| COUNTY: | **SUMMIT** | | ST: | **UT** | SPUD DATE: | | **10/04/80** |
| KB: **7342** | GL: | **7327** | TD: | **8309** | PBTD: | **7800** | |
| LAST UPDATED: | | **01/11/05** | | BY: | | **MIKE MERCER** | |

**CASING DETAILS**

| PURPOSE | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| SURFACE | 9-5/8" | 32.3# | | 1412' |
| PRODUCTION | 7" | 23, 26# | | 8299' |
| | | | | |

**TUBING DETAILS**

| DESCRIPTION | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| KB | | | | 15.00 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**NO TBG DETAILS**

**WELL HISTORY:**

| | |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

**WATTON CANYON PERFS**
7200-7220
7224-7230, 7248-7256
7268-7274, 7282-7298
7308-7314, 7332-7350
7390-7404, 7432-7446
7500-7520, 7540-7550
**CICR @ 7800**
7818-7910

**CICR @ 7900**
8018-8101

AMOCO PRODUCTION CO.

DRAWED:

Submitted by:

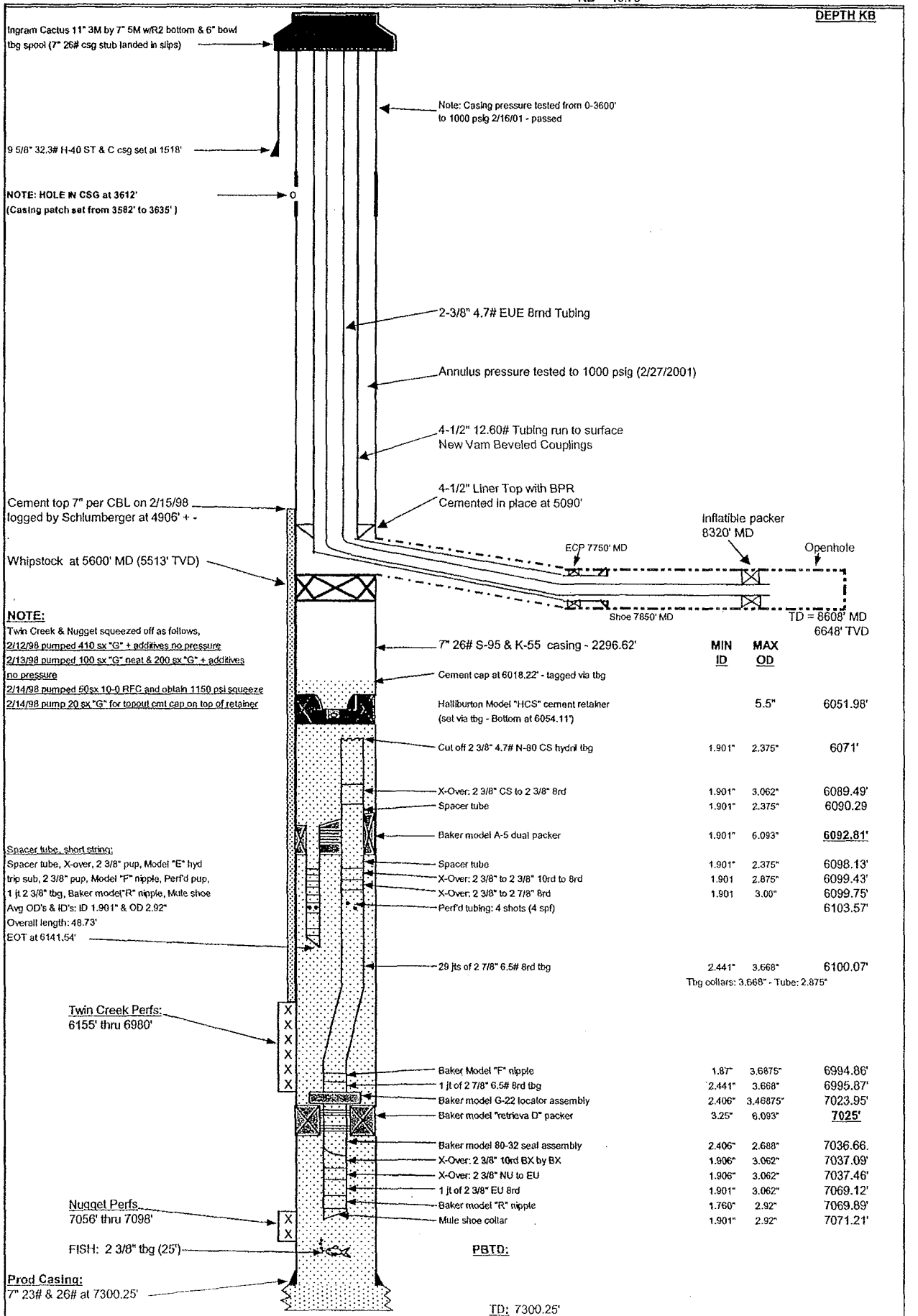
**WELLBORE DI AM**

**Field:** Anschutz R ch

**Well:** CH 372 C #1

**SEC:** 23 **TWP:** 4N **RGE:** 7E

**KB** 16.70'




| | MIN ID | MAX OD | |
|---|---|---|---|
| 7" 26# S-95 & K-55 casing - 2296.62' | | | |
| Cement cap at 6018.22' - tagged via tbg | | | |
| Halliburton Model "HCS" cement retainer (set via tbg - Bottom at 6054.11') | | 5.5" | 6051.98' |
| Cut off 2 3/8" 4.7# N-80 CS hydril tbg | 1.901" | 2.375" | 6071' |
| X-Over: 2 3/8" CS to 2 3/8" 8rd | 1.901" | 3.062" | 6089.49' |
| Spacer tube | 1.901" | 2.375" | 6090.29 |
| Baker model A-5 dual packer | 1.901" | 6.093" | **6092.81'** |
| Spacer tube | 1.901" | 2.375" | 6098.13' |
| X-Over: 2 3/8" to 2 3/8" 10rd to 8rd | 1.901 | 2.875" | 6099.43' |
| X-Over: 2 3/8" to 2 7/8" 8rd | 1.901 | 3.00" | 6099.75' |
| Perf'd tubing: 4 shots (4 spf) | | | 6103.57' |
| 29 jts of 2 7/8" 6.5# 8rd tbg | 2.441" | 3.668" | 6100.07' |
| Baker Model "F" nipple | 1.87" | 3.6875" | 6994.86' |
| 1 jt of 2 7/8" 6.5# 8rd tbg | 2.441" | 3.668" | 6995.87' |
| Baker model G-22 locator assembly | 2.406" | 3.46875" | 7023.95' |
| Baker model "retrieva D" packer | 3.25" | 6.093" | **7025'** |
| Baker model 80-32 seal assembly | 2.406" | 2.688" | 7036.66' |
| X-Over: 2 3/8" 10rd BX by BX | 1.906" | 3.062" | 7037.09' |
| X-Over: 2 3/8" NU to EU | 1.906" | 3.062" | 7037.46' |
| 1 jt of 2 3/8" EU 8rd | 1.901" | 3.062" | 7069.12' |
| Baker model "R" nipple | 1.760" | 2.92" | 7069.89' |
| Mule shoe collar | 1.901" | 2.92" | 7071.21' |

# ANSCHUTZ RANCH EAST UNIT W31-04

Summit County, Utah
Location: 731' FWL & 87' FNL Sec 31-T4N-R7E
Elevation:7894' GL/ 7926' KB
Last Updated by CAM 12/17/2007

**30" Conductor Casing @ 71'**
cemented to surface

**20" Conductor Casing @ 299'**
94#, K-55, ST&C
cemented to surface w/ 775 sxs class "A"

**13-3/8" Surface Casing @ 2,672'**
541' of 61# K-55; 321' of 54.5# K-55; 1119' of 61# J-55; 39' of 61# S-80; 620' of 61# J-55;
ALL ST&C
Cmt w/ 1700 sxs 50/50 Poz/"A" & 636 sxs class "G" neat.

**9-5/8" Intermediate Casing @11,695'**
257' of 53.5# S-95; 1112' of 47# S-95; 1314' of 43.5# S-95; 1609' of 40# S-95; 1555' of 43.5# S-95; 2035' of 47# S-95; 848' of 53.5# S-95; 1055' of 53.5# S-95; 856' of 53.5# CYS-95; 1027' of 62.8# S-105
ALL LT&C
Cemented with 2200 sxs of Class G

Squeeze 10340'-342
Holes 10550'-552
11052'-054 SQZD
11708'-710' SQZD

**Top of poor cement at 11900'**

7" DV tool @ 11836'

Whipstock
12995'

Squeeze perfs: 12994-96
13268-72
Squeeze perfs: 13416-19

**Nugget Sand Z1/Z2 Perfs**
12998-13000(SQZD w/200 sxs), 13055-13096, 13111-128, 13138-187, 13200-232, 13257-261(SQZD w/50 sxs) 13290-13356, 13376-13450

Cement

13515'

**Nugget Sand Z2/Z3 Perfs**
13588-13630, 13660-13760, 13790-13850, 13874-13932, 14030-14070, 14100-14140

**PBTD: 14,202'**

TD @ 14,303' TVD
South Lateral TD: 14,023' MD
North Lateral TD: 14,478' MD

## WELL HISTORY & NOTES

**11/82 Completed as a Z1/Z2/Z3 Injector**
Acidize w/ 8000 gals 7.5% HCL
**8/82 Set cmt RET and squeeze**
Set @11760'; Pump 75 sxs G cmt;
Perf 13588-590, 13582-584, 13420-22, set retainer @13438, squeeze
DO cmt 12623-13012, pressure test ok
**7/93 Run replacement pkr and tubing string**
**1/96 Replace tubing string with 13% chrome**
Good 900 psi casing test
**11/99 Drill 2 laterals and cement 4" DP and perf**
**Notes:**
From reports is it suspected that the south lateral has a significant amount of cement. High water rates are the reason the well was shut-in. Highest recorded water rate was 250 bwpd in 2000.

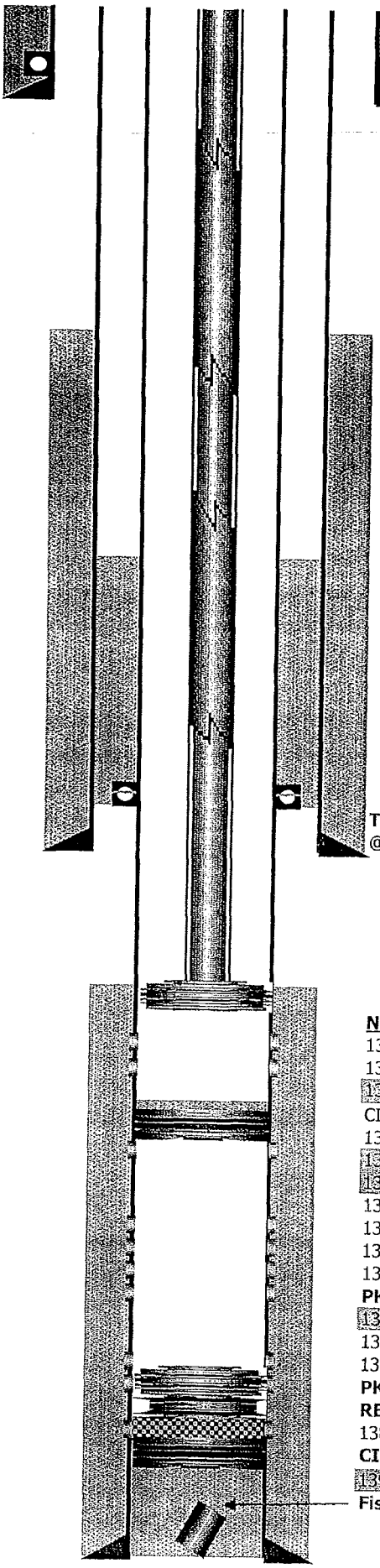
**Tubing Detail(North Lateral):**
3-1/2" 12.7# VAM N-80 set at 12,860'
X-over: 3-1/2" x 4-1/2"
x-over: 4-1/2" x 4" HT 38
4" HT 38 Drill pipe to 13970' MD (??TVD)
Baker payzone pkr @ 14,000 MD
76' ft of logging tools at 14,478' MD
**Cemented to 13130'**
**4" DP perforated from 13,310'-13460'; 13,820'-13,970'**

**Tubing Detail(South Lateral):**
Kickoff from North lateral @ 13,126'
5-7/8" OH to plug @ 14023'

**7" Production Casing @14,303'**
816': 26# S-95 8rd
4358': 23# S-95 8rd
4066': 26# S-95 8rd
394': 32# N-80 8rd
1290': 32# S-95 8rd
898': 35# S-95
2459': 32# S-95
cemented with 325 sxs Class G

Printed 10/16/2008

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| WELL NAME: | **ARE W20-06** | | | | FIELD: | **ANSCHUTZ RANCH EAST** | |
| QTR QTR: | | SEC: | **20** | TWN: | **4N** | RNG: | **8E** |
| COUNTY: | **SUMMIT** | | ST: | **UT** | SPUD DATE: | | **05/19/81** |
| KB: **7563** | GL: **7534** | TD: | **14163** | PBTD: | **13823** | | |
| LAST UPDATED: | **11/04/04** | | | BY: | **NICK TUNNELL** | | |




**CASING DETAILS**

| PURPOSE | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| SURFACE | 13-3/8", 13-1/2" | 61-81.4# | N-80, S-80, S-95 | 5411' |
| INTERMEDIATE | 9-5/8", 9-7/8" | 43.5-62.8# | S-95 | 11330' |
| PRODUCTION | 7", 6-5/8" | 26-32# | N-80, P-110 | 14163' |

**TUBING DETAILS**

| DESCRIPTION | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| KB | | | | 29.00 |
| TBG | 2-7/8" | 6.5# | N-80 | |
| PKR | | | | 12,858' |

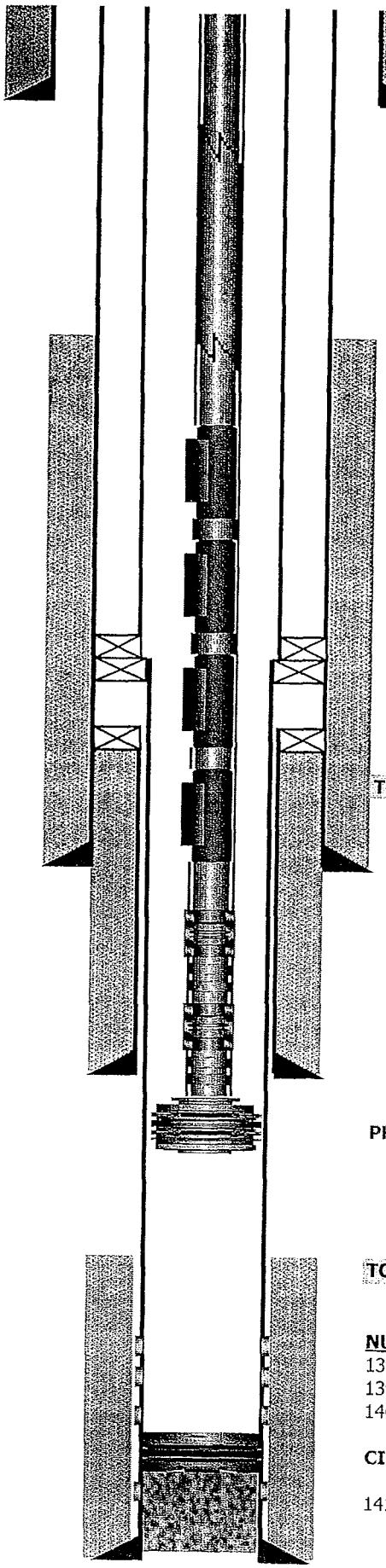
All depths are estimates based on "Daily Activity Report" dated 06/2/04

**NUGGET PERFS:**

13008-038, 13046-064
13092-115
13135-215 (sqzd)
CIBP w/ cmt @ 13220'
13230-310
13248-268 (sqzd)
13292-346 (sqzd)
13370-392, 13418-446
13470-490, 13514-533
13556-580, 13606-618
13628-650
**PKR @ 13670'**
13680-692 (sqzd)
13699-708, 13716-726
13736-746, 13772-800
**PKR @ 13791'**
**RBP @ 13803'**
13830-860 (fill)
**CICR @ 13886'**
13910-930, 13966-990 (sqzd)

**WELL HISTORY:**

| | |
|---|---|
| 01/01/82 | Initial completion - perf'd 13966-990, 13910-930, 13628-650 |
| | 13606-618, 13514-533, 13680-692, 13699-708, 13716-726 |
| | 13736-746, 13772-800, 13830-860, 13556-580, 13248-268 |
| | 13292-346, 13370-392, 13418-446, 13470-490. |
| | Sqzd 13910-990 |
| 09/20/83 | Sqzd 13680-692 (for conformance). Perf'd 13610-22, 13632-54 |
| 07/29/86 | Sqzd 13248-346 (OA) |
| | Perf'd 13370-92, 13418-46, 13470-90, 13514-33 |
| 09/05/86 | Perf'd 13135-215, 13092-115, sqzd 13092-215 |
| 07/01/92 | Replace corroded tbg, Perf'd 13008-38, 13046-64, 13092-115 |
| 03/22/96 | Perf'd 13230-310...may have squeeze some perfs, no records |
| 03/10/04 | Pulled tubing and packer, selectively swab tested |
| | |
| | |
| | |
| | |



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| WELL NAME: | **ARE W17-16** | | | | FIELD: | **ANSCHUTZ RANCH EAST** | |
| QTR QTR: | | SEC: | **17** | TWN: | **4N** | RNG: | **8E** |
| COUNTY: | **SUMMIT** | | ST: | **UT** | SPUD DATE: | | |
| KB: **7375** | GL: **7350** | TD: **14671** | | PBTD: | **14140** | | |
| LAST UPDATED: | **10/16/08** | | BY: | **NICK TUNNELL** | | | |

**CASING DETAILS**

| PURPOSE | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| SURFACE | 13-3/8" | | | 2526' |
| INTERMEDIATE | 9-5/8" | | | 10701' |
| INTERMEDIATE | 7-5/8" | | | F/10371-11800 |
| PRODUCTION | 5" | 18# | P-110 | F/10237-14671 |
| PRODUCTION | 7" | | | F/0-10237 |

**TUBING DETAILS**

| DESCRIPTION | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**TOC @ 10371'**

**WELL HISTORY:**

| | |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

**PKR @ 13747'**

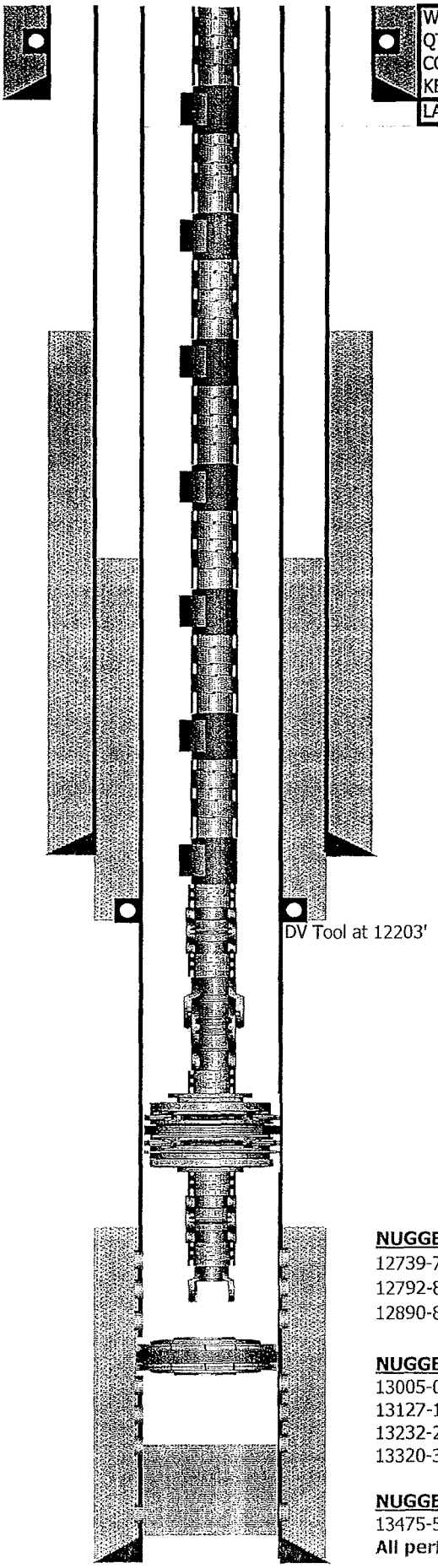
**TOC @ 13100'**

**NUGGET PERFS**
13806-844, 13864-912
13932-976, 14010-040
14064-094

**CICR @ 14140'**

14150-180 (SQZD)

DV TOOL. 7" @ 11856'




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| WELL NAME: | **ARE W20-02** | | | | FIELD: | **ANSCHUTZ RANCH EAST** | |
| QTR QTR: | | SEC: | **20** | TWN: | **4N** | RNG: | **8E** |
| COUNTY: | **SUMMIT** | | ST: | **UT** | SPUD DATE: | | **05/01/83** |
| KB: **7331** | GL: **7310** | TD: | **13928** | PBTD: | **12950** | | |
| LAST UPDATED: | **11/09/07** | | | BY: | **CASEY MORTON** | | |

**CASING DETAILS**

| PURPOSE | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| SURFACE | 13-3/8", 13-5/8" | 54.5-88.2# | K-55, HC-95 | 5140' |
| INTERMEDIATE | 9-5/8", 9-7/8" | 47-62.8# | MC-95, S-105 | 10934' |
| PRODUCTION | 7" | 32-35# | N-80, S-95 | 13928' |

Has an additional 20" surface casing string set @ 60', not shown on WBS

**TUBING DETAILS**

| DESCRIPTION | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| KB | | | | 21.00 |
| 82 JTS | 2-7/8" | 6.5# | N-80 | 2,650.53 |
| GLV #7 | 2-7/8" | | | 2,657.57 |
| 78 JTS | 2-7/8" | 6.5# | N-80 | 5,139.88 |
| GLV #6 | 2-7/8" | | | 5,146.91 |
| 68 JTS | 2-7/8" | 6.5# | N-80 | 7,311.03 |
| GLV #5 | 2-7/8" | | | 7,318.05 |
| 58 JTS | 2-7/8" | 6.5# | N-80 | 9,167.66 |
| GLV #4 | 2-7/8" | | | 9,174.68 |
| 48 JTS | 2-7/8" | 6.5# | N-80 | 10,692.10 |
| GLV #3 | 2-7/8" | | | 10,699.12 |
| 34 JTS | 2-7/8" | 6.5# | N-80 | 11,784.19 |
| GLV #2 | 2-7/8" | | | 11,791.22 |
| 24 JTS | 2-7/8" | 6.5# | N-80 | 12,558.46 |
| GLV #1 | 2-7/8" | | | 12,565.48 |
| 1 JT | 2-7/8" | 6.5# | N-80 | 12,597.76 |
| X NIPPLE | 2.313" | | | 12,598.80 |
| 1 JT | 2-7/8" | 6.5# | N-80 | 12,631.08 |
| ON/OFF TOOL | 2-7/8" X 5-1/2" | | | 12,632.90 |
| PUP JT | 2-7/8" | 6.5# | N-80 | 12,638.98 |
| ASI-X PKR | 2-7/8" X 7" | | | 12,646.52 |
| PUP JT | 2-7/8" | 6.5# | N-80 | 12,652.60 |
| XN NIPPLE | 2.313" W/ NO G | | | 12,653.73 |
| PUP JT | 2-7/8" | 6.5# | N-80 | 12,659.78 |
| WL REENTY | 2-7/8" | | | 12,660.46 |

Based on 03/18/04 Pulling Report

**WELL HISTORY:**

| | |
|---|---|
| 08/18/83 | Perf Z3 f/ 13476-560, acidize w/ 6300g 10% HCL |
| | Perf Z2 f/ 13004-430 (OA) w/ TCP. |
| | Acidize all w/ 600 bbls acid |
| 10/17/84 | Left 7' of PLT tool in hole |
| 01/08/86 | Sqz 13004-108 w/ 150 sxs |
| | Perf Z1 f/ 12739-924 (OA) w/ TCP (no stimulation) |
| 02/15/86 | PLT indicates flow f/ 5 of 11 zones |
| 07/29/86 | Test lower Z2 & Z3 |
| 09/09/86 | Convert to injection, perf Z2 f/ 13005-065, 13080-110 |
| 03/01/95 | Convert to production |
| 05/18/98 | Attempt WSO, spot 27 bbl cmt f/ 12950-13628 (tagged @ 12951) |
| 02/01/04 | Set CIBP at 12990? RIH with gas lift |

**NUGGET Z1 PERFS**
12739-768, 12778-784
12792-811, 12831-864
12890-899, 12912-924

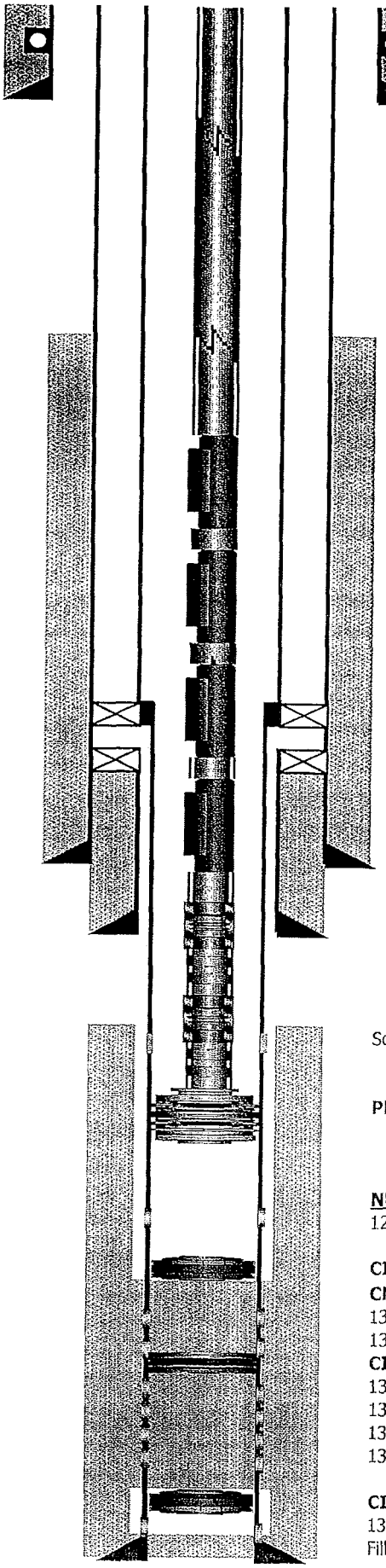
**NUGGET Z2 PERFS**
13005-065, 13080-110 (w/ 1/4 spf, 0 phasing)
13127-152, 13164-220
13232-256, 13280-308
13320-360, 13372-430

**NUGGET Z3 PERFS**
13475-560

**All perfs shot w/ 4 spf 90 phasing unless noted otherwise**

DV TOOL. 13-3/8" @ ????, 7" @ 12190'

# PROPOSED WELLBORE



| | | | | | |
|---|---|---|---|---|---|
| WELL NAME: | **ARE W20-12** | | | FIELD: | **ANSCHUTZ RANCH EAST** |
| QTR QTR: | | SEC: | **20** | TWN: | **4N** RNG: **8E** |
| COUNTY: | **SUMMIT** | ST: | **UT** | SPUD DATE: | |
| KB: | GL: | TD: | **14084** | PBTD: | **13142** |
| LAST UPDATED: | **10/16/08** | BY: | **NICK TUNNELL** | | |

**CASING DETAILS**

| PURPOSE | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| SURFACE | 13-3/8" | | | 5362' |
| INTERMEDIATE | 9-5/8" | | | 11245' |
| LINER | 7" | | | F/10571-11967 |
| LINER | 4-1/2" | 15# | P-110, FL4S | F/10109-13994 |
| TIEBACK | 7" | | | |

Has an additional 20" surface casing string set @ 277', not shown on WBS

**TUBING DETAILS**

| DESCRIPTION | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| KB | | | | 0.00 |

**WELL HISTORY:**

| | |
|---|---|
| 03/03/97 | Perf'd 12948-968, 13008-024, 13040-060, 13174-194 |
| 08/01/03 | Set CICR @ 13295, Sqzd Nugget w/ 150 sxs |
| 08/11/03 | Perf'd Nugget 13060-13117 |
| 08/12/03 | Perf'd Nugget 12928-13060 |
| 08/13/03 | Set CIBP @ 13142 |
| 08/18/03 | Acidized Nugget f/12928-13117 w/ 3000g 15% HCL (foamed) |

Sqz Perfs @ 11976-977

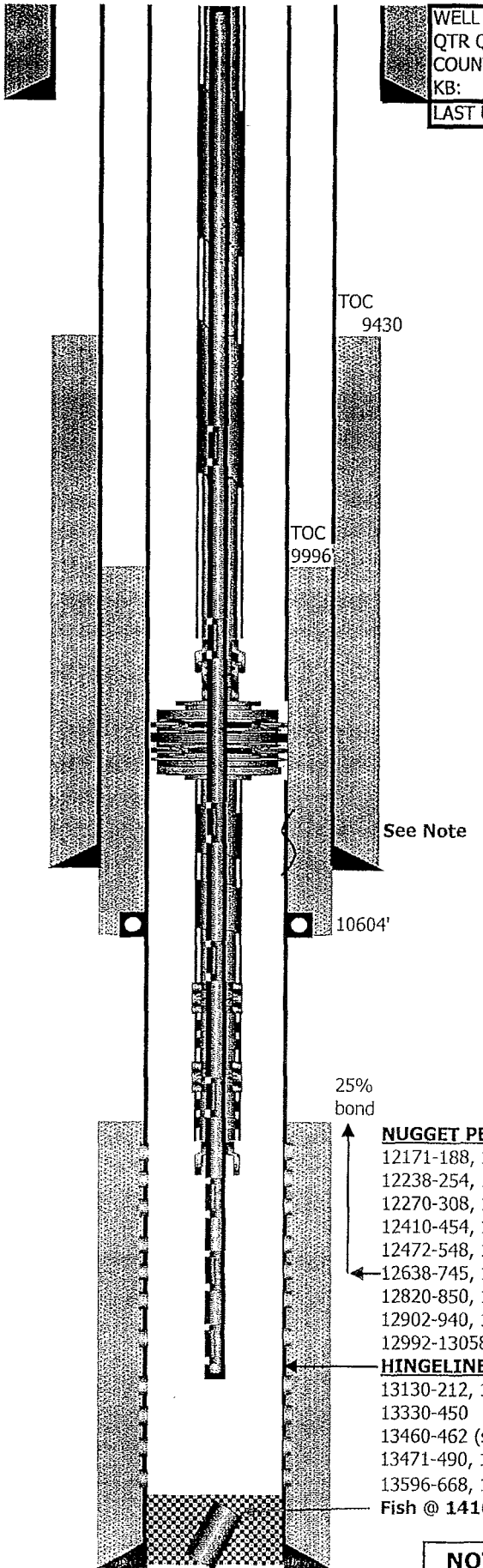
**PKR @ 12863'**

**NUGGET PERFS**
12928-13117

**CIBP @ 13142'**
**CMT @ 13152' (08/08/03)**
13174-194, 13202-242
13250-262, 13274-284
**CICR @ 13295' (sqz w/ 150 sxs)**
13302-336
13342-415, 13420-454
13472-498, 13526-536
13570-612, 13620-665

**CIBP @ 13673' (w/ 29' cmt on top)**
13680-745, 13780-864
Fill @ 13875 (06/24/99)

DV TOOL. 13-3/8" @ 2652"




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| WELL NAME: | **ARE W31-06** | | | | FIELD: | **ANSCHUTZ RANCH EAST** | |
| QTR QTR: | | SEC: | **31** | TWN: | **4N** | RNG: | **8E** |
| COUNTY: | **SUMMIT** | | ST: | **UT** | SPUD DATE: | | |
| KB: | **7770** | GL: | **7743** | TD: | **14330** | PBTD: | **13367** |
| LAST UPDATED: | **08/14/08** | | BY: | **CASEY MORTON** | | | |

**CASING DETAILS**

| PURPOSE | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| SURFACE | 13-3/8" | 54.5-61# | K-55 | 2301' |
| INTERMEDIATE | 9-5/8", 9-7/8" | 47-62.8# | N-80, S-105 | 10689' |
| PRODUCTION | 7" | 32-38# | N-80, P-110 | 14033' |

Has an additional 20" surface casing string set @ 107', not shown on WBS

**TUBING DETAILS**

| DESCRIPTION | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| KB | | | | 27.00 |
| 326 JTS | 2-7/8" | 6.5# | N-80 | 10,269.42 |
| PUP | 2-7/8" | 6.5# | N-80 | 10,275.50 |
| ON/OFF | | | | 10,277.02 |
| ARROWSET PKR | | | | 10,284.73 |
| 56 JTS | 2-7/8" | 6.5# | N-80 | 12,048.52 |
| X NIPPLE | | | | 12,049.72 |
| 1 JT | 2-7/8" | 6.5# | N-80 | 12,081.06 |
| XN NIPPLE | | | | 12,082.34 |
| 1 JT | 2-7/8" | 6.5# | N-80 | 12,114.74 |
| WL REENTRY | | | | 12,115.16 |

Based on tubing details 12/10/04

| **COILED TUBING DETAILS** | | LENGTH | SET DEPTH |
|---|---|---|---|
| 1-1/4" CT | | 8992.0 | 8,992.00 |
| GLV #8 | SJ 40 1" GLV w/ 3/16" PORT | 8.0 | 9,000.00 |
| 1-1/4" CT | | 942.0 | 9,942.00 |
| GLV #7 | SJ 40 1" GLV w/ 3/16" PORT | 8.0 | 9,950.00 |
| 1-1/4" CT | | 792.0 | 10,742.00 |
| GLV #6 | SJ 40 1" GLV w/ 3/16" PORT | 8.0 | 10,750.00 |
| 1-1/4" CT | | 592.0 | 11,342.00 |
| GLV #5 | SJ 40 1" GLV w/ 3/16" PORT | 8.0 | 11,350.00 |
| 1-1/4" CT | | 542.0 | 11,892.00 |
| GLV #4 | SJ 40 1" GLV w/ 3/16" PORT | 8.0 | 11,900.00 |
| 1-1/4" CT | | 392.0 | 12,292.00 |
| GLV #3 | SJ 40 1" GLV w/ 3/16" PORT | 8.0 | 12,300.00 |
| 1-1/4" CT | | 392.0 | 12,692.00 |
| GLV #2 | SJ 40 1" GLV w/ 3/16" PORT | 8.0 | 12,700.00 |
| 1-1/4" CT | | 392.0 | 13,092.00 |
| GLV #1 | 1" GLV w/ 3/16" S/O | 8.0 | 13,100.00 |

Based on coiled tubing details 04/14/05

**NUGGET PERFS**
12171-188, 12194-228
12238-254, 12256-262
12270-308, 12310-364
12410-454, 12462-470
12472-548, 12551-618
12638-745, 12746-776
12820-850, 12860-892
12902-940, 12952-974
12992-13058

**HINGELINE**
13130-212, 13230-282
13330-450
13460-462 (sqzd)
13471-490, 13508-574
13596-668, 13704-816, 13834-974

**Fish @ 14165': Open Hole logging tool (39.1' long, 3-3/8" OD)**

**WELL HISTORY:**

| | |
|---|---|
| 09/01/83 | Complete Z2 & Z3 |
| 06/01/85 | Perf & Acidize Z1 |
| 03/01/86 | Add Z1, Z2 & OT pay |
| 02/01/89 | Add Z3 & OT pay |
| 04/01/89 | Close SS - OT only |
| 04/01/90 | Open SS - NS/OT |
| 04/01/92 | Replace corroded tubing |
| 04/01/95 | Replace corroded tubing w/ Chrome |
| 10/01/96 | Frac Z1 & Z2 |
| 03/28/01 | Pulled pkr, ran 2-7/8" tubing (no packer) |
| 07/01/01 | Gas lifted ("Poor Boy") |
| 05/01/03 | Chemical hot oil for paraffin, net increase 1 mmcfd |
| 08/01/04 | Shut off lift gas (circulating) |
| 09/11/04 | WL TD - tagged fill @ 13367' (sand in bailer) |
| 12/01/04 | CO Fill to new PBTD 14060' |

**NOTE: TITE SPOT NOTED IN 7" CASING @ 10416' (CALIPER MAR-01)**

DV TOOL. 7" @ 10604'

MERIT ENERGY COMPANY

# Wellbore Diagram

| | |
|---|---|
| Lease & Well No. | ARE W36-16 (FKA: Island Ranch E-1) |
| Field Name | Anschutz Ranch East |
| Location | Sec. 36, 4N 7E |

| | |
|---|---|
| CPF Name | Gas Gathering |
| County & State | Summit County, UT |
| API No. | |

## Well Information

| | | | |
|---|---|---|---|
| Ground Elevation: | 8,070' | Spud Date: | 2/01/82 |
| KB Elevation: | 8,108' | Completion Date: | 11/01/83 |
| Plugback Depth: | ?? | Current Prod: | |
| Total Depth: | 14,475' | Oil - | 0 bopd |
| | | Gas - | 185 mcfpd |
| | | Water - | 175 bwpd |
| | | FTP - | ? |
| | | FCP - | ? |
| | | SITP - | ? |
| | | SICP - | ? |
| | | SIBHP - | ? |

Comments: Schlumberger coiled tubing gas lift setup
No Merit Reports in PA

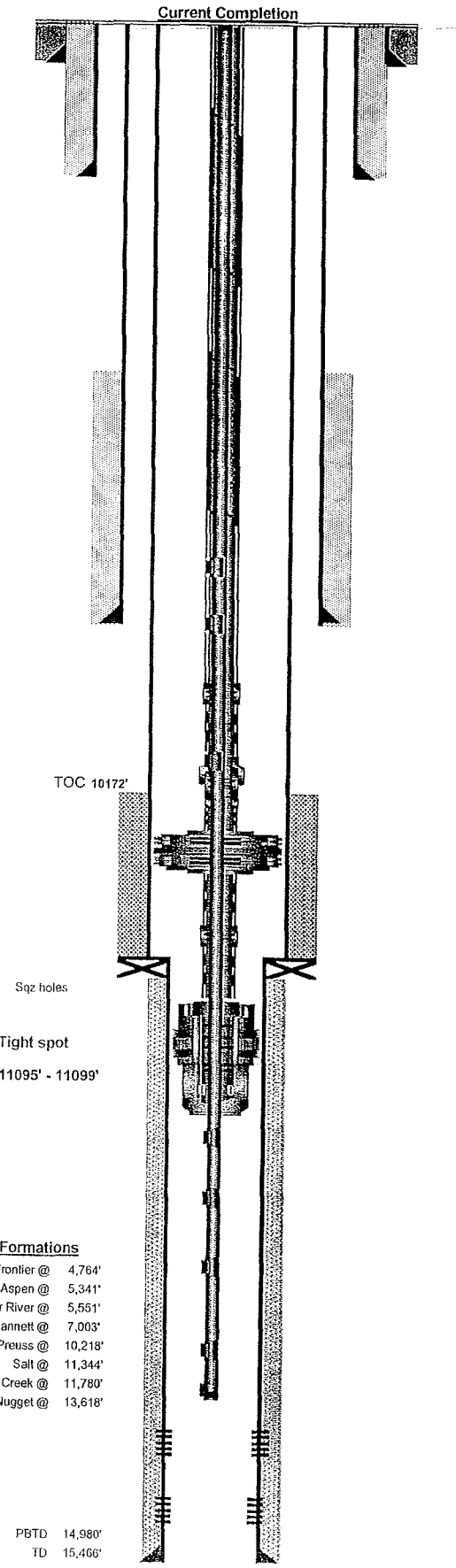
## Pipe Data

| Conductor | | | | | | |
|---|---|---|---|---|---|---|
| Top | Bottom | Size | Weight | Grade | Sx. Cmt | Comments |
| 0' | 0' | 0 | Unk | Unk | Unk | |
| **Surface** | | | | | | |
| Top | Bottom | Size | Weight | Grade | Sx. Cmt | Comments |
| 0' | 2,888' | 13-3/8" | 54.5&61# | K-55 | | |
| **Intermediate 1** | | | | | | |
| Top | Bottom | Size | Weight | Grade | Sx. Cmt | Comments |
| 0' | 6,833' | 9-5/8" | 47.0# | HC-95 | Unk | DV@ 5662 |
| **Intermediate 2 and Production Liner** | | | | | | |
| Top | Bottom | Size | Weight | Grade | Sx. Cmt | Comments |
| 0' | 11,817' | 7" | 32-35# | S-95 | Unk | 32#-6230', 29#-10489' |
| 10,476' | 14,775' | 4-1/2" | 15.1# | P-110 | Unk | 4" ID PBR @ 10748' |

| Tubing Details | | | | | | |
|---|---|---|---|---|---|---|
| Description | Length | Bottom | Size | Min. ID | Weight | Grade |
| KB | 38.00' | 38.00' | | | | |
| 318 jts | 9,854.00' | 9,892.00' | 3-1/2" | | 10.3# | VAM; N-80 |
| 24 jts | 743.72' | 10,635.72' | 3-1/2" | | 9.2# | Chrome |
| R-Nipple | 1.00' | 10,636.72' | 3-1/2" | 2.562 | | |
| 1 jt | 31.00' | 10,667.72' | 3-1/2" | | 9.2# | Chrome |
| On/Off tool | 1.00' | 10,668.72' | 5-1/2 x 3-1/2" | | | |
| Pup joint | 6.00' | 10,674.72' | 3-1/2" | | | VAM |
| Baker FHL packer | 6.00' | 10,680.72' | | | | |
| 1 jt | 31.00' | 10,711.72' | 3-1/2" | | | VAM |
| R Nipple | 1.00' | 10,712.72' | 3-1/2" | 2.562 | | |
| 1 jt | 31.00' | 10,743.72' | 3-1/2" | | | VAM |
| PBR | 4.00' | 10,747.72' | | 4" | | |
| Seal Assmebly | | 10,747.72' | | | | |
| COILED TUBING DETAIL | | | | | | |
| 1-1/4" Coiled tubing | 6,766.00' | 6,766.00' | | | | |
| Valve 8 | | 6,767.00' | | | | |
| Valve 7 | | 8,766.00' | | | | |
| Valve 6 | | 10,166.00' | | | | |
| Valve 5 | | 11,016.00' | | | | |
| Valve 4 | | 11,616.00' | | | | |
| Valve 3 | | 12,216.00' | | | | |
| Valve 2 | | 12,716.00' | | | | |
| Valve 1 | | 13,117.00' | | | | |

## Perforations

| Pay: Gross - 204' Net - 198' | | | PHIA - PHIt - | Notes | |
|---|---|---|---|---|---|
| Date | Top | Bottom | Gross | Holes | Comments |
| 9/11/1985 | 13,400' | 13,410' | 10' | 40 | Sand Frac(48K lbs.) |
| 9/11/1985 | 13,420' | 13,482' | 62' | 248 | Sand Frac(48K lbs.) |
| 9/11/1985 | 13,510' | 13,516' | 6' | 24 | Sand Frac(48K lbs.) |
| 9/11/1985 | 13,542' | 13,562' | 20' | 80 | Sand Frac(48K lbs.) |
| 9/11/1985 | 13,582' | 13,613' | 31' | 124 | Sand Frac(48K lbs.) |
| 9/11/1985 | 13,676' | 13,690' | 14' | 56 | Sand Frac(48K lbs.) |
| 9/11/1985 | 13,701' | 13,710' | 9' | 36 | Sand Frac(48K lbs.) |
| | 13,750' | 13,768' | 18' | 72 | |
| 1/8/1984 | 13,776' | 13,832' | 56' | 224 | All 4 SPF |
| 1/8/1984 | 13,861' | 13,894' | 33' | 132 | All 4 SPF |
| 1/8/1984 | 13,924' | 13,950' | 26' | 104 | All 4 SPF |
| 1/8/1984 | 13,980' | 14,015' | 35' | 140 | All 4 SPF |
| 1/8/1984 | 14,030' | 14,054' | 24' | 96 | All 4 SPF |
| 1/8/1984 | 14,061' | 14,072' | 11' | 44 | All 4 SPF |
| | 14,088' | 14,158' | 70' | 280 | All 4 SPF |
| 9/28/1987 | 14,270' | 14,340' | 70' | 280 | All 4 SPF |
| 9/28/1987 | 14,370' | 14,520' | 150' | 600 | All 4 SPF |
| 9/28/1987 | 14,580' | 14,600' | 20' | 80 | All 4 SPF |
| TOTAL | 13,400' | 14,600' | 955' | 3820 | |




## Formations

| | |
|---|---|
| Frontier @ | 4,764' |
| Aspen @ | 5,341' |
| Bear River @ | 5,551' |
| Gannett @ | 7,003' |
| Preuss @ | 10,218' |
| Salt @ | 11,344' |
| Twin Creek @ | 11,780' |
| Nugget @ | 13,618' |

# MERIT ENERGY COMPANY

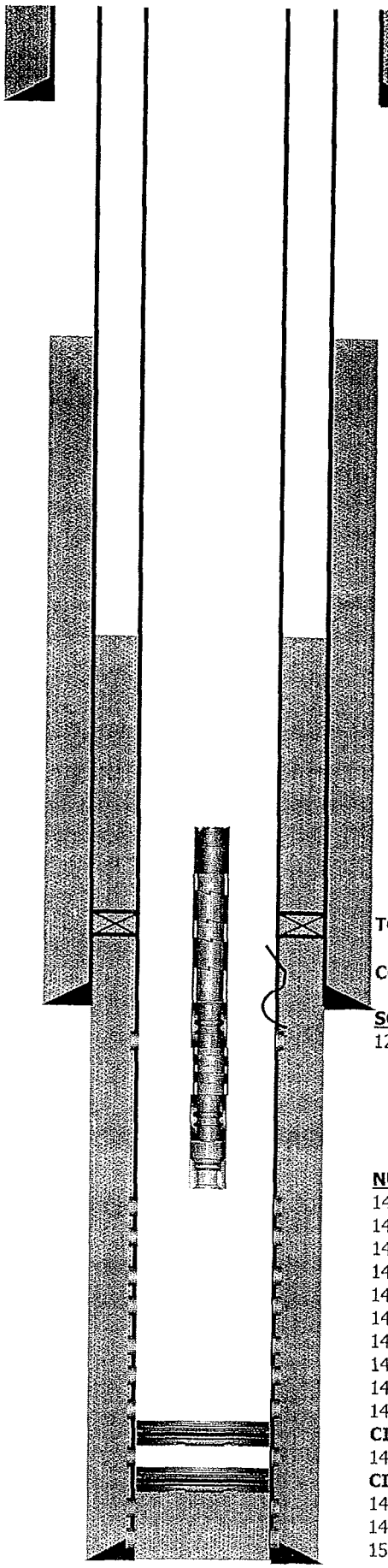
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| WELL NAME: | **ARE E28-06** | | | | FIELD: | **ANSCHUTZ RANCH EAST** | |
| QTR QTR: | | SEC: | **28** | TWN: | **4N** | RNG: | **8E** |
| COUNTY: | **SUMMIT** | | ST: | **UT** | SPUD DATE: | | |
| KB: **7513** | GL: **7487** | TD: | **15170** | PBTD: | | | |
| LAST UPDATED: | **09/13/05** | | BY: | **MIKE MERCER** | | | |

**CASING DETAILS**

| PURPOSE | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| SURFACE | 13-3/8" | 72# | S95 | 3988' |
| INTERMEDIATE | 9-5/8", 9-7/8" | 47#, 62.8# | S95 | 12990' |
| PRODUCTION | 7" | 32# | L80 | F/12313-15160 |
| TIEBACK | 7" | 32# | N80, S95 | F/0-12313' |

**TUBING DETAILS**

| DESCRIPTION | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| KB | | | | 26.00 |
| | **TUBING PULLED 07/13/05** | | | |



**TOL @ 12313**

**COLLAPSED CASING @ +/-12678'**

**SQZ PERFS**
12991-12993

**NUGGET PERFS**
14250-14265
14310-14316
14325-14332
14360-14372
14380-14396
14466-14482
14500-14506
14530-14566
14594-14630
14728-14755
**CICR @ 14802'**
14814-14866
**CICR @ 14900'**
14980-14988 (SQZD)
14992-15009 (SQZD)
15018-15024 (SQZD)

FISH: 2-7/8" 6.5# N80 stub, 43 jts 2-7/8" 6.5# N80, X Nipple, 1 jt 2-7/8" 6.5# N80, XN Nipple, WL Re-entry guide (1410.50')

GARY R. HERBERT
*Governor*
GREGORY S. BELL
*Lieutenant Governor*

# State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
*Executive Director*
**Division of Oil, Gas and Mining**
JOHN R. BAZA
*Division Director*

June 6, 2011

43 043 30165
ARE W31-04E
4N 8E 31

Ms. Michal K. White
Merit Energy Company
13727 Noel Road, Suite 500
Dallas, TX 75240

Subject: **Notice of Violation:** Abandoned Well Requirements for Fee or State Leases

Dear Ms. White:

The Division of Oil, Gas and Mining (the Division) is reissuing this Notice of Violation (NOV) that originally went out via certified mail to Merit Energy Company (Merit) on July 1, 2010 (see Attachment of original Violation). Merit was given until September 30, 2010, to respond to this NOV. To date the Division has not received any information from Merit showing any attempt to move these wells out of violation status.

As of January 1, 2011, Merit had twenty five (25) wells that were in non-compliance with the requirements for shut-in or temporarily abandoned (SI/TA) status. The Division recognizes that two (2) wells have been plugged and abandoned (PA'd) in March of this year. However the two wells that were PA'd were not part of this NOV. Currently Merit has twenty three (23) wells that are still in non-compliance. Nine (9) of the 23 wells have previously been addressed in this NOV (see Attachment), originally dated June 30, 2010. Six (6) wells have recently been issued an NOV and the remaining eight (8) have also recently being issued a second notice of non-compliance.

Wells with five (5) years non-activity or non-productivity shall be plugged, unless the Division grants approval for extended shut-in time upon a showing of good cause by the operator (R649-3-36-1.3.3).

IMMEDIATE ACTION REQUIRED: Please submit information required by R649-3-36, plug and abandon or place wells on production.

Date of service mailing: June 7, 2011
CERTIFIED MAIL No.: 7005 1820 0001 5562 9832

If you have any questions concerning this matter, please contact me at (801) 538-5281.

Sincerely,

Dustin K. Doucet
Petroleum Engineer

DKD/JP/js
Enclosure
cc: Well Files
Compliance File

N:\O&G Reviewed Docs\ChronFile\PetroleumEngineer\NOV

**UTAH DEPARTMENT OF NATURAL RESOURCES**

**Division of Oil, Gas & Mining**

**Oil and Gas Program**

1594 West North Temple, Suite 1210, Box 145801

Salt Lake City, Utah 84114-5801

(801) 538-5340 Phone

(801) 359-3940 Fax

# NOTICE OF VIOLATION

## STATE OF UTAH

## OIL AND GAS CONSERVATION ACT

**********

To the following operator:

Name: MERIT ENERGY COMPANY

| | | | |
|---|---|---|---|
| Well(s) or Site(s): | 1.) ARE W31-04E | API #: | 43-043-30165 ← |
| | 2.) CHAMPLIN 372 AMOCO C1 | | 43-043-30143 |
| | 3.) ARE W31-12 | | 43-043-30190 |
| | 4.) ARE W16-14 | | 43-043-30096 |
| | 5.) ARE 16-12 | | 43-043-30231 |
| | 6.) CHAMPLIN 387 B1A | | 43-043-30168 |
| | 7.) ARE W17-16 | | 43-043-30176 |
| | 8.) ARE W16-06 | | 43-043-30138 |
| | 9.) ARE W20-06 | | 43-043-30159 |
| | 10.) ARE W20-02 | | 43-043-30228 |

Date and Time of Inspection/Violation: June 30, 2010

Mailing Address: Attn: Michal K. White

13727 Noel Road, Ste 500

Dallas, TX 75240

Under the authority of the Utah Oil and Gas Conservation Act, Section 40-6 et. Seq., Utah Code Annotated, 1953, as amended, the undersigned authorized representative of the Division of Oil, Gas and Mining (Division) has conducted an inspection of the above described site and/or records on the above date and has found alleged violation(s) of the act, rules or permit conditions as described below.

Description of Violation(s):

Rule R649-3-36, *Shut-in and Temporarily Abandoned Wells* – With the exception of wells 9 and 10 listed above, the above referenced wells have been Shut-in or Temporarily Abandoned (SI/TA) over 5 consecutive years. Wells 9 and 10 are approaching 5 years consecutive shut-in and only produced intermittently from 2004 to 2006 after previously being shut-in in 2000 and 1998 respectively. According to Rule R649-3-36, the operator is required to supply the Division with reasons for extended SI/TA, the length of time for extended SI/TA and proof of well bore integrity for every well SI/TA over 12 consecutive months. After 5 years of continued SI/TA, the wells are to be plugged unless good cause is supplied to the Division for extended SI/TA in addition to the required information just mentioned.

**UTAH DEPARTMENT OF NATURAL RESOURCES**

**Division of Oil, Gas & Mining**

**Oil and Gas Program**

1594 West North Temple, Suite 1210, Box 145801

Salt Lake City, Utah 84114-5801

(801) 538-5340 Phone

(801) 359-3940 Fax

The Division has initiated several contacts with Merit Energy Company (Merit) requesting required documents and action per R649-3-36. All wells listed above had a first notice sent out via certified mail on January 22, 2004 to Merit. Previously in 2003, BP America Production Company (Merits' predecessor) had SI/TA requests denied on all wells listed above except well 1 and well 9. The Division accepted a plan on April 8, 2005 for wells 1 through 8 to bring those wells back into production. After several correspondence and accepted plans to bring wells into production, the Division issued a Third Notice on August 26, 2008. The Division notified Merit on January 21, 2009 that the plan and submitted integrity information was insufficient. By letter dated August 26, 2009, Merit proposed to get proper MIT data and reactivate several of the wells. Our records show nothing has been done to date to move these wells out of violation status. The Division has had numerous other communications by phone and email with Merit and Merit has not provided adequate data to prove mechanical integrity and has not followed through with plans for removing wells from the SI/TA list. Merit has not complied with rule R649-3-36 despite the several years the Division has worked with Merit to bring these wells into compliance. In addition to the wells subject to this NOV, Merit has 15 additional wells SI/TA beyond 12 months without approval. Immediate action must be taken on those wells as well.

Action: For the well subject to this notice, Merit shall either submit the information required by R649-3-36, plug and abandon or place the wells on production.

This notice shall remain in effect until it is modified, terminated, or vacated by a written notice of an authorized representative of the director of the Division of Oil, Gas and Mining. Failure to comply with this notice will result in the Division pursuing further actions against said operator. Further actions may include initiation of agency actions to order full cost bonding and plugging and abandonment of wells and requests for bond forfeiture and civil penalties.

Compliance Deadline: September 30, 2010

Date of Service Mailing: July 1, 2010

CERTIFIED MAIL NO: 7004 1160 0003 0190 4543

Division's Representative

Operator or Representative

(If presented in person)

6/2005

Eastman Whipstock
A PETROLANE COMPANY

RECEIVED
OCT 14 1988
DIVISION OF
OIL, GAS & MINING

# REPORT of SUB-SURFACE DIRECTIONAL SURVEY

43-043-30165

AMOCO PRODUCTION COMPANY
COMPANY

4N 8E 31
~~CHAMPLIN 458, E-2~~ W31-04
WELL NAME

ANSCHUTZ RANCH EAST
LOCATION

| JOB NUMBER | TYPE OF SURVEY | DATE |
|---|---|---|
| RM782-G1902 | GYROSCOPIC MULTI-SHOT | 7-23-82 |

SURVEY BY
IRVIN MCFALL

OFFICE
410, CASPER

FORM 9-302 82

AMOCO PRODUCTION COMPANY
WELL NAME: CHAMPLIN 458, E-2
LOCATION: ANSCHUTZ RANCH EAST
FILE NO.: AM1-37 * FLP 2
START DATE: 23 JULY 1982
JOB NO.: RM782-01902
TYPE: GYROSCOPIC MULTI SHOT
SURVEYOR: IRVIN MCFALL
DECLINATION: 15 EAST
COMPUTER OPERATOR: MARTY NATION

GYROSCOPIC SURVEY
0 FT. TO 14200 FT.

Eastman Whipstock
A PETROLANE COMPANY

RECORD OF SURVEY

RADIUS OF CURVATURE METHOD

AMOCO PRODUCTION COMPANY — GYROSCOPIC SURVEY — COMPUTATION — PAGE NO. 1
WELL NAME: CHAMPLIN 458, E-2 — 0 FT. TO 14200 FT. — TIME 15:02:30 — DATE 24-JUL-82
LOCATION: ANSCHUTZ RANCH EAST

| MEASURED DEPTH FEET | DRIFT ANGLE D M | DRIFT DIRECTION D M | COURSE LENGTH FEET | TRUE VERTICAL DEPTH FEET | RECTANGULAR COORDINATES FEET | | DOGLEG SEVERITY DG/100FT |
|---|---|---|---|---|---|---|---|
| 0.00 | 0 0 | 0 0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 |
| 100.00 | 0 15 | N 61 0 E | 100.0 | 100.00 | 0.11 N | 0.19 E | 0.25 |
| 200.00 | 0 30 | N 44 0 E | 100.0 | 200.00 | 0.50 N | 0.71 E | 0.27 |
| 300.00 | 0 15 | N 23 0 E | 100.0 | 300.00 | 1.05 N | 1.07 E | 0.28 |
| 400.00 | 0 30 | N 42 0 E | 100.0 | 399.99 | 1.60 N | 1.42 E | 0.28 |
| 500.00 | 0 0 | 0 0 | 100.0 | 499.99 | 1.92 N | 1.71 E | 0.50 |
| 600.00 | 0 0 | 0 0 | 100.0 | 599.99 | 1.92 N | 1.71 E | 0.00 |
| 700.00 | 0 15 | N 31 0 W | 100.0 | 699.99 | 2.11 N | 1.60 E | 0.25 |
| 800.00 | 0 0 | 0 0 | 100.0 | 799.99 | 2.29 N | 1.49 E | 0.25 |
| 900.00 | 0 15 | S 41 0 W | 100.0 | 899.99 | 2.13 N | 1.34 E | 0.25 |
| 1000.00 | 0 15 | S 41 0 W | 100.0 | 999.99 | 1.80 N | 1.06 E | 0.00 |
| 1100.00 | 0 45 | S 37 0 W | 100.0 | 1099.99 | 1.12 N | 0.51 E | 0.50 |
| 1200.00 | 1 0 | S 37 0 W | 100.0 | 1199.97 | 0.10 S | 0.41 W | 0.25 |
| 1300.00 | 2 0 | S 39 0 W | 100.0 | 1299.94 | 2.16 S | 2.02 W | 1.00 |
| 1400.00 | 2 0 | S 39 0 W | 100.0 | 1399.88 | 4.87 S | 4.22 W | 0.00 |
| 1500.00 | 2 15 | S 41 0 W | 100.0 | 1499.81 | 7.71 S | 6.60 W | 0.26 |
| 1600.00 | 2 15 | S 42 0 W | 100.0 | 1599.73 | 10.65 S | 9.20 W | 0.04 |
| 1700.00 | 2 45 | S 43 0 W | 100.0 | 1699.64 | 13.87 S | 12.15 W | 0.50 |
| 1800.00 | 3 0 | S 43 0 W | 100.0 | 1799.51 | 17.54 S | 15.57 W | 0.25 |
| 1900.00 | 3 0 | S 42 0 W | 100.0 | 1899.37 | 21.39 S | 19.10 W | 0.05 |
| 2000.00 | 3 0 | S 43 0 W | 100.0 | 1999.24 | 25.25 S | 22.64 W | 0.05 |
| 2100.00 | 3 30 | S 44 0 W | 100.0 | 2099.07 | 29.36 S | 26.54 W | 0.50 |
| 2200.00 | 4 0 | S 44 0 W | 100.0 | 2198.86 | 34.07 S | 31.09 W | 0.50 |
| 2300.00 | 4 0 | S 42 0 W | 100.0 | 2298.62 | 39.17 S | 35.84 W | 0.14 |
| 2400.00 | 4 0 | S 39 0 W | 100.0 | 2398.37 | 44.47 S | 40.37 W | 0.21 |
| 2500.00 | 4 0 | S 33 0 W | 100.0 | 2498.13 | 50.12 S | 44.47 W | 0.42 |
| 2600.00 | 4 0 | S 31 0 W | 100.0 | 2597.89 | 56.03 S | 48.17 W | 0.14 |
| 2700.00 | 3 45 | S 26 0 W | 100.0 | 2697.66 | 61.97 S | 51.39 W | 0.42 |
| 2800.00 | 3 30 | S 17 0 W | 100.0 | 2797.46 | 67.85 S | 53.71 W | 0.62 |
| 2900.00 | 3 15 | S 9 0 W | 100.0 | 2897.28 | 73.58 S | 55.03 W | 0.53 |

Eastman Whipstock
A TELEDRANE COMPANY

| MEASURED DEPTH FEET | DRIFT ANGLE D M | DRIFT DIRECTION D M | COURSE LENGTH FEET | TRUE VERTICAL DEPTH FEET | RECTANGULAR COORDINATES FEET | | DOGLEG SEVERITY DG/100FT |
|---|---|---|---|---|---|---|---|
| 3000.00 | 3 45 | S 8 0 W | 100.0 | 2997.10 | 79.61 S | 55.93 W | 0.50 |
| 3100.00 | 3 45 | S 3 0 W | 100.0 | 3096.88 | 86.12 S | 56.56 W | 0.33 |
| 3200.00 | 4 0 | S 2 0 W | 100.0 | 3196.65 | 92.87 S | 56.85 W | 0.26 |
| 3300.00 | 4 0 | S 0 0 E | 100.0 | 3296.41 | 99.85 S | 56.97 W | 0.14 |
| 3400.00 | 4 0 | S 1 0 E | 100.0 | 3396.17 | 106.82 S | 56.91 W | 0.07 |
| 3500.00 | 4 0 | S 5 0 E | 100.0 | 3495.92 | 113.79 S | 56.55 W | 0.28 |
| 3600.00 | 4 0 | S 6 0 E | 100.0 | 3595.68 | 120.73 S | 55.88 W | 0.07 |
| 3700.00 | 4 0 | S 6 0 E | 100.0 | 3695.44 | 127.67 S | 55.15 W | 0.00 |
| 3800.00 | 4 0 | S 9 0 E | 100.0 | 3795.19 | 134.58 S | 54.24 W | 0.21 |
| 3900.00 | 4 15 | S 14 0 E | 100.0 | 3894.93 | 141.63 S | 52.81 W | 0.44 |
| 4000.00 | 4 0 | S 19 0 E | 100.0 | 3994.67 | 148.52 S | 50.77 W | 0.44 |
| 4100.00 | 4 0 | S 20 0 E | 100.0 | 4094.43 | 155.10 S | 48.44 W | 0.07 |
| 4200.00 | 3 45 | S 20 0 E | 100.0 | 4194.20 | 161.45 S | 46.13 W | 0.25 |
| 4300.00 | 3 45 | S 23 0 E | 100.0 | 4293.99 | 167.53 S | 43.73 W | 0.20 |
| 4400.00 | 3 30 | S 25 0 E | 100.0 | 4393.79 | 173.31 S | 41.16 W | 0.28 |
| 4500.00 | 4 0 | S 30 0 E | 100.0 | 4493.57 | 179.11 S | 38.14 W | 0.60 |
| 4600.00 | 4 0 | S 31 0 E | 100.0 | 4593.33 | 185.12 S | 34.60 W | 0.07 |
| 4700.00 | 4 30 | S 33 0 E | 100.0 | 4693.05 | 191.40 S | 30.67 W | 0.52 |
| 4800.00 | 5 15 | S 35 0 E | 100.0 | 4792.69 | 198.45 S | 25.92 W | 0.77 |
| 4900.00 | 4 45 | S 34 0 E | 100.0 | 4892.31 | 205.63 S | 20.98 W | 0.51 |
| 5000.00 | 4 45 | S 35 0 E | 100.0 | 4991.97 | 212.46 S | 16.29 W | 0.08 |
| 5100.00 | 5 0 | S 36 0 E | 100.0 | 5091.61 | 219.37 S | 11.36 W | 0.26 |
| 5200.00 | 5 0 | S 32 0 E | 100.0 | 5191.23 | 226.60 S | 6.49 W | 0.35 |
| 5300.00 | 4 45 | S 29 0 E | 100.0 | 5290.86 | 233.92 S | 2.17 W | 0.36 |
| 5400.00 | 4 30 | S 19 0 E | 100.0 | 5390.54 | 241.27 S | 1.10 E | 0.84 |
| 5500.00 | 4 15 | S 8 0 E | 100.0 | 5490.25 | 248.68 S | 2.88 E | 0.87 |
| 5600.00 | 4 0 | S 7 0 W | 100.0 | 5589.99 | 255.85 S | 2.94 E | 1.10 |
| 5700.00 | 5 0 | S 21 0 E | 100.0 | 5689.68 | 263.56 S | 3.89 E | 2.38 |
| 5800.00 | 5 0 | S 31 0 E | 100.0 | 5789.30 | 271.39 S | 7.71 E | 0.87 |
| 5900.00 | 5 15 | S 25 0 E | 100.0 | 5888.90 | 279.27 S | 11.90 E | 0.59 |

Eastman Christensen
A PETROLANE COMPANY

MOCO PRODUCTION COMPANY — GYROSCOPIC SURVEY — COMPUTATION — PAGE NO. 3
ELL NAME: CHAMPLIN 458, E-2 — 0 FT. TO 14200 FT. — TIME 15:02:30 — DATE 26-JUL-82
OCATION: ANSCHUTZ RANCH EAST

| MEASURED DEPTH FEET | DRIFT ANGLE D M | DRIFT DIRECTION D M | COURSE LENGTH FEET | TRUE VERTICAL DEPTH FEET | RECTANGULAR COORDINATES FEET | | DOGLEG SEVERITY DG/100FT |
|---|---|---|---|---|---|---|---|
| 6000.00 | 5 0 | S 27 0 E | 100.0 | 5988.50 | 287.30 S | 15.81 E | 0.31 |
| 6100.00 | 4 45 | S 33 0 E | 100.0 | 6088.14 | 294.66 S | 20.06 E | 0.57 |
| 6200.00 | 4 0 | S 38 0 E | 100.0 | 6187.84 | 300.86 S | 24.49 E | 0.84 |
| 6300.00 | 4 0 | S 41 0 E | 100.0 | 6287.60 | 306.25 S | 28.93 E | 0.21 |
| 6400.00 | 3 45 | S 49 0 E | 100.0 | 6387.37 | 311.02 S | 33.70 E | 0.59 |
| 6500.00 | 3 45 | S 50 0 E | 100.0 | 6487.16 | 315.27 S | 38.67 E | 0.07 |
| 6600.00 | 3 45 | S 52 0 E | 100.0 | 6586.94 | 319.38 S | 43.76 E | 0.13 |
| 6700.00 | 3 45 | S 55 0 E | 100.0 | 6686.73 | 323.27 S | 49.01 E | 0.20 |
| 6800.00 | 3 30 | S 61 0 E | 100.0 | 6786.53 | 326.62 S | 54.37 E | 0.45 |
| 6900.00 | 3 45 | S 61 0 E | 100.0 | 6886.33 | 329.69 S | 59.90 E | 0.25 |
| 7000.00 | 3 45 | S 60 0 E | 100.0 | 6986.12 | 332.91 S | 65.60 E | 0.07 |
| 7100.00 | 3 30 | S 62 0 E | 100.0 | 7085.92 | 335.97 S | 71.13 E | 0.28 |
| 7200.00 | 3 30 | S 59 0 E | 100.0 | 7185.73 | 338.98 S | 76.44 E | 0.18 |
| 7300.00 | 3 15 | S 60 0 E | 100.0 | 7285.56 | 341.97 S | 81.51 E | 0.26 |
| 7400.00 | 3 0 | S 62 0 E | 100.0 | 7385.41 | 344.61 S | 86.28 E | 0.27 |
| 7500.00 | 3 0 | S 61 0 E | 100.0 | 7485.27 | 347.11 S | 90.88 E | 0.05 |
| 7600.00 | 3 0 | S 60 0 E | 100.0 | 7585.13 | 349.69 S | 95.43 E | 0.05 |
| 7700.00 | 2 45 | S 63 0 E | 100.0 | 7685.01 | 352.08 S | 99.84 E | 0.29 |
| 7800.00 | 2 30 | S 68 0 E | 100.0 | 7784.90 | 353.98 S | 104.01 E | 0.34 |
| 7900.00 | 2 15 | S 71 0 E | 100.0 | 7884.81 | 355.43 S | 107.89 E | 0.28 |
| 8000.00 | 2 15 | S 71 0 E | 100.0 | 7984.74 | 356.71 S | 111.60 E | 0.00 |
| 8100.00 | 2 15 | S 71 0 E | 100.0 | 8084.66 | 357.98 S | 115.31 E | 0.00 |
| 8200.00 | 2 30 | S 73 0 E | 100.0 | 8184.57 | 359.26 S | 119.25 E | 0.26 |
| 8300.00 | 2 30 | S 73 0 E | 100.0 | 8284.48 | 360.54 S | 123.42 E | 0.00 |
| 8400.00 | 2 15 | S 74 0 E | 100.0 | 8384.39 | 361.72 S | 127.39 E | 0.25 |
| 8500.00 | 2 0 | S 81 0 E | 100.0 | 8484.33 | 362.52 S | 131.01 E | 0.36 |
| 8600.00 | 2 0 | S 80 0 E | 100.0 | 8584.26 | 363.09 S | 134.45 E | 0.03 |
| 8700.00 | 2 0 | S 80 0 E | 100.0 | 8684.20 | 363.70 S | 137.89 E | 0.00 |
| 8800.00 | 2 0 | S 80 0 E | 100.0 | 8784.14 | 364.31 S | 141.33 E | 0.00 |
| 8900.00 | 1 45 | S 80 0 E | 100.0 | 8884.09 | 364.87 S | 144.55 E | 0.25 |

Eastman Christensen
A TELECO OILFIELD SERVICES COMPANY

AMOCO PRODUCTION COMPANY
WELL NAME: CHAMPLIN 458, E-2
LOCATION: ANSCHUTZ RANCH EAST

GYROSCOPIC SURVEY
0 FT. TO 14200 FT.

COMPUTATION
TIME 15:02:30
DATE 26-JUL-82



| MEASURED DEPTH FEET | DRIFT ANGLE D | M | DRIFT DIRECTION D | M | | COURSE LENGTH FEET | TRUE VERTICAL DEPTH FEET | RECTANGULAR COORDINATES FEET | | DOGLEG SEVERITY DG/100FT |
|---|---|---|---|---|---|---|---|---|---|---|
| 9000.00 | 2 | 0 | S 80 | 0 | E | 100.0 | 8984.04 | 365.44 S | 147.78 E | 0.25 |
| 9100.00 | 2 | 0 | S 79 | 0 | E | 100.0 | 9083.98 | 366.08 S | 151.21 E | 0.03 |
| 9200.00 | 2 | 0 | S 80 | 0 | E | 100.0 | 9183.92 | 366.71 S | 154.64 E | 0.03 |
| 9300.00 | 2 | 0 | S 76 | 0 | E | 100.0 | 9283.85 | 367.44 S | 158.05 E | 0.14 |
| 9400.00 | 1 | 45 | S 80 | 0 | E | 100.0 | 9383.80 | 368.12 S | 161.25 E | 0.28 |
| 9500.00 | 2 | 0 | S 78 | 0 | E | 100.0 | 9483.75 | 368.75 S | 164.47 E | 0.26 |
| 9600.00 | 2 | 0 | S 78 | 0 | E | 100.0 | 9583.69 | 369.47 S | 167.88 E | 0.00 |
| 9700.00 | 2 | 0 | S 78 | 0 | E | 100.0 | 9683.63 | 370.20 S | 171.30 E | 0.00 |
| 9800.00 | 2 | 0 | S 76 | 0 | E | 100.0 | 9783.57 | 370.98 S | 174.70 E | 0.07 |
| 9900.00 | 2 | 15 | S 78 | 0 | E | 100.0 | 9883.50 | 371.82 S | 178.31 E | 0.26 |
| 10000.00 | 2 | 30 | S 79 | 0 | E | 100.0 | 9983.41 | 372.64 S | 182.37 E | 0.25 |
| 10100.00 | 2 | 45 | S 74 | 0 | E | 100.0 | 10083.31 | 373.71 S | 186.82 E | 0.34 |
| 10200.00 | 3 | 0 | S 76 | 0 | E | 100.0 | 10183.18 | 375.01 S | 191.66 E | 0.27 |
| 10300.00 | 3 | 15 | S 77 | 0 | E | 100.0 | 10283.03 | 376.28 S | 196.97 E | 0.26 |
| 10400.00 | 3 | 45 | S 76 | 0 | E | 100.0 | 10382.84 | 377.71 S | 202.90 E | 0.50 |
| 10500.00 | 4 | 0 | S 73 | 0 | E | 100.0 | 10482.62 | 379.51 S | 209.41 E | 0.32 |
| 10600.00 | 4 | 0 | S 70 | 0 | E | 100.0 | 10582.37 | 381.73 S | 216.03 E | 0.21 |
| 10700.00 | 4 | 0 | S 69 | 0 | E | 100.0 | 10682.13 | 384.17 S | 222.56 E | 0.07 |
| 10800.00 | 3 | 45 | S 70 | 0 | E | 100.0 | 10781.90 | 386.54 S | 228.89 E | 0.26 |
| 10900.00 | 3 | 15 | S 66 | 0 | E | 100.0 | 10881.71 | 388.82 S | 234.55 E | 0.56 |
| 11000.00 | 2 | 30 | S 65 | 0 | E | 100.0 | 10981.59 | 390.90 S | 239.12 E | 0.75 |
| 11100.00 | 2 | 0 | S 64 | 0 | E | 100.0 | 11081.51 | 392.59 S | 242.66 E | 0.50 |
| 11200.00 | 2 | 30 | S 80 | 0 | E | 100.0 | 11181.43 | 393.80 S | 246.38 E | 0.80 |
| 11300.00 | 3 | 30 | S 89 | 0 | E | 100.0 | 11281.29 | 394.30 S | 251.58 E | 1.10 |
| 11400.00 | 5 | 0 | S 76 | 0 | E | 100.0 | 11381.02 | 395.27 S | 258.91 E | 1.77 |
| 11500.00 | 9 | 0 | S 70 | 0 | E | 100.0 | 11480.25 | 398.83 S | 270.56 E | 4.06 |
| 11600.00 | 11 | 0 | S 60 | 0 | E | 100.0 | 11578.73 | 406.16 S | 286.28 E | 2.64 |
| 11700.00 | 11 | 30 | S 66 | 0 | E | 100.0 | 11676.81 | 415.01 S | 303.65 E | 1.27 |
| 11800.00 | 11 | 45 | S 67 | 0 | E | 100.0 | 11774.75 | 423.04 S | 322.13 E | 0.32 |
| 11900.00 | 12 | 0 | S 66 | 0 | E | 100.0 | 11872.62 | 431.25 S | 341.00 E | 0.32 |

Eastman Whipstock
A PETROLANE COMPANY

...CO PRODUCTION COMPANY
...L NAME: CHAMPLIN 458, E-2
...CATION: ANSCHUTZ RANCH EAST

GYROSCOPIC SURVEY
0 FT. TO 14200 FT.

COMPUTATION
TIME 15:02:30 DATE 26-JUL-82

| MEASURED DEPTH FEET | DRIFT ANGLE D M | DRIFT DIRECTION D M | COURSE LENGTH FEET | TRUE VERTICAL DEPTH FEET | RECTANGULAR COORDINATES FEET | | DOGLEG SEVERITY DG/100FT |
|---|---|---|---|---|---|---|---|
| 12000.00 | 12 0 | S 64 0 E | 100.0 | 11970.43 | 440.04 S | 359.85 E | 0.42 |
| 12100.00 | 13 0 | S 63 0 E | 100.0 | 12068.06 | 449.69 S | 379.22 E | 1.02 |
| 12200.00 | 13 45 | S 62 0 E | 100.0 | 12165.34 | 460.37 S | 399.73 E | 0.78 |
| 12300.00 | 14 0 | S 61 0 E | 100.0 | 12262.43 | 471.82 S | 420.81 E | 0.35 |
| 12400.00 | 14 15 | S 60 0 E | 100.0 | 12359.40 | 483.83 S | 442.05 E | 0.35 |
| 12500.00 | 10 15 | S 54 0 E | 100.0 | 12457.11 | 495.38 S | 459.83 E | 4.19 |
| 12600.00 | 10 0 | S 41 0 E | 100.0 | 12555.55 | 507.23 S | 472.77 E | 2.29 |
| 12700.00 | 10 0 | S 33 0 E | 100.0 | 12654.03 | 521.09 S | 483.21 E | 1.39 |
| 12800.00 | 10 0 | S 23 0 E | 100.0 | 12752.51 | 536.40 S | 491.35 E | 1.73 |
| 12900.00 | 10 0 | S 16 0 E | 100.0 | 12850.99 | 552.76 S | 497.14 E | 1.21 |
| 13000.00 | 11 30 | S 19 0 E | 100.0 | 12949.23 | 570.55 S | 502.75 E | 1.60 |
| 13100.00 | 12 45 | S 15 0 E | 100.0 | 13047.00 | 590.63 S | 508.89 E | 1.51 |
| 13200.00 | 15 15 | S 12 0 E | 100.0 | 13144.02 | 614.15 S | 514.54 E | 2.60 |
| 13300.00 | 13 0 | S 10 0 W | 100.0 | 13240.99 | 638.40 S | 514.96 E | 5.78 |
| 13400.00 | 12 0 | S 43 0 W | 100.0 | 13338.62 | 657.50 S | 505.44 E | 7.11 |
| 13500.00 | 10 30 | S 49 0 W | 100.0 | 13436.70 | 671.05 S | 491.41 E | 1.90 |
| 13600.00 | 11 0 | S 47 0 W | 100.0 | 13534.94 | 683.53 S | 477.55 E | 0.62 |
| 13700.00 | 12 30 | S 41 0 W | 100.0 | 13632.84 | 698.17 S | 463.41 E | 1.93 |
| 13800.00 | 14 15 | S 41 0 W | 100.0 | 13730.13 | 715.63 S | 448.23 E | 1.75 |
| 13900.00 | 14 0 | S 35 0 W | 100.0 | 13827.10 | 734.85 S | 433.22 E | 1.48 |
| 14000.00 | 15 30 | S 17 0 W | 100.0 | 13923.80 | 757.64 S | 422.10 E | 4.80 |
| 14100.00 | 15 30 | S 18 0 W | 100.0 | 14020.17 | 783.12 S | 414.07 E | 0.27 |
| 14200.00 | 16 0 | S 11 0 W | 100.0 | 14116.41 | 809.39 S | 407.27 E | 1.96 |

FINAL CLOSURE - DIRECTION: S 26 DEGS 42 MINS 40 SECS E
DISTANCE: 906.08 FEET

Eastman Whipstock
A PETROLANE COMPANY

# STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

**5.LEASE DESIGNATION AND SERIAL NUMBER:** FEE

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:** ANSCHUTZ RANCH EAST

**1. TYPE OF WELL** Gas Well

**8. WELL NAME and NUMBER:** ARE W31-04E

**2. NAME OF OPERATOR:** MERIT ENERGY COMPANY

**9. API NUMBER:** 43043301650000

**3. ADDRESS OF OPERATOR:** 13727 Noel Rd Ste 500 , Dallas, TX, 75240

**PHONE NUMBER:** 972 628-1540 Ext

**9. FIELD and POOL or WILDCAT:** ANSCHUTZ RANCH EAST

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:** 0111 FNL 0737 FWL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:** Qtr/Qtr: NWNW Section: 31 Township: 04.0N Range: 08.0E Meridian: S

**COUNTY:** SUMMIT

**STATE:** UTAH

**11.** CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ✓ NOTICE OF INTENT Approximate date work will start: 8/1/2012 | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| ☐ SUBSEQUENT REPORT Date of Work Completion: | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ✓ PLUG AND ABANDON | ☐ PLUG BACK |
| ☐ SPUD REPORT Date of Spud: | ☐ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| ☐ DRILLING REPORT Report Date: | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ☐ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**

Merit requests approval to permanently plug & abandon this well as detailed in the attached procedure.

**Approved by the Utah Division of Oil, Gas and Mining**

**Date:** June 21, 2012

**By:** Dark K Quist

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Arlene Valliquette | 972 628-1558 | Regulatory Manager |
| **SIGNATURE** N/A | | **DATE** 5/10/2012 |

RECEIVED: May. 10, 2012

**The Utah Division of Oil, Gas, and Mining**

**- State of Utah**
**- Department of Natural Resources**

**Electronic Permitting System - Sundry Notices**

## Sundry Conditions of Approval Well Number 43043301650000

**1. Notity the Division at least 24 hours prior to conducting abandonment operations. Please call Dan Jarvis at 801-538-5338.**

**2. Amend Plug #4: This plug shall be an inside/outside plug. RIH and perforate 7" and 9 5/8" @ 5535'. RIH with CICR and set at 5485'. Sting into CICR and establish circulation down the 7" casing back up the 7" x 9 5/8" annulus. Close 9 5/8" casing valve and attempt to establish injection into 9 5/8" perfs. If injection into the 9 5/8" perfs cannot be established: M&P 40 sx cement, sting into CICR pump 25sx, sting out and dump 15 sx on top of CICR. If injection is established: M&P 90 sx cement, sting into CICR, open 9 5/8" casing valve, pump 59 sx, close 9 5/8" casing valve and pump 15 sx into perfs, sting out and dump 15 sx on top of CICR. This will isolate the Aspen/Bear River zones.**

**3. Amend Plug #5: An attempt to squeeze the 9 5/8" x 13 5/8" annulus should be attempted. Sting into CICR and establish circulation down the 7" casing back up the 7" x 9 5/8" annulus. Close 9 5/8" and open 13 3/8" casing valve and attempt to establish circulation into 9 5/8" x 13 3/8" annulus. If injection into latter annulus is established: M&P 75 sx cement, sting into CICR, pump 39 sx into 9 5/8" annulus, open 9 5/8" and close 13 3/8"casing valve and pump 11 sx into 7" annulus, sting out and dump 25 sx on top of CICR as proposed. This will isolate the surface shoe and Base of Moderately Saline Ground Water.**

**4. Amend Plug #6: All annuli shall be cemented from a minimum depth of 100' to the surface. Perf. 7" & 9 5/8" @ 100' and circulate cement to surface (±60sx).**

**5. Surface reclamation shall be done in accordance with R649-3-34 - Well Site Restoration.**

**6. All requirements in the Oil and Gas Conservation General Rule R649-3-24 shall apply.**

**7. If there are any changes to the procedure or the wellbore configuration, notity Dustin Doucet at 801-538-5281 (of c) or 801-733-0983 (home) prior to continuing with the procedure.**

**8. All other requirements for notice and reporting in the Oil and Gas Conservation general rules shall apply.**

RECEIVED: Jun. 21, 2012

6/21/2012

# Wellbore Diagram

r263

**API Well No:** 43-043-30165-00-00 **Permit No:** **Well Name/No:** ARE W31-04E

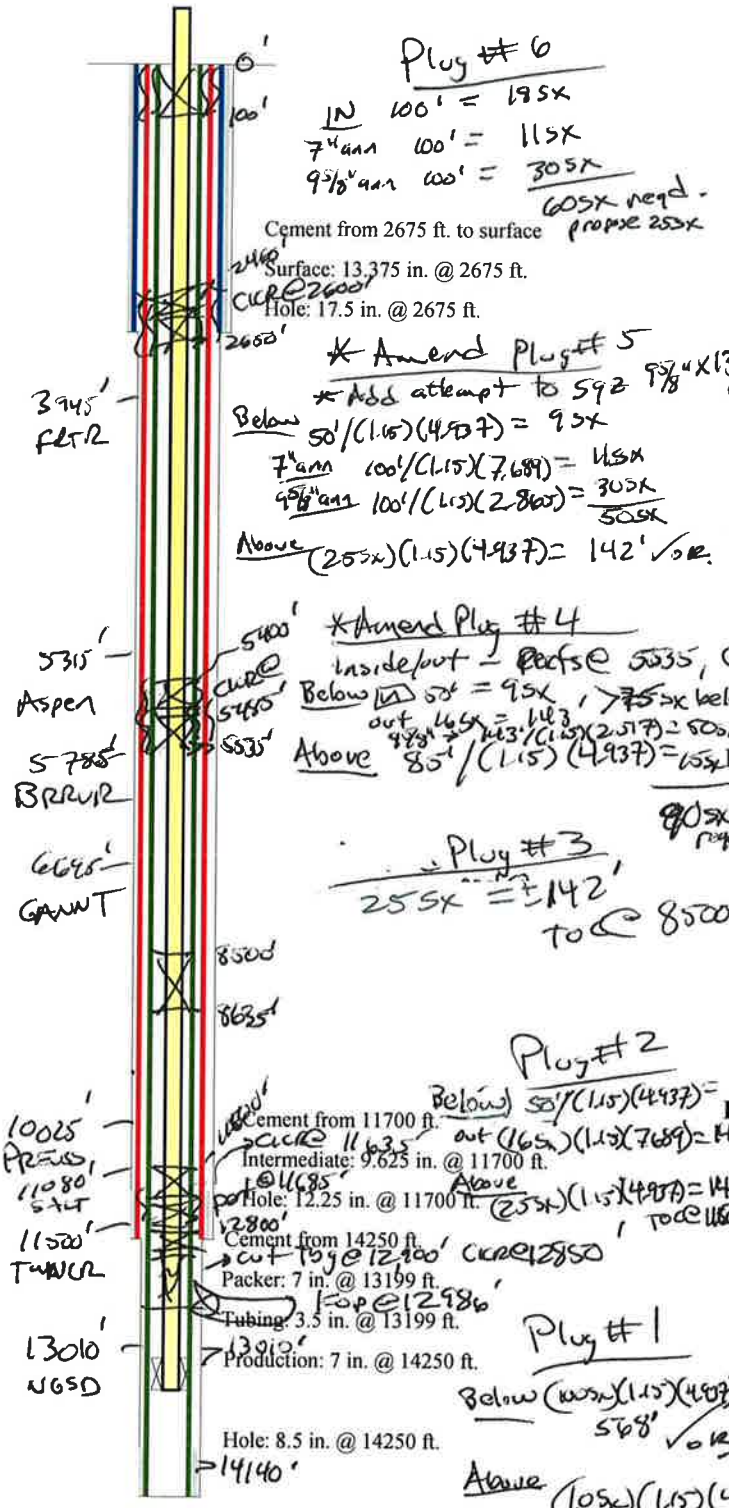
**Company Name:** MERIT ENERGY COMPANY

**Location:** Sec: 31 T: 4N R: 8E Spot: NWNW

**Coordinates:** X: 492276 Y: 4543723

**Field Name:** ANSCHUTZ RANCH EAST

**County Name:** SUMMIT




## String Information

| String | Bottom (ft sub) | Diameter (inches) | Weight (lb/ft) | Length (ft) | Capacity (f/cf) |
|---|---|---|---|---|---|
| HOL1 | 2675 | 17.5 | | | |
| SURF | 2675 | 13.375 | 61 | | 2.517 |
| HOL2 | 11700 | 12.25 | | | |
| I1 | 11700 | 9.625 | 53.5 | | 4.937 |
| HOL3 | 14250 | 8.5 | | | |
| PROD | 14250 | 7 | 32 | | |
| PKR | 13199 | 7 | | | |
| T1 | 13199 | 3.5 | | | |

12 1/4" x 9 5/8" (108) → 2062
5 7/8" (108) → 4.390
7" x 9 5/8" → 7.689
9 5/8" x 13 3/8" → 2.865

## Cement Information

| String | BOC (ft sub) | TOC (ft sub) | Class | Sacks |
|---|---|---|---|---|
| I1 | 11700 | Est 6500' | UK | 2200 |
| PROD | 14250 | ± 11,000' | UK | 325 |
| SURF | 2675 | 0 | UK | 2336 |

## Perforation Information

| Top (ft sub) | Bottom (ft sub) | Shts/Ft | No Shts | Dt Squeeze |
|---|---|---|---|---|
| 13010 | 14140 | | | |

## Formation Information

| Formation | Depth |
|---|---|
| FRTR | 3945 |
| ASPEN | 5315 |
| BRRVR | 5785 |
| GANNT | 6695 |
| PREUS | 10025 |
| PRES | 11080 |
| TWNCR | 11500 |
| NGSD | 13010 |
| ANKH | 14271 |

**ARE W31-04**
**Sec. 31-T4N-R7E**
**Summit County, Utah**
**API #43-043-30165**
**3/8/2011**

**Plug & Abandon**

**Well Data**

Tubing: mixed string, see tbg detail – as run in 1999
Production Casing: 7", 23, 26, 32, and 35#, N-80 & S-95, & 5-7/8" OH section
TD: 14,271'
PBTD: 13,998' (Top of Fish – Baker PayZone Pkr)
Elevation: 7,926' KB 7,894' GL

1. Test anchors. MIRU PU.
2. ND WH and NU BOP.
3. RU WL and chemically cut tbg @ 12,900'. POOH LD.
4. RIH w/ cement retainer and set @ 12,850'.
5. PU 2-7/8" WS, sting into retainer, and pump 100 sxs cmt below and 10 sxs on top.
6. Perf csg @ 11,685'. RIH w/ cmt retainer and set @ 11,635'. Pmp 25 sxs cmt below the retainer and 25 sxs on top.
7. Mud up and then pump a cmt stabilizer plug w/ 25 sxs from 8,635' – 8,535'.
8. Mud up and then pump a cmt stabilizer plug w/ 25 sxs from 5,535' – 5,435'.
9. Perf csg @ 2,650'. RIH w/ cmt retainer and set @ 2,600'. Pmp 25 sxs cmt below the retainer and 25 sxs on top.
10. Spot 100' plug 100' to surface with 25 sxs cmt.
11. Abandon well. Cut off WH and csg. Weld on cap. RDMOL. Clean and reclaim location.

RECEIVED: May. 10, 2012

**WELL NAME:** **ARE W31-04**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| COUNTY: | SUMMIT | ST: | UT | FIELD: | Anschutz Ranch East | TD: | 14,478' |
| QTR QTR: | NWNW | SEC: | 31 | API #: | 43-043-30165 | PBTD: | 13,970' |
| UPDATED: | 07/20/09 | TWN: | 4N | SPUD DATE: | 01/16/82 | KB: | 7,926' |
| UPDATED BY: | NICK TUNNELL | RNG: | 8E | MAX TEMP: | °F | GL: | 7,894' |

**CASING DETAILS**

| PURPOSE | TOC | CMT | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|---|---|
| SURFACE | SURF | 2336 SX | 13-3/8" | 54.5 & 61# | J&K-55 & S-80 | 2,672' |
| INTERMEDIATE | | 2200 SX | 9-5/8 & 9-7/8" | 40,43,47,53.5,62.8# | S&CVS-95 & S-105 | 11,695' |
| PRODUCTION | | 325 SX | 7" | 23, 26, 32, &35# | N-80 & S-95 | 14,271' |

**TUBING DETAILS**

| DESCRIPTION | SIZE | WEIGHT | GRADE | SET DEPTH |
|---|---|---|---|---|
| CAMERON EXT NECK TBG HANGER | | | | 30.50' |
| TUBING SUB | 3-1/2" | 12.7# | VAM | 32.10' |
| 1 JT TUBING | 3-1/2" | 12.7# | VAM | 65.37' |
| TUBING SUB | 3-1/2" | 12.7# | VAM | 73.54' |
| 8 JTS TUBING | 3-1/2" | 12.7# | VAM | 326.92' |
| OTIS "R" PROFILE NIPPLE | 2.56" ID | | | 328.15' |
| 397 JTS TUBING | 3-1/2" | 12.7# | VAM | 12,857.90' |
| X-OVER | 4-1/2" X 3-1/2" | 13.5# X 12.7# | VAM PIN X VAM BOX | 12,858.78' |
| X-OVER | 4" X 4-1/2" | 14 X 13.5# | HT-38 PIN X VAM BOX | 12,860.00' |
| DRILL PIPE | 4" | 14# | HT-38 | |
| X-OVER | 3-1/2" X 4" | | | |
| 1 JT TUBING | 3-1/2" | | | |
| X-OVER | 2-7/8" X 3-1/2" | | EUE X VAM | |
| TUBING SUB | 2-7/8" | | EUE L-80 | |
| LANDING COLLAR | 2-7/8" | | | |
| X-OVER | 2-7/8" X 2-7/8" | | EUE X SEAL LOCK | |
| BAKER PAYZONE PKR | | | | 14000' |
| 1 JT TUBING | 2-7/8" | | EUE P-110 | |
| DUAL CHECK VALVES | | | | |
| | | | | |

**Based on pull-run dated 11/10/1999**

**PERFORATIONS**

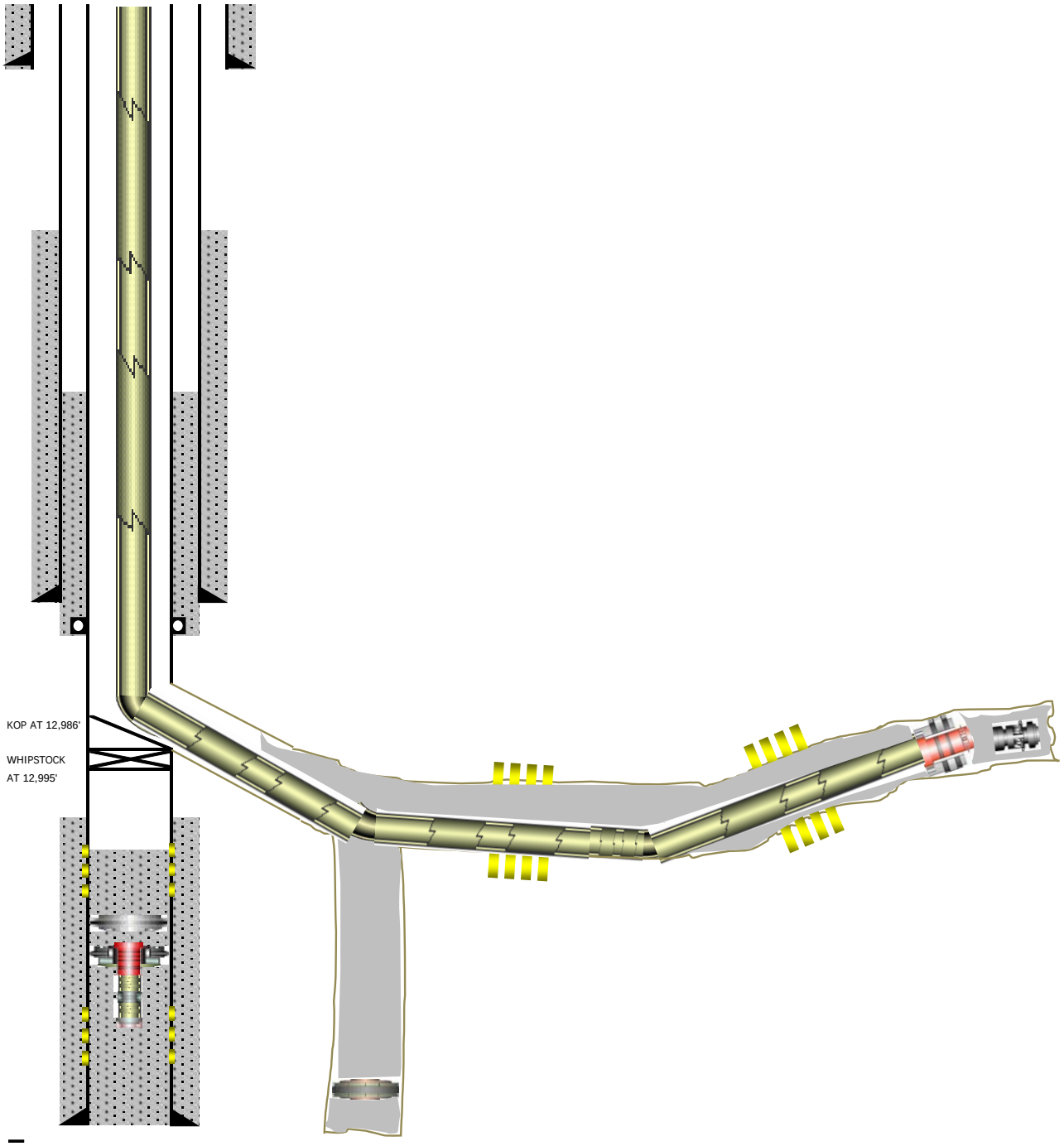
| DATE | TOP | BOTTOM | GROSS | HOLES | SPF |
|---|---|---|---|---|---|
| 1/1/4/2000 | **13,310'** | **13,460'** | **150'** | 600 | 4 |
| 1/13/2000 | **13,820'** | **13,970'** | **150'** | 600 | 4 |
| 7/19/1996 | ***13,014'*** | ***13,034'*** | ***20'*** | SQUEEZED | 4 |
| 10/31/1985 | ***13,055'*** | ***13,096'*** | ***41'*** | SQUEEZED | 4 |
| 10/31/1985 | ***13,111'*** | ***13,128'*** | ***17'*** | SQUEEZED | 4 |
| 10/31/1985 | ***13,138'*** | ***13,187'*** | ***49'*** | SQUEEZED | 4 |
| 10/31/1985 | ***13,200'*** | ***13,232'*** | ***32'*** | SQUEEZED | 4 |
| 11/8/1982 | ***13,290'*** | ***13,356'*** | ***66'*** | SQUEEZED | 4 |
| 7/19/1996 | ***13,350'*** | ***13,370'*** | ***20'*** | SQUEEZED | 4 |
| 11/8/1982 | ***13,376'*** | ***13,450'*** | ***74'*** | SQUEEZED | 4 |
| 7/19/1996 | ***13,458'*** | ***13,478'*** | ***20'*** | SQUEEZED | 4 |
| 7/19/1996 | ***13,510'*** | ***13,530'*** | ***20'*** | SQUEEZED | 4 |
| 11/8/1982 | ***13,588'*** | ***13,630'*** | ***42'*** | SQUEEZED | 4 |
| 11/8/1982 | ***13,660'*** | ***13,760'*** | ***100'*** | SQUEEZED | 4 |
| 9/26/1982 | ***13,790'*** | ***13,850'*** | ***60'*** | SQUEEZED | 4 |
| 9/26/1982 | ***13,874'*** | ***13,932'*** | ***58'*** | SQUEEZED | 4 |
| 11/3/1982 | ***14,030'*** | ***14,070'*** | ***40'*** | SQUEEZED | 4 |
| 11/3/1982 | ***14,100'*** | ***14,140'*** | ***40'*** | SQUEEZED | 4 |
| | | | | | |

| **FORMATION TOPS** | |
|---|---|
| ASPEN | 5,315' |
| BEAR RIVER | 5,785' |
| GANNET | 6,695' |
| PREUSS | 10,025' |
| TOP SALT | 11,080' |
| BASE SALT | |
| TWIN CREEK | 11,500' |
| WATTON CANYON | |
| BOUNDRY RIDGE | |
| RICH | |
| SLIDE ROCK | |
| GYPSUM SPRINGS | |
| NUGGET | 12,998' |

**NOTES:** **SIDETRACK 5-7/8" HOLE. SEE AMOCO WBD FIGURE FOR ADDITIONAL DETAILS. REQUESTED APPROVAL IN EARLY 2000 TO PERFORATE 13,050' - 13,200'. NO REPORTS OF WHETHER WORK WAS COMPLETED.**

RECEIVED: May. 10, 2012

MERIT ENERGY COMPANY




RECEIVED: May. 10, 2012

MERIT ENERGY COMPANY

13727 Noel Road · Suite 500 · Dallas, Texas 75240
Ph 972.701.8377 · Fx 972.960.1252 · www.meritenergy.com

October 30, 2012

RECEIVED
NOV 01 2012
DIV. OF OIL, GAS & MINING

Mr. Clinton Dworshak
Utah Department of Natural Resources
Division of Oil, Gas & Mining
1594 W. North Temple, Suite 1210
Salt Lake City, UT 84114-

RE: 2013 Plugging and/or Reactivation Well Plan
Merit Energy Company

Dear Mr. Dworshak,

This letter is written to follow up our April 26, 2012 meeting in your office regarding shut in and temporarily abandoned wells operated by Merit Energy Company. As discussed in that meeting, Merit will be plugging the wells listed below by the end of the 2012 calendar year.

| | | |
|---|---|---|
| ARE W 31-04 | API 4304330165 | Sec 31-T4N-R8E |
| ARE W 31-12 | API 4304330190 | Sec 31-T4N-R8E |
| ARE W 16-12 | API 4304330231 | Sec 16-T4N-R8E |
| ARE W 17-16 | API 4304330176 | Sec 17-T4N-R8E |

Merit is also in the process of applying for approval to convert the Champlin 372 C 1 well to a salt water disposal. Merit has identified the wells on the enclosed list as candidates for plugging or reactivation by the end of the 2013 calendar year. Please be aware as Merit continues its review of the wells on the Extended Shut in and Temporarily Abandoned Well List we may identify potential in other wells which we may want to substitute for wells on the enclosed list.

Merit truly appreciated the opportunity to meet you and your staff in April. If you have any questions regarding the enclosed list or Merit's operations, please contact me at (972) 628-1558 or Kreg Hadley at (972) 628-1617.

Sincerely,

MERIT ENERGY COMPANY

Arlene Valliquette

Arlene Valliquette
North Division Regulatory Manager

Enclosure

Cc: Dustin Doucet – Utah DOGM
Randy Sanders – Evanston, Wyoming
Neil Nadrash – Dallas, Texas
Kreg Hadley – Dallas, Texas

# PROBABLE REACTIVATIONS; POSSIBLE P&A'S

**Well Name: ARE W 20-09**
API: 43-043-30286
Summit County, Utah
Perfs: 11,742' – 13,821'

The 20-09 was completed in the Nugget in 1988 and has cummed 590 MBO, 30.1 BCF, and 587 MBW. This well is currently SI with a conventional gas lift with a "go" system. Due to the structural position of this well (very high), Merit hopes to reactivate this well.

**Well Name: ARE W 20-06**
API: 43-043-30159
Summit County, Utah
Perfs: 13,008' – 13,860'

The 20-06 was completed in the Nugget in 1982 and has cummed 4.1 MBO, 81.8 BCF, and 152 MBW. This well is currently SI w/ 2-7/8" tbg in the hole w/ pkr at 12,898'. This well is in a good structural position within the field and based on the relatively low volumes of water this well has produced comparably, Merit hopes to reactivate this well.

**Well Name: ARE W 20-08**
API: 43-043-30123
Summit County, Utah
Perfs: 11,900' – 12,647' (OA)

The 20-08 was completed in the Nugget in 1981 and has cummed 534 MBO, 31.5 BCF, and 1.2 MMBW. This well is currently SI with a 2-7/8" poor boy gas lift system. The 20-08 has a conventional gas lift system with a hole punched in the tbg @ 10,250'. Due to the high structural positioning of this well, it is likely that this well will be further evaluated for water shut-off and reactivation.

**Well Name: ARE W 20-12**
API: 43-043-30220
Summit County, Utah
Perfs: 12,928' – 13,117'

The 20-12 was completed in the Nugget in 1983 and has cummed 5.6 MMBO, 127 BCF, and 742 MBW. This well is currently SI with a 2-3/8" conventional gas lift system. This well is in a good structural position in the field and exhibits SI pressures that would indicate remaining production potential given proper evaluation into water shut-off for reactivation.

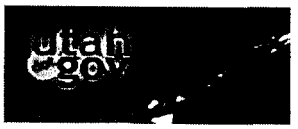
# PROBABLE P&A'S

**Well Name: ARE W 16-14**
API: 43-043-30096
Summit County, Utah
Perfs: 12,816' – 13,515'

The 16-14 was spud in March 1979 and brought online as a Nugget producer. The 16-14 IP'd @ 195 bopd, 940 mcfpd, and 5 bwpd. The ARE W 16-14 cummed 15 MBO, 5 BCF, and 50 MBW. Several zones were perf'd, acidized, produced, and then abandoned due to high water volumes. In addition, the 16-14 was converted numerous times from a producer to an injector and vice versa. There are not any active wells in section 16. The ARE W 16-14 would not prove to be the most beneficial reactivation candidate. With all of the combined pieces of information, Merit will proceed with the P&A of this well.

**Well Name: ARE E 21-14**
API: 43-043-30130
Summit County, Utah
Perfs: 10,880' – 11,650'

The 21-14 was originally completed in the Nugget in 1981 and has cummed 56 MBO, 722.5 BCF, and 258 BW. This well was plugged back and recompleted in the Twin Creek formation in 1991 due to poor production. Due to the extremely inferior positioning on the structure for this well, coupled with the fact that the Twin Creek does not appear to hold any future potential in this area either, Merit will likely proceed with the P&A of this well.



Lisha Cordova< lishacordova@utah.gov>

## rig 24s daily report 12-10-12

1 message

**Darie Roehm** < darieroehm@yahoo.com> Mon, Dec 10, 2012 at 6:46 PM
Reply-To: Darie Roehm <darieroehm@yahoo.com>
To: Aron Rescon <aronrt@hotmail.com>, Adam Chastain <achastainwws@gmail.com>, Amy Benton <abenton@magnaes.com>, Ryan <rludwar@magnaes.com>, Dave Rebol <daverebol@hotmail.com>, Randy Sanders <randy.sanders@meritenergy.com>, Harlin Hodge <harlinhodge@hotmail.com>, Joe Sevenski <joseph.sevenski@meritenergy.com>, Kathy <dkama@kci.net>, Lisha Cordova <lishacordova@utah.gov>, Mel Wren <mel.wren@meritenergy.com>, Chad Vannest <chadvannest@hotmail.com>

# MAGNA ENERGY SERVICE RIG 24

| DATE | LOCATION |
|---|---|
| 12-10-12 | ARE W31-04 |

## SUMMARY

43-043-30165
Sec. 31, T4N, R8E, Summit County, Ut

| |
|---|
| 4:00-Crew travel to Evanston Wyoming-pick up rig cloths-drive to rig |
| 12:00-JSA meeting-Start equipment |
| 1:30-Spot in & rig up-take sales line apart |
| 5:30 Shut down-secure well & rig |
| 6:00-Crew travel |
| 7:00 |

| NAMES | HOURS | SUBSISTANCE |
|---|---|---|
| Darie Roehm | 14 | Yes |
| Tommy Obrian | 17 | Yes |
| Berry Knoke | 15 | Yes |
| Jason Grassord | 17 | Yes |
| Jason Wier | 15 | yes |
| | | |

## NOTES

| |
|---|
| Head south out of Evanston on county rd 151 20 miles (stay on the pavement all the way to the Marit Energy gas plant)-go past old guard shack, go straight onto dirt road-go ½ mile turn right at the y-go to the next y and take a left down the hill and stat to the left-drive 4 miles and take a right into location |

Lisha Cordova< lishacordova@utah.gov>

## rig 24s daily report 12-11-12

1 message

**Darie Roehm** < darieroehm@yahoo.com> Tue, Dec 11, 2012 at 8:05 PM
Reply-To: Darie Roehm <darieroehm@yahoo.com>
To: Aron Rescon <aronrt@hotmail.com>, Adam Chastain <achastainwws@gmail.com>, Amy Benton <abenton@magnaes.com>, Ryan <rludwar@magnaes.com>, Dave Rebol <daverebol@hotmail.com>, Randy Sanders <randy.sanders@meritenergy.com>, Harlin Hodge <harlinhodge@hotmail.com>, Joe Sevenski <joseph.sevenski@meritenergy.com>, Kathy <dkama@kci.net>, Lisha Cordova <lishacordova@utah.gov>, Chad Vannest <chadvannest@hotmail.com>, Mel Wren <mel.wren@meritenergy.com>

# MAGNA ENERGY SERVICE RIG 24

| DATE | LOCATION |
|---|---|
| 12-11-12 | ARE W31-04 |

## SUMMARY

6:00-Crew travel-JSA meeting
7:00-Blow down tbg-Nd wellhead-Nu BOP-Ru floor
10:00-Get pipe racks & 2 3/8 tbg off of the last location-spot in pipe racks-wait for wireline in the morning
1:30-Shut well in-secure rig & location
2:00-Crew travel
3:00

| NAMES | HOURS | SUBSISTANCE |
|---|---|---|
| Darie Roehm | 9 | Yes |
| Tommy Obrian | 11 | Yes |
| Berry Knoke | 9 | Yes |
| Jason Grassord | 9 | Yes |
| Jason Wier | 9 | yes |
| | | |

## NOTES

Head south out of Evanston on county rd 151 20 miles (stay on the pavement all the way to the Marit Energy gas plant)-go past old guard shack and turn left onto dirt road-go ½ mile turn right at the y-go to the next y and take a left down the

# rig 24s daily report 12-12-12

**Darie Roehm** <darieroehm@yahoo.com> Wed, Dec 12, 2012 at 8:19 PM
Reply-To: Darie Roehm <darieroehm@yahoo.com>
To: Aron Rescon <aronrt@hotmail.com>, Adam Chastain <achastainwws@gmail.com>, Amy Benton <abenton@magnaes.com>, Ryan <rludwar@magnaes.com>, Dave Rebol <daverebol@hotmail.com>, Randy Sanders <randy.sanders@meritenergy.com>, Harlin Hodge <harlinhodge@hotmail.com>, Joe Sevenski <joseph.sevenski@meritenergy.com>, Kathy <dkama@kci.net>, Lisha Cordova <lishacordova@utah.gov>, Mel Wren <mel.wren@meritenergy.com>, Chad Vannest <chadvannest@hotmail.com>

# MAGNA ENERGY SERVICE RIG 24

| DATE | LOCATION |
|---|---|
| 12-12-12 | ARE W31-04 |

## SUMMARY

6:00-Crew travel-JSA meeting
7:00-Ru wireline-RIH with junk basket (2.5 OD) to 13,000'-RIH with 2.5 OD jet cutter-pull 12k over on the tbg, cut tbg @12857'-get wireline out of the hole
10:30-Try to working tbg free-would not come free
1:30-Make up split shot on wireline-RIH log cut tbg-pull halfway out of hole-wait on elevators
4:00-Put new elevators on-run back in the hole with wireline-pull 18k over on the tbg-shoot tbg splitter @12845'-wireline stuck, try to work tbg-work wireline till it got free-get out of the hole
6:00-Work tbg a couple times-shut well in-secure rig & location
7:00-Crew travel
8:00

| NAMES | HOURS | SUBSISTANCE |
|---|---|---|
| Darie Roehm | 14 | Yes |
| Tommy Obrian | 14 | Yes |
| Berry Knoke | 14 | Yes |
| Jason Grassord | 14 | Yes |
| Jason Wier | 14 | yes |
| | | |

# rig 24s daily report 12-13-12

**Darie Roehm** <darieroehm@yahoo.com> Thu, Dec 13, 2012 at 9:51 PM
Reply-To: Darie Roehm <darieroehm@yahoo.com>
To: Aron Rescon <aronrt@hotmail.com>, Adam Chastain <achastainwws@gmail.com>, Amy Benton <abenton@magnaes.com>, Ryan <rludwar@magnaes.com>, Dave Rebol <daverebol@hotmail.com>, Randy Sanders <randy.sanders@meritenergy.com>, Harlin Hodge <harlinhodge@hotmail.com>, Kathy <dkama@kci.net>, Joe Sevenski <joseph.sevenski@meritenergy.com>, Lisha Cordova <lishacordova@utah.gov>, Mel Wren <mel.wren@meritenergy.com>, Chad Vannest <chadvannest@hotmail.com>

# MAGNA ENERGY SERVICE RIG 24

| DATE | LOCATION |
|---|---|
| 12-13-12 | ARE W31-04 |

## SUMMARY

6:00-Crew travel-JSA meeting
7:00-Ru deadline indicator and compare with the rig indicator (could not tell witch one was correct)
8:30-Send rig hand to get new deadline indicator-adjust brakes on rig-change all fluids on rig & maintenance all other equipment-work tbg
3:45-Put new deadline indicator on (still not reading correct)-make phone calls to figure out the problem
5:15-Take weight indicator & pads off of rig-shut well in-secure rig & location
6:00-Crew travel
7:00

| NAMES | HOURS | SUBSISTANCE |
|---|---|---|
| Darie Roehm | 18 | Yes |
| Tommy Obrian | 17 | Yes |
| Berry Knoke | 13 | Yes |
| Jason Grassord | 13 | Yes |
| Jason Wier | 13 | yes |
| | | |

## NOTES

# rig 24s daily report 12-14-12

**Darie Roehm** <darieroehm@yahoo.com> Fri, Dec 14, 2012 at 7:11 PM
Reply-To: Darie Roehm <darieroehm@yahoo.com>
To: Aron Rescon <aronrt@hotmail.com>, Adam Chastain <achastainwws@gmail.com>, Amy Benton <abenton@magnaes.com>, Ryan <rludwar@magnaes.com>, Dave Rebol <daverebol@hotmail.com>, Randy Sanders <randy.sanders@meritenergy.com>, Harlin Hodge <harlinhodge@hotmail.com>, Joe Sevenski <joseph.sevenski@meritenergy.com>, Kathy <dkama@kci.net>, Lisha Cordova <lishacordova@utah.gov>, Mel Wren <mel.wren@meritenergy.com>, Chad Vannest <chadvannest@hotmail.com>

# MAGNA ENERGY SERVICE RIG 24

| DATE | LOCATION |
|---|---|
| 12-14-12 | ARE W31-04 |

## SUMMARY

6:00-Crew travel-JSA meeting
7:00-Put new weight indicator & pads on (weight read the same as my last indicator)-try some stretch calculations
9:00-Ru wireline-RIH with free point-@4000' ft made sure tool would work (12761' ft 20% free/11365' ft 6% free ?/11324' ft 0% free?/10940' ft ?/4000' ft ?)-free point not reading right-POOH-fix tool-RIH to 4000' ft to see if tools would work (still did not work)-POOH
2:20-Wait on decisions
4:00-Shut well in-secure rig & location
4:30-Crew travel
5:30

| NAMES | HOURS | SUBSISTANCE |
|---|---|---|
| Darie Roehm | 12.5 | Yes |
| Tommy Obrian | 11.5 | Yes |
| Berry Knoke | 11.5 | Yes |
| Jason Grassord | 11.5 | Yes |
| Jason Wier | 11.5 | yes |
| | | |

## NOTES

# rig 24s daily report 12-15-12

**Darie Roehm** <darieroehm@yahoo.com> Sat, Dec 15, 2012 at 8:51 PM
Reply-To: Darie Roehm <darieroehm@yahoo.com>
To: Aron Rescon <aronrt@hotmail.com>, Adam Chastain <achastainwws@gmail.com>, Amy Benton <abenton@magnaes.com>, Ryan <rludwar@magnaes.com>, Dave Rebol <daverebol@hotmail.com>, Randy Sanders <randy.sanders@meritenergy.com>, Harlin Hodge <harlinhodge@hotmail.com>, Joe Sevenski <joseph.sevenski@meritenergy.com>, Kathy <dkama@kci.net>, Lisha Cordova <lishacordova@utah.gov>, Mel Wren <mel.wren@meritenergy.com>, Chad Vannest <chadvannest@hotmail.com>

# MAGNA ENERGY SERVICE RIG 24

| DATE | LOCATION |
|---|---|
| 12-15-12 | ARE W31-04 |

## SUMMARY

6:00-Crew travel-JSA meeting
7:00-Ru wireline-RIH with free point (Test-4000' 100%/12355' ft 35%/12760' ft 35%/12819' ft 30%/12836' ft 10%/12000' ft 50%/12760' ft 35%)-POOH
10:45-RIH with 2" split shot-pull 190k and shoot SS off @12750' ft-didn't see any weight loss on indicator-POOH with wireline
11:45-Start working tbg
1:20-RIH with 2" drift to push part of the split shot to bottom
2:15-Work tbg the rest of the day
4:00-Shut well in-secure rig & location
4:30-Crew travel
5:30

| NAMES | HOURS | SUBSISTANCE |
|---|---|---|
| Darie Roehm | 11.5 | Yes |
| Tommy Obrian | 11.5 | Yes |
| Berry Knoke | 11.5 | Yes |
| Jason Grassord | 11.5 | Yes |
| Jason Wier | 11.5 | yes |
| | | |

## NOTES

# rig 24s daily report 12-16-12

**Darie Roehm** <darieroehm@yahoo.com> Sun, Dec 16, 2012 at 7:30 PM
Reply-To: Darie Roehm <darieroehm@yahoo.com>
To: Aron Rescon <aronrt@hotmail.com>, Adam Chastain <achastainwws@gmail.com>, Amy Benton <abenton@magnaes.com>, Ryan <rludwar@magnaes.com>, Dave Rebol <daverebol@hotmail.com>, Randy Sanders <randy.sanders@meritenergy.com>, Harlin Hodge <harlinhodge@hotmail.com>, Joe Sevenski <joseph.sevenski@meritenergy.com>, Kathy <dkama@kci.net>, Lisha Cordova <lishacordova@utah.gov>, Mel Wren <mel.wren@meritenergy.com>, Chad Vannest <chadvannest@hotmail.com>

# MAGNA ENERGY SERVICE RIG 24

| DATE | LOCATION |
|---|---|
| 12-16-12 | ARE W31-04 |

## SUMMARY

6:00-Crew travel-JSA meeting
7:00-Ru wireline-free point (7000' 100%/8945' 72%/10470' 62%/11742' 46%/12485' 55%/12649' 48%)-POOH-RIH with 2.5" jet cutter-cut tbg @12650'
11:50-Start working tbg-10 mins of working tbg it came free-lay down pup jt & rig down wireline
12:30-Ru lay down line-start laying down 3 ½ tbg on pipe racks (got 174 jts laid down)
5:20-Shut well in-secure rig & location
6:00-Crew travel
7:00

| NAMES | HOURS | SUBSISTANCE |
|---|---|---|
| Darie Roehm | 13 | Yes |
| Tommy Obrian | 13 | Yes |
| Berry Knoke | 13 | Yes |
| Jason Grassord | 13 | Yes |
| Jason Wier | 13 | yes |
| | | |

## NOTES

# rig 24s daily report 12-17-12

**Darie Roehm** <darieroehm@yahoo.com> Mon, Dec 17, 2012 at 6:52 PM
Reply-To: Darie Roehm <darieroehm@yahoo.com>
To: Aron Rescon <aronrt@hotmail.com>, Adam Chastain <achastainwws@gmail.com>, Amy Benton <abenton@magnaes.com>, Ryan <rludwar@magnaes.com>, Dave Rebol <daverebol@hotmail.com>, Randy Sanders <randy.sanders@meritenergy.com>, Harlin Hodge <harlinhodge@hotmail.com>, Joe Sevenski <joseph.sevenski@meritenergy.com>, Kathy <dkama@kci.net>, Lisha Cordova <lishacordova@utah.gov>, Mel Wren <mel.wren@meritenergy.com>, Chad Vannest <chadvannest@hotmail.com>

# MAGNA ENERGY SERVICE RIG 24

| DATE | LOCATION |
|---|---|
| 12-17-12 | ARE W31-04 |

## SUMMARY

6:00-Crew travel-get crew ride unstuck out of a 4 ft drift with the backhoe-JSA meeting
7:45-Finish laying down 3 ½ tbg on pipe racks-came out with 398 jts and 15 ft
12:50-Finish moving 3 ½ tbg off of pipe racks-change out all handling equipment to 2 3/8-put 98 jts of 2 3/8 tbg on pipe racks-wireline in the morning
2:00-Shut well in-secure rig & location
2:30-Crew travel
3:00

| NAMES | HOURS | SUBSISTANCE |
|---|---|---|
| Darie Roehm | 9.5 | Yes |
| Tommy Obrian | 9.5 | Yes |
| Berry Knoke | 9.5 | Yes |
| Jason Grassord | 9.5 | Yes |
| Jason Wier | 9.5 | yes |
| | | |

## NOTES

Head south out of Evanston on county rd 151 20 miles (stay on the pavement all the way to the Marit Energy gas plant)-go past old guard shack and turn left onto

# rig 24s daily report 12-18-12

**Darie Roehm** <darieroehm@yahoo.com>
Reply-To: Darie Roehm <darieroehm@yahoo.com>
To: Aron Rescon <aronrt@hotmail.com>, Adam Chastain <achastainwws@gmail.com>, Amy Benton <abenton@magnaes.com>, Ryan <rludwar@magnaes.com>, Dave Rebol <daverebol@hotmail.com>, Randy Sanders <randy.sanders@meritenergy.com>, Harlin Hodge <harlinhodge@hotmail.com>, Joe Sevenski <joseph.sevenski@meritenergy.com>, Kathy <dkama@kci.net>, Lisha Cordova <lishacordova@utah.gov>, Mel Wren <mel.wren@meritenergy.com>, Chad Vannest <chadvannest@hotmail.com>

Tue, Dec 18, 2012 at 9:45 PM

# MAGNA ENERGY SERVICE RIG 24

| DATE | LOCATION |
|---|---|
| 12-18-12 | ARE W31-04 |

## SUMMARY

6:00-Crew travel-JSA meeting
7:00-Wait on wireline
9:00-Ru wireline-RIH with 5.97 gauge ring to 10934' (stacked out-came out with rubber chunks in junk basket)-make a 2nd run to see if was rubber we stacked out on (stacked out in the same place)
12:30-Wait on a gauge ring coming from Casper Wy-finish hauling water
2:00-Shut well in-secure rig & location
2:30-Crew travel
3:30

| NAMES | HOURS | SUBSISTANCE |
|---|---|---|
| Darie Roehm | 9.5 | Yes |
| Tommy Obrian | 9.5 | Yes |
| Berry Knoke | 9.5 | Yes |
| Jason Grassord | 9.5 | Yes |
| Jason Wier | 9.5 | yes |
| | | |

## NOTES

Head south out of Evanston on county rd 151 20 miles (stay on the pavement all

# rig 24s daily report 12-19-12

**Darie Roehm** <darieroehm@yahoo.com> Wed, Dec 19, 2012 at 9:01 PM
Reply-To: Darie Roehm <darieroehm@yahoo.com>
To: Aron Rescon <aronrt@hotmail.com>, Adam Chastain <achastainwws@gmail.com>, Amy Benton <abenton@magnaes.com>, Ryan <rludwar@magnaes.com>, Dave Rebol <daverebol@hotmail.com>, Randy Sanders <randy.sanders@meritenergy.com>, Harlin Hodge <harlinhodge@hotmail.com>, Joe Sevenski <joseph.sevenski@meritenergy.com>, Kathy <dkama@kci.net>, Lisha Cordova <lishacordova@utah.gov>, Mel Wren <mel.wren@meritenergy.com>, Chad Vannest <chadvannest@hotmail.com>

# MAGNA ENERGY SERVICE RIG 24

| DATE | LOCATION |
|---|---|
| 12-19-12 | ARE W31-04 |

## SUMMARY

6:00-Crew travel-JSA meeting
7:00-Ru wireline-RIH with a 5.844" gauge ring to 12620'-RIH with 7" CICR & set @12600'-Rd wireline
11:00-RIH with 2 3/8 tbg with stinger on bottom
4:00-Tag CICR @12620' (397 jts)-space out & sting into retainer-try to get circulation-could not get more water before dark
4:50-Shut well in-secure rig & location
5:30-Crew travel
6:30

| NAMES | HOURS | SUBSISTANCE |
|---|---|---|
| Darie Roehm | 12.5 | Yes |
| Tommy Obrian | 12.5 | Yes |
| Berry Knoke | 12.5 | Yes |
| Jason Grassord | 12.5 | Yes |
| Jason Wier | 12.5 | yes |
| | | |

## NOTES

Head south out of Evanston on county rd 151 20 miles (stay on the pavement all

12/19/12
W31-04

| 2012-12-19 09:36<br>TIE IN_U21 | FEET<br>1:240 | PLUG PASS_U21 |
|---|---|---|
| 0.00 100.00 | | 0.0 100.0 |
| Tension_U21 (lbF) | | Logging Up<br>Shutin |
| 0.00 2000.00 | | File Pass20-Up.pre |
| Tension_U21 (lbF) | | |
| 0.00 2000.00 | | |
| Pass No. 21 | 12420.99 | 110204 |

CICR Set @ 12600

TIE IN PASS

ARE W 31-04

RETAINER @ 12600'

12450

12500

PLUG PASS

12550

CCL @ SHOOTING DEPTH + 9.5'

12600

PLUG @ 12600'

TDL @ 12620'

| 2012-12-19 09:36<br>TIE IN_U21 | 12619.38 | PLUG PASS_U21 |
|---|---|---|
| 0.00 100.00 | | 0.0 100.0 |
| Tension_U21 (lbF) | | Logging Up<br>Shutin |
| 0.00 2000.00 | | File Pass20-Up.pre |
| Tension_U21 (lbF) | | |
| 0.00 2000.00 | | |
| Pass No. 21 | FEET<br>1:240 | 110204 |

# rig 24s daily report 12-20-12

**Darie Roehm** <darieroehm@yahoo.com> Thu, Dec 20, 2012 at 8:26 PM
Reply-To: Darie Roehm <darieroehm@yahoo.com>
To: Aron Rescon <aronrt@hotmail.com>, Adam Chastain <achastainwws@gmail.com>, Amy Benton <abenton@magnaes.com>, Ryan <rludwar@magnaes.com>, Dave Rebol <daverebol@hotmail.com>, Randy Sanders <randy.sanders@meritenergy.com>, Harlin Hodge <harlinhodge@hotmail.com>, Joe Sevenski <joseph.sevenski@meritenergy.com>, Kathy <dkama@kci.net>, Lisha Cordova <lishacordova@utah.gov>, Mel Wren <mel.wren@meritenergy.com>, Chad Vannest <chadvannest@hotmail.com>

# MAGNA ENERGY SERVICE RIG 24

| DATE | LOCATION |
|---|---|
| 12-20-12 | ARE W31-04 |

## SUMMARY

6:00-Crew travel-JSA meeting
7:00-Get more water-get circulation-pressure test csg to 800 psi (good)-get a injection rate (3 bbls a min. @500 psi)
11:15-Start pumping 15.7 cement (1 bbl FW ahead-110 sacks/22 bbls cmt-1 bbl FW behind-46 bbls disp. {100 sacks/20 bbls below CICR}-sting out-2 bbls disp. {10 sacks/2 bbls on top CICR})
12:45-Lay down 32 jts & stand back 185 take stinger off
4:15-Shut well in-drain equip.-secure rig & location
5:00-Crew travel
6:00

| NAMES | HOURS | SUBSISTANCE |
|---|---|---|
| Darie Roehm | 12 | Yes |
| Tommy Obrian | 12 | Yes |
| Berry Knoke | 12 | Yes |
| Jason Grassord | 12 | Yes |
| Jason Wier | 12 | yes |
| | | |

## NOTES

# rig 24s daily report 12-21-12

**Darie Roehm** <darieroehm@yahoo.com> Sun, Dec 23, 2012 at 9:42 AM
Reply-To: Darie Roehm <darieroehm@yahoo.com>
To: Aron Rescon <aronrt@hotmail.com>, Adam Chastain <achastainwws@gmail.com>, Amy Benton <abenton@magnaes.com>, Ryan <rludwar@magnaes.com>, Dave Rebol <daverebol@hotmail.com>, Randy Sanders <randy.sanders@meritenergy.com>, Harlin Hodge <harlinhodge@hotmail.com>, Joe Sevenski <joseph.sevenski@meritenergy.com>, Kathy <dkama@kci.net>, Lisha Cordova <lishacordova@utah.gov>, Mel Wren <mel.wren@meritenergy.com>, Chad Vannest <chadvannest@hotmail.com>

# MAGNA ENERGY SERVICE RIG 24

| DATE | LOCATION |
|---|---|
| 12-21-12 | ARE W31-04 |

## SUMMARY

6:00-Crew travel-JSA meeting
7:00-Ru wireline-RIH with perf gun-shoot 4 holes @11685'-get injection rate (0 bbl a min. @1000 psi-no injection
9:00-Wait on wireline to get a part out of rock springs
1:30-Make up & RIH with 7" CICR-set @11635'-Rd wireline
3:30-Make up & RIH with stinger (got 47 stands in the hole)
4:45-Shut well in-drain equipment-rap up well-secure rig & location
5:30-Crew travel
1:30

| NAMES | HOURS | SUBSISTANCE |
|---|---|---|
| Darie Roehm | 18 | Yes |
| Tommy Obrian | 16 | Yes |
| Berry Knoke | 18.5 | Yes |
| Jason Grassord | 17.5 | Yes |
| Jason Wier | 18 | yes |
| | | |

## NOTES

Head south out of Evanston on county rd 151 20 miles (stay on the pavement all

# rig 24s daily report 1-2-13

**Darie Roehm** <darieroehm@yahoo.com> Wed, Jan 2, 2013 at 9:48 PM
Reply-To: Darie Roehm <darieroehm@yahoo.com>
To: Aron Rescon <aronrt@hotmail.com>, Amy Benton <abenton@magnaes.com>, Adam Chastain <achastainwws@gmail.com>, Ryan <rludwar@magnaes.com>, Randy Sanders <randy.sanders@meritenergy.com>, Harlin Hodge <harlinhodge@hotmail.com>, Joe Sevenski <joseph.sevenski@meritenergy.com>, Kathy <dkama@kci.net>, Lisha Cordova <lishacordova@utah.gov>, Mel Wren <mel.wren@meritenergy.com>, Beth Vannest <bvannest@magnaes.com>, Chad Vannest <chadvannest@hotmail.com>

# MAGNA ENERGY SERVICE RIG 24

| DATE | LOCATION |
|---|---|
| 1-2-13 | ARE W31-04 |

## SUMMARY

6:00-Crew travel-JSA meeting
7:00-Start all equipment-RIH tag CICR @11635-space out
11:45-Try to get a injection rate (no injaection)
12:15-Ru cmt equipment-Start pumping 15.9# cement (1 bbl FW ahead-25 sacks/5 bbls cmt-1 bbl FW behind-43 bbl disp. {TOC-11492'})
1:15-Shut down-lay down 8 jts-reverse circ. Tbg clean (55 bbls FW)
2:10-Start pumping 93 bbls of 9# mud (11414' to 8735')
3:10-Lay down 86 jts
4:30-Start pumping 15.9# (1 bbl FW ahead-25 sacks/5 bbls cmt-1 bbl FW behind-32 bbls disp. {8635' to 8505'})
5:10-Lay down 10 jts-reverse circ. Tbg clean (45 bbls FW)-pull 5 stands
5:30-Shut well in-drain equipment-secure rig & location
6:30-Crew travel
7:30

| NAMES | HOURS | SUBSISTANCE |
|---|---|---|
| Darie Roehm | 15.5 | Yes |
| Tommy Obrian | 13.5 | Yes |
| Berry Knoke | 15.5 | Yes |
| Jason Grassord | 15.5 | Yes |
| | | |

# rig 24s daily report 1-3-13

**Darie Roehm** <darieroehm@yahoo.com> Thu, Jan 3, 2013 at 6:26 PM
Reply-To: Darie Roehm <darieroehm@yahoo.com>
To: Aron Rescon <aronrt@hotmail.com>, Amy Benton <abenton@magnaes.com>, Adam Chastain <achastainwws@gmail.com>, Ryan <rludwar@magnaes.com>, Randy Sanders <randy.sanders@meritenergy.com>, Harlin Hodge <harlinhodge@hotmail.com>, Joe Sevenski <joseph.sevenski@meritenergy.com>, Kathy <dkama@kci.net>, Lisha Cordova <lishacordova@utah.gov>, Mel Wren <mel.wren@meritenergy.com>, Beth Vannest <bvannest@magnaes.com>, Chad Vannest <chadvannest@hotmail.com>

# MAGNA ENERGY SERVICE RIG 24

| DATE | LOCATION |
|---|---|
| 1-3-13 | ARE W31-04 |

## SUMMARY

6:00-Crew travel-JSA meeting
7:00-RIH tag Cmt balance plug @8501' (267 jts)
8:00-Lay down 93 jts-POOH 87 stands
11:00-Lunch-mainenance equipment
1:30-Shut well in-secure rig & location
2:00-Crew travel
3:00

| NAMES | HOURS | SUBSISTANCE |
|---|---|---|
| Darie Roehm | 9 | Yes |
| Tommy Obrian | 15 | Yes |
| Berry Knoke | 9 | Yes |
| Jason Grassord | 9 | Yes |
| Jason Wier | 9 | yes |
| | | |

## NOTES

Head south out of Evanston on county rd 151 20 miles (stay on the pavement all the way to the Marit Energy gas plant)-go past old guard shack and turn left onto dirt road-go ½ mile turn right at the y-go to the next y and take a left down the hill-

# rig 24s daily report 1-4-13

**Darie Roehm** <darieroehm@yahoo.com>
Reply-To: Darie Roehm <darieroehm@yahoo.com>
To: Aron Rescon <aronrt@hotmail.com>, Amy Benton <abenton@magnaes.com>, Adam Chastain <achastainwws@gmail.com>, Ryan <rludwar@magnaes.com>, Randy Sanders <randy.sanders@meritenergy.com>, Harlin Hodge <harlinhodge@hotmail.com>, Joe Sevenski <joseph.sevenski@meritenergy.com>, Kathy <dkama@kci.net>, Lisha Cordova <lishacordova@utah.gov>, Mel Wren <mel.wren@meritenergy.com>, Beth Vannest <bvannest@magnaes.com>, Chad Vannest <chadvannest@hotmail.com>

Fri, Jan 4, 2013 at 8:53 PM

# MAGNA ENERGY SERVICE RIG 24

| DATE | LOCATION |
|---|---|
| 1-4-13 | ARE W31-04 |

## SUMMARY

6:00-Crew travel-JSA meeting
7:00-Ru wireline-make a 6.1 gauge ring run to 5650'-RIH with perf gun & shoot 4 holes @5535'-get a injection rate of 2 bbls a min @500 psi-RIH with CICR & set @5485'-Rd wireline
12:15-RIH with stinger on bottom of tbg-tag CICR @5480 (174 jts)-space out-sting into retainer
2:10-Ru cement equipment-start pumping 15.9# cmt (1 bbl FW ahead-89sacks/18 bbls-1 bbl FW behind-17 bbl disp. {74 sacks/14.8 bbls below CICR and into 9 5/8" intermediate}-sting out-3 bbl disp. {15 sacks/3 bbls on top CICR-TOC 5409'}
3:40-Lay down 6 jts-reverse circ. Tbg clean (30 bbls)-mix 9# mud
4:50-Start pumping 98 bbls of 9# mud (5295' to 2750')
5:40-Lay down 30 jts
6:10-Shut well in-drain equip.-secure rig & location
7:00-Crew travel
8:00

| NAMES | HOURS | SUBSISTANCE |
|---|---|---|
| Darie Roehm | 14 | Yes |
| Tommy Obrian | 2 | yes |
| Berry Knoke | 14 | Yes |
| | | |

# rig 24s daily report 1-5-13

**Darie Roehm** <darieroehm@yahoo.com>
Reply-To: Darie Roehm <darieroehm@yahoo.com>
To: Aron Rescon <aronrt@hotmail.com>, Amy Benton <abenton@magnaes.com>, Adam Chastain <achastainwws@gmail.com>, Ryan <rludwar@magnaes.com>, Randy Sanders <randy.sanders@meritenergy.com>, Harlin Hodge <harlinhodge@hotmail.com>, Joe Sevenski <joseph.sevenski@meritenergy.com>, Kathy <dkama@kci.net>, Lisha Cordova <lishacordova@utah.gov>, Mel Wren <mel.wren@meritenergy.com>, Beckey Holloway <bholloway@magnaes.com>, Chad Vannest <chadvannest@hotmail.com>

Sat, Jan 5, 2013 at 7:59 PM

# MAGNA ENERGY SERVICE RIG 24

| DATE | LOCATION |
|---|---|
| 1-5-13 | ARE W31-04 |

## SUMMARY

6:00-Crew travel-JSA meeting
7:00-Finish laying down tbg-stand back 41 stands-dig out surface valve
9:15-Ru wireline-shut down so wireline could fix their truck
11:30-Resume with wireline-RIH & shoot 4 hole @2645'-get injection down csg and up 13 3/8 (surface csg)-RIH with 7" CICR & set @2600'-RIH and shoot 4 holes @100'-Rd wireline
1:30-RIH with stinger on bottom of tbg-tag CICR @2570' (82 jts)-space out
2:10-Ru cement equip.-start pumping 15.9# cement (1 bbl FW ahead-75 sacks/15 bbls cmt-1 bbl FW behind-1.8 bbl disp. {39 sacks/7.8 bbls cmt in the 13 3/8}-shut surface valve and open intermediate valve-2.2 bbls disp. {11 sacks/2.2 bbls cmt in the 9 5/8}-sting out-4.5 bbls disp. {25 sacks/5 bbls cmt on top of CICR-TOC 2443'}
3:10-Lay down remaining tbg on to float
4:00-Rd floor-Nd BOP-Nu wellhead-get started on digging out around the well
5:45-Shut well in-secure rig & location
6:30-Crew travel
7:30

| NAMES | HOURS | SUBSISTANCE |
|---|---|---|
| Darie Roehm | 13.5 | Yes |
| Tommy Obrian | 13.5 | Yes |
| | | |

# rig 24s daily report 1-6-13

**Darie Roehm** <darieroehm@yahoo.com> Sun, Jan 6, 2013 at 5:36 PM
Reply-To: Darie Roehm <darieroehm@yahoo.com>
To: Aron Rescon <aronrt@hotmail.com>, Amy Benton <abenton@magnaes.com>, Adam Chastain <achastainwws@gmail.com>, Ryan <rludwar@magnaes.com>, Randy Sanders <randy.sanders@meritenergy.com>, Harlin Hodge <harlinhodge@hotmail.com>, Joe Sevenski <joseph.sevenski@meritenergy.com>, Kathy <dkama@kci.net>, Lisha Cordova <lishacordova@utah.gov>, Mel Wren <mel.wren@meritenergy.com>, Beth Vannest <bvannest@magnaes.com>, Chad Vannest <chadvannest@hotmail.com>

# MAGNA ENERGY SERVICE RIG 24

| DATE | LOCATION |
|---|---|
| 1-6-13 | ARE W31-04 & ARE W31-12 |

## SUMMARY

6:00-Crew travel-JSA meeting
7:00-Rig down-start moving equipment to new location-try to dig out around well (could not dig it all out cause of cement)
11:30-Spot in-Rig up-blow down well-finish moving equipment to location
4:00-Shut wells in-clean up both locations-secure rig
4:30-Crew travel
5:30

| NAMES | HOURS | SUBSISTANCE |
|---|---|---|
| Darie Roehm | 11.5 | Yes |
| Tommy Obrian | 11.5 | Yes |
| Berry Knoke | 11.5 | Yes |
| Jason Grassord | 11.5 | Yes |
| Ty Hurt | 11.5 | yes |
| | | |

## NOTES

Head south out of Evanston on county rd 151 20 miles (stay on the pavement all the way to the Marit Energy gas plant)-go past old guard shack and turn left onto dirt road-go ½ mile turn right at the y-go to the next y and take a left down the hill-

# rig 24s daily report 1-7-13

**Darie Roehm** <darieroehm@yahoo.com>
Reply-To: Darie Roehm <darieroehm@yahoo.com>
To: Aron Rescon <aronrt@hotmail.com>, Amy Benton <abenton@magnaes.com>, Adam Chastain <achastainwws@gmail.com>, Ryan <rludwar@magnaes.com>, Harlin Hodge <harlinhodge@hotmail.com>, Joe Sevenski <joseph.sevenski@meritenergy.com>, Kathy <dkama@kci.net>, Lisha Cordova <lishacordova@utah.gov>, Mel Wren <mel.wren@meritenergy.com>, Beth Vannest <bvannest@magnaes.com>, Chad Vannest <chadvannest@hotmail.com>, Randy Sanders <randy.sanders@meritenergy.com>

Tue, Jan 8, 2013 at 6:58 AM

# MAGNA ENERGY SERVICE RIG 24

| DATE | LOCATION |
|---|---|
| 1-7-13 | ARE W31-12 & ARE W31-04 |

## SUMMARY

6:00-Crew travel-JSA meeting
7:00-Blow down well-Nd wellhead-Nu 10K to 5K spool-Nu BOP-Ru floor-pull hanger jt out of the well-wait for trac-hoe to dig out the cement on the ARE W31-04
10:00-Ru wireline-RIH with a 3.5" gauge ringto 12760'-RIH with a CICR & set @12740'Rd wireline
3:00-Ru cement equipm-start pumping 15.9# cement (ARE W31-04)-(100' to surface in the 7" csg, 9 5/8" intermediate & the 13 3/8" surface csg {95 sacks/19 bbls})
4:15-Cut wellhead off
5:00-Secure both locations & rig
6:00-Crew travel
7:00

| NAMES | HOURS | SUBSISTANCE |
|---|---|---|
| Darie Roehm | 13 | Yes |
| Tommy Obrian | 13 | Yes |
| Berry Knoke | 13 | Yes |
| Jason Grassord | 13 | Yes |
| Ty Hurt | 13 | yes |

# rig 24s daily report 1-9-13

**Darie Roehm** <darieroehm@yahoo.com> Wed, Jan 9, 2013 at 9:27 PM
Reply-To: Darie Roehm <darieroehm@yahoo.com>
To: Aron Rescon <aronrt@hotmail.com>, Amy Benton <abenton@magnaes.com>, Adam Chastain <achastainwws@gmail.com>, Ryan <rludwar@magnaes.com>, Randy Sanders <randy.sanders@meritenergy.com>, Harlin Hodge <harlinhodge@hotmail.com>, Joe Sevenski <joseph.sevenski@meritenergy.com>, Kathy <dkama@kci.net>, Lisha Cordova <lishacordova@utah.gov>, Mel Wren <mel.wren@meritenergy.com>, Beth Vannest <bvannest@magnaes.com>, Chad Vannest <chadvannest@hotmail.com>

# MAGNA ENERGY SERVICE RIG 24

| DATE | LOCATION |
|---|---|
| 1-9-13 | ARE W31-04/ARE W31-12 |

## SUMMARY

6:00-Crew travel-JSA meeting
7:00-Ru cement equip.-top off surface plug on the ARE W31-04 with 87 sacks/17.4 bbls
9:00-Weld cap & marker on well-move equip. to new location
11:30-Get circulation on the ARE W31-12-sting into CICR and get a injection rate of 3 bbls a min. @400 psi
12:30-Ru cement equip.-Start pumping 15.9# cmt (1 bbl FW ahead-110 sacks/22 bbls cmt-1 bbl FW behind-46 bbl disp. {leaving 97.5 sacks/19.5 bbls below CICR}-sting out-disp. 1.5 bbls {leaving 12.5 sacks/2.5 bbls on top CICR})
2:20-Lay down 88 jts and stand back 157 stands
6:20-Shut well in-drain equip.-secure rig & location
7:00-Crew travel
8:00

| NAMES | HOURS | SUBSISTANCE |
|---|---|---|
| Darie Roehm | 14.5 | Yes |
| Tommy Obrian | 14.5 | Yes |
| Berry Knoke | 14.5 | Yes |
| Jason Grassord | 14.5 | Yes |
| Ty Hurt | 14.5 | yes |

# STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

**5.LEASE DESIGNATION AND SERIAL NUMBER:** FEE

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:** ANSCHUTZ RANCH EAST

**1. TYPE OF WELL** Gas Well

**8. WELL NAME and NUMBER:** ARE W31-04E

**2. NAME OF OPERATOR:** MERIT ENERGY COMPANY

**9. API NUMBER:** 43043301650000

**3. ADDRESS OF OPERATOR:** 13727 Noel Rd Ste 500 , Dallas, TX, 75240

**PHONE NUMBER:** 972 628-1540 Ext

**9. FIELD and POOL or WILDCAT:** ANSCHUTZ RANCH EAST

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:** 0111 FNL 0737 FWL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:** Qtr/Qtr: NWNW Section: 31 Township: 04.0N Range: 08.0E Meridian: S

**COUNTY:** SUMMIT

**STATE:** UTAH

**11.** CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ☐ NOTICE OF INTENT<br>Approximate date work will start: | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| ✓ SUBSEQUENT REPORT<br>Date of Work Completion:<br>1/9/2013 | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| ☐ SPUD REPORT<br>Date of Spud: | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| ☐ DRILLING REPORT<br>Report Date: | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ✓ PLUG AND ABANDON | ☐ PLUG BACK |
| | ☐ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ☐ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**

Merit Energy Company has plugged the ARE 30-14E from 12/10/2012 - 01/09/2013 as per States specifications. Attached is Magna Energy Services Job Log describing the plugging process.Plate was welded with well info.

**Accepted by the Utah Division of Oil, Gas and Mining**
**FOR RECORD ONLY**
March 26, 2013

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Ross King | 972 628-1041 | Regulatory Analyst |
| **SIGNATURE** N/A | | **DATE** 3/26/2013 |

RECEIVED: Mar. 26, 2013

# Magna Energy Services, LLC
## 17509 County Road 14,
## Ft. Morgan, Colorado 80701
## (970)-867-9007 or (970)-867-8374 (Fax)


## Job Log

Date: 1/8/2013
Operator: Merit Energy
Well name: ARE 31-04
Legal Location: Section 31- T4N-R7E
Location: Summit County, UT
AFE #:031723

MIRU, Blow down well pressure, NDWH, NUBOP, RU wireline, TIH with junk basket to 13,000', TOH
PU jet cutter, TIH and cut tubing at 12,857', TOH wireline, Tubing still stuck, PU split shot
TIH and cut tubing at 12,845', TOH wireline, Pulled on tubing, Tubing still stuck, PU Split Shot
TIH and cut tubing at 12,750', TOH wireline, Pulled on tubing, Tubing still stuck, PU Jet cutter
TIH and cut tubing at 12,650', TOH wireline, Pulled on tubing, Tubing free, TOH tubing
Switch to workstring 2-3/8" tubing, RU wireline, TIH with gauge ring to 10,934', TOH, Found rubber in basket
TIH with gauge ring to 12,620', TOH, PU CICR, TIH and set CICR at 12,600', TOH and RD wireline
TIH with tubing and tag CICR, Sting into CICR, Pressure tested casing, Pressure held
Established injection rate of 3 bbl./min at 500 psi, Pumped 100 sxs under CICR and 10 sxs on top
TOH, RU wireline, TIH and perforate casing at 11,685', Could not establish an injection rate
PU CICR, TIH and set CICR at 11,635', TOH and RD wireline, TIH and tag CICR
Could not establish injection rate, Pumped 25 sxs of cement on top of CICR, TOC at 11,492'
TOH and reverse circulate tubing clean, Pumped 93 bbl. of 9# mud, TOH to 8,735'
Pumped 25 sxs of cement, TOC at 8,501', TOH and reverse circulate tubing clean
RU wireline, TIH with gauge ring to 5,650', TOH, TIH and perf at 5,535', Established injection rate
TIH with CICR and set at 5,485', TOH and RD wireline
TIH and tag CICR, Sting into CICR, Pumped 74 sxs of cement under CICR and 15 sxs on top
TOH and reverse circulate tubing clean, Pumped 98 bbl. of 9# mud
RU wireline, TIH and perf casing at 2,645', Established injection rate through production casing into surface
TOH, PU CICR, TIH and set CICR at 2,600', TOH to 100', Perf casing, TOH and RD wireline
TIH and tag CICR, Sting into CICR, Pumped 50 sxs under CICR and 25 sxs on top
(39 sxs of cement inside 13-3/8" and 11 sxs of cement inside 9-5/8")
TOH, NDBOP, NDWH, Pumped 95 sxs to surface, dig out wellhead with trac-hoe, Cut off wellhead
Top off cement with 2 sxs of cement, Back fill pit, Clean location
RDMO

**All cement pumped was 15.8# Class "G" Neat with a yield of 1.15**

Cementing contractor: Magna Energy Services, LLC
Cementing contractor supervisor: Darie Roehm
Operations supervisor: Mel Wren
Utah DNR representative: Lisha Cordova
Wireline contractor: Magna Energy Services, LLC

GARY R. HERBERT
*Governor*
SPENCER J. COX
*Lieutenant Governor*

# State of Utah

**DEPARTMENT OF NATURAL RESOURCES**

MICHAEL R. STYLER
*Executive Director*
**Division of Oil, Gas and Mining**
JOHN R. BAZA
*Division Director*

May 27, 2014

Certified Mail #7003 2260 0003 2358 6960

43 043 30165
31 4N 8E

Arlene Valliquette
North Division Regulatory Manager
Merit Energy Company
13727 Noel Road, Suite 500
Dallas, Texas 75240

Subject: Oil and Gas General Conservation Rule R649-3-36 - Shut-in and Temporarily Abandoned Wells

Dear Ms. Valliqeutte:

The Division of Oil, Gas and Mining (Division) met with Merit Energy Company (Merit), at our offices, on April 26, 2012 to discuss long term plans for Merits' shut-in wells at Anschutz Ranch Field. The Division expressed its concerns regarding the number of shut-in wells Merit operated and the length of time wells have been shut-in. The Division discussed the importance to timely plugging shut-in wells that have no future value and submit extension sundries for shut-in wells that will not be immediately plugged or returned to production. Merit representatives at the meeting indicated they understood the Divisions' concerns. However, Merit required additional time for their engineer, newly assigned to this area, to review the shut-in well list to determine which wells should be returned to production and which wells should be plugged. Merit also needed to present the well review to management for budget approval.

Merit submitted, to the Division, a written 2013 Plugging and/or Reactivation Well Plan dated October 30, 2012. The plan stated Merit was in the process of applying for approval to convert the Champlin 372 Amoco C 1 well to a water disposal well. The plan committed to the plugging of the ARE W31-04E, ARE W31-12, ARE W16-12 and ARE W17-16 wells by the end of the 2012 calendar year. Merit also proposed probable reactivations of the ARE W20-09, ARE W20-06, ARE W20-08 and ARE W20-12 wells and probable plugging and abandonment of the ARE W16-14 and ARE E 21-14 wells. The results are listed below.

| | |
|---|---|
| Champlin 372 Amoco C 1 | Water Disposal Well application never submitted |
| → ARE W31-04E | Plugged 1/9/2013 |
| ARE W31-12 | Plugged 1/21/2013 |
| ARE W16-12 | Plugged 12/3/2012 |
| ARE W17-16 | Plugged 11/16/2012 |
| ARE W20-09 | Reactivated April 2013 |
| ARE W20-06 | Never Reactivated |
| ARE W20-08 | Never Reactivated |
| ARE W20-12 | Never Reactivated |
| ARE W16-14 | Plugged May 2014 |
| ARE E21-14 | Plugged April 2014 |

Ryan Huddleston from your office has indicated in recent conversations with Dustin Doucet that Merit is preparing to reactivate/plug 6-8 more shut-in wells. To date Merit has not submitted a written plan for Division approval.

Merit currently operates twenty-five (25) shut-in wells at Anschutz Ranch Field; see Compliance Attachment. Eleven (11) of the twenty-five total shut-in wells were added between January 2012 and January 2014. The Division has sent Merit several Shut-in and Temporary Abandonment Notices describing Rule 649-3-36 Shut-in and Temporarily Abandoned Well requirements. The Division denied shut-in extension requests for seven (7) wells due to insufficient information. The Division also issued Notices of Violation for ten (10) of the shut-in wells. Merit has not submitted shut-in extensions sundries for the eleven wells added between January 2012 and January 2014, or submitted additional required information for the seven denied shut-in extensions, or resolved the Notices of Violation.

The operator is responsible to file, yearly, for extended shut-in or temporary abandonment for wells shut-in or temporarily abandoned for a period of twelve (12) consecutive months. Merit must file a Sundry Notice providing the following information for each of the twenty-five wells listed on the Compliance Attachment; reasons for shut-in or temporarily abandonment of the well, length of time the well is expected to be shut-in or temporarily abandoned and an explanation and supporting data showing the well has integrity (R649-3-36.1). After review the Division will either approve the continued shut-in or temporarily abandoned status or require remedial action (R649-3-36.2). After five (5) years of non-activity or non-productivity, the well shall be plugged in accordance with R649-3-24, unless approval for extended shut-in time is given by the Division upon a showing of good cause by the operator (R649-3-36.3). Please note, thirteen (13) of the twenty-five wells listed on the Compliance Attachment have been shut-in over five (5) years.

Merit has until **June 30, 2014** to submit sundries, for the subject wells, in accordance with **Oil and Gas Conservation General Rule 649-3-36 Shut-in and Temporarily Abandoned Wells.**

Should Merit not meet shut-in and temporarily abandoned well requirements, the Division is prepared to file a Notice of Agency Action (NAA) for Commencement of Informal Adjudicative Proceedings (R649-10-3) for this matter in accordance with Oil and Gas Conservation General Rule R649-10 Administrative Procedures.

If you have any questions or need further assistance, please feel free to contact me at clintondworshak@utah.gov or 801-538-5280 or Dustin Doucet, Petroleum Engineer, at dustindoucet@utah.gov or 801-538-5281.

Sincerely,

Clinton Dworshak
Oil and Gas Compliance Manager

CLD/js
Enclosure: Compliance History

cc: John Rogers, O&G Associate Director
Dustin Doucet, Petroleum Engineer
Compliance File
Well Files

## Compliance History
## Merit Energy Company - Anschutz Ranch Field

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Champlin 327 Amoco | Last Prod 10/01 | 2004 SI Notice | **Ext SI 1/1/05** | | | **Ext SI 1/1/06** | 2008 SI Notice | 2009 SI Notice | **2010 NOV** | | **2011 NOV** | **2011 Denied SI/TA sundry** | **2013 PLAN - SWDW** |
| ARE W16-06 | Last Prod 11/96 | 2004 SI Notice | **Ext SI 1/1/05** | Prod 2/05-5/05 | | **Ext SI 1/1/06** | 2008 SI Notice | **2009 Denied SI/TA Sundry** | **2010 NOV** | | **2011 NOV** | | |
| ARE W20-06 | Last Prod 5/00 | 2004 SI Notice | **Ext SI 1/1/05** | Prod 3/2004-6/05 | | | 2008 SI Notice | **2009 Denied SI/TA Sundry** | **2010 NOV** | | **2011 NOV** | | **2013 Plan - Reactivate** |
| ARE W20-02 | Last Prod 6/98 | 2004 SI Notice | **Ext SI 1/1/05** | Prod 1/2004-6/06 | | | 2008 SI Notice | **2009 Denied SI/TA Sundry** | **2010 NOV** | | **2011 NOV** | | |
| ARE W20-12 | Last Prod 3/02 | | | Prod 9/03-3/06 | Prod 6/08-7/08 | | 2008 SI Notice | **2009 Denied SI/TA Sundry** | | | **2011 NOV** | | **2013 Plan - Reactivate** |
| ARE W30-02 | Last Prod 12/01 | 2004 SI Notice | **Ext SI 1/1/05** | Prod 7/05-8/07 | | **Ext SI 1/1/06** | | 2009 SI Notice | 2010 SI Notice | | | **2012 Denied SI/TA Sundry** | |
| ARE W30-06 | Last Prod 6/98 | 2004 SI Notice | **Ext SI 1/1/05** | Prod 5/0-10/07 | | | | 2009 SI Notice | | | | | |
| ARE 29-04ST1 | Last Prod 3/06 | | | Prod 9/07-10-07 | | | | | 2010 SI Notice | | | **2011 Denied SI/TA sundry** | |
| ARE W36-08 | Last Prod 4/02 | 2004 SI Notice | | Prod 5/04-4/06 | Prod 8/07-10/07 | | | | 2010 SI Notice | 2011 SI Notice | | | |
| ARE W12-04 | Last Prod 1/04 | | | Prod 11/04-12/10 | | | | | | | **2011 NOV** | | |
| ARE W20-08 | Last Prod 7/08 | | | | | | | | | 2011 SI Notice | **2011 NOV** | | **2013 Plan - Reactivate** |
| ARE W30-10 | Last Prod 6/08 | | | | | | | | 2010 SI Notice | 2011 SI Notice | **2011 NOV** | | |
| ARE W21-04 | Last Prod 5/97 | 2004 SI Notice | **Ext SI 1/1/05** | Prod 6/04-7/08 | | | | | 2010 SI Notice | 2011 SI Notice | **2011 NOV** | | |
| ARE W20-03 | Last Prod 7/96 | 2004 SI Notice | **Ext SI 1/1/05** | Prod 12/06-7/08 | | **Ext SI 1/1/06** | | | 2010 SI Notice | 2011 SI Notice | **2011 NOV** | | |
| ARE W20-04 | Last Prod 7/97 | 2004 SI Notice | **Ext SI 1/1/05** | Prod 1/07-5/10 | | **Ext SI 1/1/06** | | | | | | | |
| ARE W36-14 | Last Prod 11/00 | 2004 SI Notice | **Ext SI 1/1/05** | Prod 3/05-9/10 | | **Ext SI 1/1/06** | | | | | | | |
| ARE W11-1 | Last Prod 4/96 | 2004 SI Notice | **Ext SI 1/1/05** | Prod 10/06-10/10 | | **Ext SI 1/1/06** | | | | | | | |
| ARE W30-13 | Last Prod 4/98 | 2004 SI Notice | **Ext SI 1/1/05** | Prod 7/05-8/10 | Prod 5/12-8/12 | **Ext SI 1/1/06** | | | | | | | |
| ARE W19-16 | Last Prod 3/08 | 2004 SI Notice | **Ext SI 1/1/05** | Prod 10/05-1/07 | Prod 12/08-5/11 | **Ext SI 1/1/06** | | | | | | | |
| ARE W36-10 | Last Prod 6/02 | 2004 SI Notice | **Ext SI 1/1/05** | Prod 5/04-5/10 | | | | | | | | | |
| ARE W36-16 | Last Prod 4/07 | | | Prod 12/08-7/10 | | | 2008 SI Notice | | | | | | |
| ARE W30-14 | Last Prod 1/03 | | | Prod 5/05-8/12 | | | | | | | | | |
| ARE W30-15 | Last Prod 1/06 | | | Prod 1/08-8/08 | Prod 3/09-4/09 | | | | | | | | |
| ARE W20-10 | Last Prod 10/08 | | | Prod 9/09-5/10 | | | | | | | | | |
| ARE W19-08 | Last Prod 4/10 | | | | | | | | | | | | |

# STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

**5.LEASE DESIGNATION AND SERIAL NUMBER:** FEE

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:** ANSCHUTZ RANCH EAST

**1. TYPE OF WELL** Gas Well

**8. WELL NAME and NUMBER:** ARE W31-04E

**2. NAME OF OPERATOR:** MERIT ENERGY COMPANY

**9. API NUMBER:** 43043301650000

**3. ADDRESS OF OPERATOR:** 13727 Noel Rd Ste 500 , Dallas, TX, 75240

**PHONE NUMBER:** 972 628-1540 Ext

**9. FIELD and POOL or WILDCAT:** ANSCHUTZ RANCH EAST

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:** 0111 FNL 0737 FWL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:** Qtr/Qtr: NWNW Section: 31 Township: 04.0N Range: 08.0E Meridian: S

**COUNTY:** SUMMIT

**STATE:** UTAH

**11.** CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ☐ NOTICE OF INTENT<br>Approximate date work will start: | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| ☑ SUBSEQUENT REPORT<br>Date of Work Completion:<br>6/1/2015 | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| ☐ SPUD REPORT<br>Date of Spud: | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| ☐ DRILLING REPORT<br>Report Date: | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| | ☐ PRODUCTION START OR RESUME | ☑ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ☐ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**

Merit Energy Company has reclaimed and reseeded the above referenced will according to the landowners agreement on June 1, 2015.

**Accepted by the Utah Division of Oil, Gas and Mining**
**FOR RECORD ONLY**
November 02, 2015

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Katherine McClurkan | 972 628-1660 | Regulatory Analyst |
| **SIGNATURE** N/A | | **DATE** 9/10/2015 |

RECEIVED: Sep. 10, 2015