

# MERIDIAN OIL

October 28, 1987

DIVISION OF OIL, GAS AND MINING  
Department of Natural Resources  
State of Utah  
355 West North Temple  
III Triad Center, Suite 350  
Salt Lake City, Utah 84108-1203

RE: Request for Exception  
#22-14 Cherokee Federal  
Location: SE/4NW/4  
Sec. 14, T37S-R23E, SLM

---

Gentlemen:

Meridian Oil Inc. plans to commence a well at the following location:

1580' FNL, 2180' FWL, Section 14, T37S-R23E, SLM  
San Juan County, Utah

This location requires approval as an exception location under Rule 302.1 of the Oil and Gas Conservation General Rules effective December 2, 1985. Under the Rules, this exception may be granted administratively.

Meridian Oil Inc. owns 60% of the leasehold interest while C. C. Grynberg owns 40% of the leasehold interest in the spacing unit for the proposed 22-14 Cherokee Federal well. Grynberg and Meridian Oil also owns the leasehold rights within a 460 foot radius of the proposed drillsite. Grynberg has been notified of the proposed drillsite in accordance with Rule 302 of the Oil and Gas Conservation Rules and has granted their consent to this location. Please see attached Affidavit of William C. Mitchell, Landman with Meridian Oil Inc.

The reason for the requested exception location is geological. As shown on the plat attached as Exhibit "B" to the attached affidavit, it is not possible to drill the optimum location on the geological feature by drilling a legal location. Therefore, Meridian Oil proposes to move the surface location as close as possible to the geological structure in order to derive the optimum bottom hole location.

APPROVED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING

DATE: 11/2/87

BY: [Signature]

DIVISION OF OIL, GAS AND MINING  
October 28, 1987  
Page 2

A Lease Ownership Plat is attached as Exhibit "A" to the enclosed Affidavit. Exhibit "B" depicts the geological feature. This information is proprietary and very sensitive and therefore, it is requested that the State maintain this plat in a confidential file.

Thank you or your consideration in this matter.

Very truly yours,

MERIDIAN OIL INC.



William C. Mitchell  
Landman

Doc. 833  
Attachments

AFFIDAVIT

STATE OF COLORADO )  
 ) ss.  
COUNTY OF ARAPAHOE )

TO WIT:

Now, this 28th day of October, 1987, comes the affiant herein, WILLIAM C. MITCHELL, being of lawful age and the first duly sworn, and does not depose and say:

THAT he is employed as a Landman with Meridian Oil Inc., and in said capacity is acquainted with the facts and allegations herein, and

THAT the plat attached hereto and made a part hereof as "Exhibit A" is accurate to scale and reflects pertinent data required pursuant to Oil & Gas Conservation Rule No. 302.1,

THAT Meridian Oil Inc. has secured the consent of C. C. Grynberg to drill the 22-14 Cherokee Federal well at a location being 1580' FSL and 2180' FEL of Section 14, T37S, R23E, San Juan County, Utah.

THAT no other parties are required to be notified in accordance with Rule Number 302.1(a)(2) of the General Conservation Rules of the Utah Board of Oil, Gas and Mining.

Further affiant sayeth not.

*William C. Mitchell*  
\_\_\_\_\_  
William C. Mitchell

\* \* \* \* \*

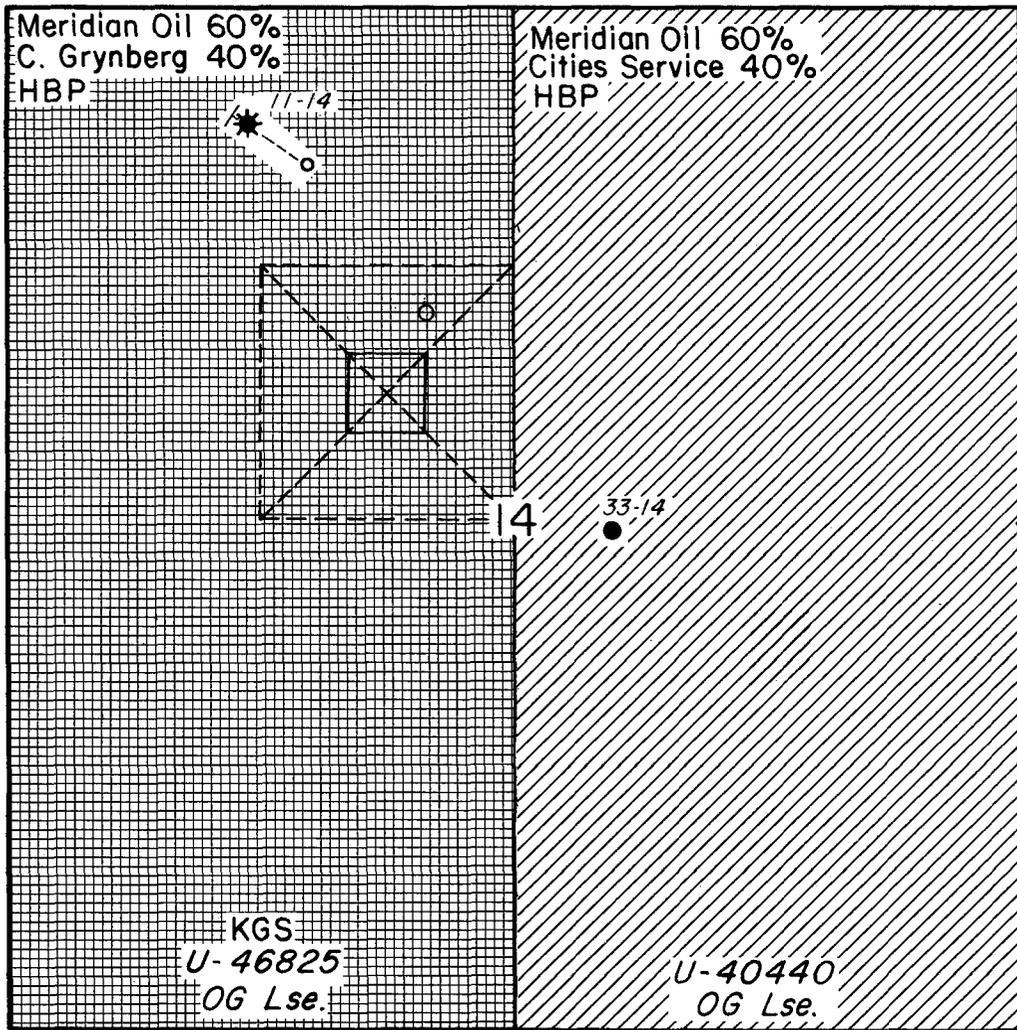
Taken, sworn and subscribed to before me, a Notary Public in and for the County and State aforesaid this 28th day of October, 1987.

My commission expires:  
9-9-88



*Beth B. Greenhaugh*  
\_\_\_\_\_  
Notary Public

# EXHIBIT "A"



T  
37  
N  
S

R 23 E

## LEGEND

 Meridian Oil/Cities Service lease

 Meridian Oil/C. Grynberg lease

 Proposed location: 22-14 Cherokee Federal,  
1580' FNL, 2180' FWL, sec. 14, T 37N-R23E.

 400 ft. "WINDOW" (center of the senw, sec. 14,  
T 37N-R23E) Pursuant to order #302.

# MERIDIAN OIL

Bill Mitchell

LANDMAN

T.S. Fiore

DRAFTER/GEOTECH

27 October 1987

DATE

Denver

OFFICE LOC.

REVISED DATE

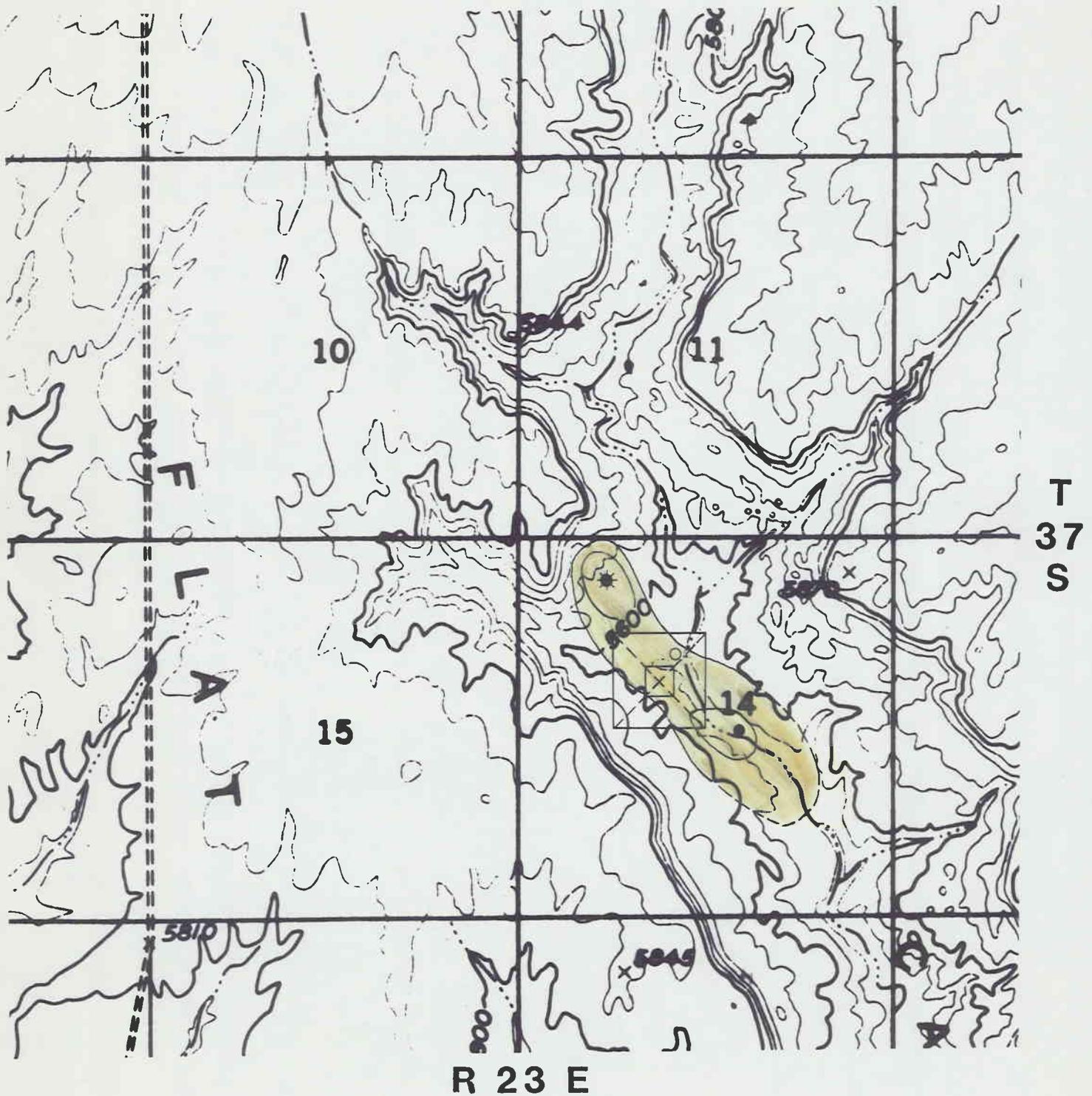
MAP NUMBER

## CHEROKEE PROSPECT San Juan County, Utah

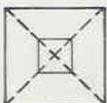
Scale: 1" = 1000 Feet

C.I.

# EXHIBIT "B"



-  Producing Gas Well #11-14 Cherokee Fed.  
600' FNL, 1250' FWL, sec. 14, T 37S, R 23E.
-  Producing Oil Well #33-14 Cherokee Fed.  
2590' FSL, 2140' FEL, sec. 14, T 37S, R 23E.
-  Proposed Location #22-14 Cherokee Fed.  
1580' FNL, 2180' FWL, sec. 14, T 37N, R 23E



400 ft. "Window" (center of the senw, sec. 14, T 37N, R 23E) Pursuant to order #302.

**MERIDIAN OIL**

**CHEROKEE PROSPECT**  
T 37 S, R 23 E  
**SAN JUAN COUNTY, UTAH**

Scale: 1"=2000'

**MERIDIAN OIL**

October 15, 1987

RECEIVED  
NOV 19 1987

OIL GAS & MINING

State of Utah Natural Resources  
Oil, Gas and Mining  
355 W. North Temple  
3 Triad center, Ste 350  
Salt Lake City, Utah 84180-1203

Attention: Arlene Sollis

Re: Application for Permit to Drill  
22-14 Cherokee-Federal  
SENW Section 14-37S-23E  
Federal Lease No. U-46825

Gentlemen:

Enclosed are three copies of Form 3160-3, Application for Permit to Drill with attachments for the above referenced location.

Then exception request is already on file in your office.

Water appropriation will be Water User Claim No. 09-1499.

Please be advised that Meridian Oil Inc. requests that all pertinent data for this location be granted TIGHT HOLE status.

If you have any questions, please do not hesitate to call me at 406-256-4122.

Sincerely,



Suzann S. Nelson  
Sr. Operations Technician

/ssn/1423N

Encl

**CONFIDENTIAL**

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
 DRILL  DEEPEN  PLUG BACK

b. TYPE OF WELL  
 OIL WELL  GAS WELL  OTHER

2. NAME OF OPERATOR  
 MERIDIAN OIL INC.

3. ADDRESS OF OPERATOR  
 P. O. Box 1855, Billings, MT 59103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
 At surface  
 SENW (1580' FNL - 2180' FWL)  
 At proposed prod. zone  
 Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 17 miles northwest of Hatch Trading Post

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 460'

16. NO. OF ACRES IN LEASE 1600

17. NO. OF ACRES ASSIGNED TO THIS WELL 40

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 950'

19. PROPOSED DEPTH 6132' *Walt*

20. ROTARY OR CABLE TOOLS  
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
 5576' GL (graded)

22. APPROX. DATE WORK WILL START\*  
 December 20, 1987

5. LEASE DESIGNATION AND SERIAL NO.  
 U-46825

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
 N/A

7. UNIT AGREEMENT NAME  
 N/A

8. FARM OR LEASE NAME  
 Cherokee-Federal

9. WELL NO.  
 22-14

10. FIELD AND POOL, OR WILDCAT AND SURVEY OR AREA  
 UNDESIGNATED

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
 Section 14-37S-23E

12. COUNTY OR PARISH 13. STATE  
 San Juan Utah

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
11"	8-5/8"	24#	2,025'	Cement to sfc w/560 sx
7-7/8"	5-1/2"	15.5#	6,132'	Single stage. TOC @ 5200'. Caliper log + 20% excess

Oil and Gas Order #1  
 Attachments:  
 Eight Point Drilling Program  
 Thirteen Point Surface Use Plan  
 Exhibit "1", "9a" and "9b"

**CONFIDENTIAL INFORMATION**

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 D.P. Harris TITLE Regional Drilling Engineer DATE 11/17/87

(This space for Federal or State office use)

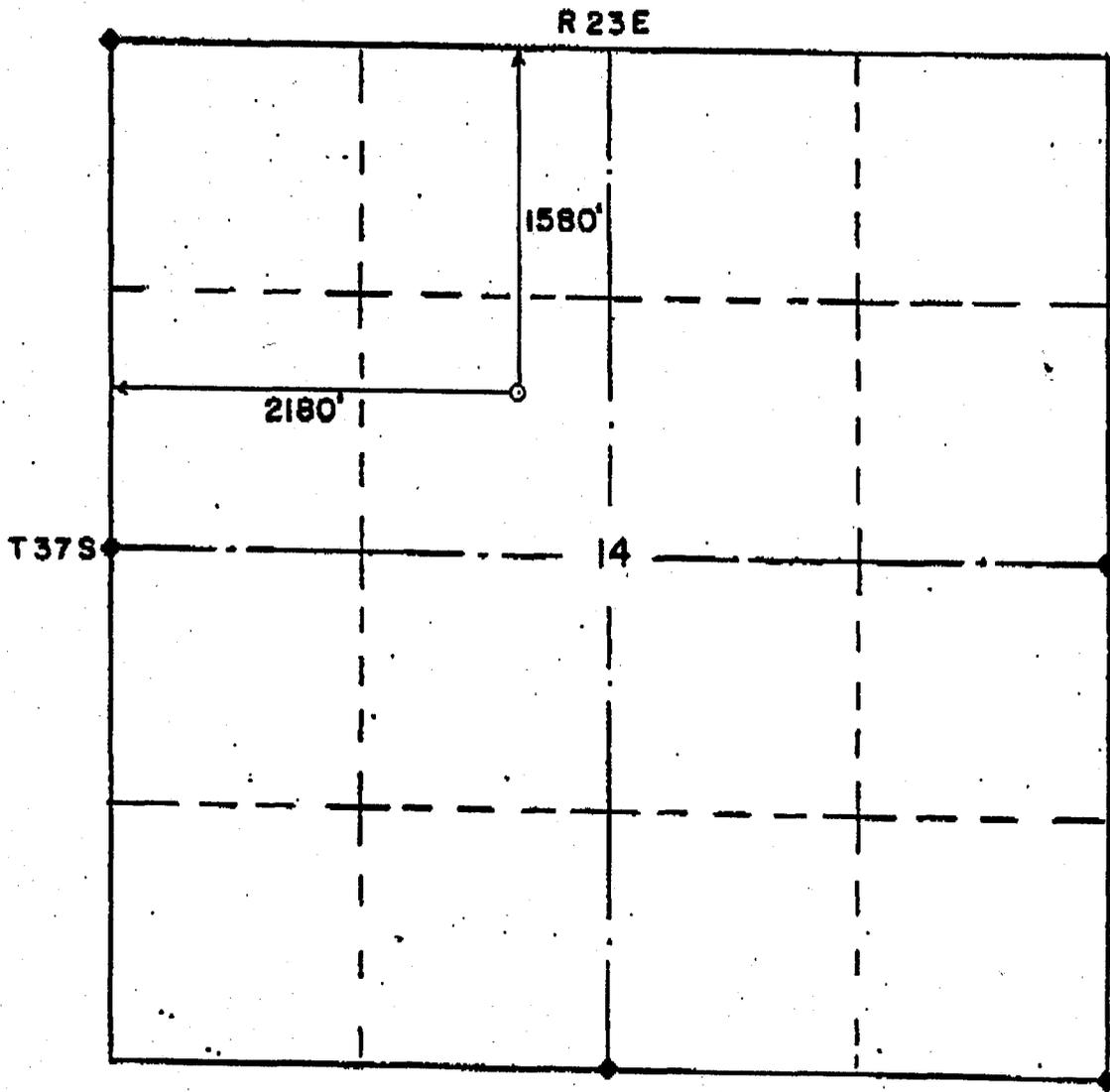
PERMIT NO. 43-037-31367

APPROVED BY THE STATE  
 OF UTAH DIVISION OF  
 OIL, GAS, AND MINING  
 APPROVAL DATE 11-25-87

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_  
 CONDITIONS OF APPROVAL, IF ANY:

DATE 11-25-87  
 BY John R. Bey  
 WELL SPACING: R615-3-3

WELL LOCATION AND ACREAGE DEDICATION PLAT



1"=1000'  
◆ brass cap

WELL LOCATION DESCRIPTION:  
MERIDIAN OIL, Cherokee Federal #22-14  
1580' FNL & 2180' FWL, grd. elevation 5577'  
Section 14, T.37 S., R.23 E., SLM  
San Juan County, Utah  
Alternate; 1340' FN & 2030' FWL, 5581'grd.

The above plat is true and correct to my knowledge and belief.

4 November 1987

REGISTERED LAND SURVEYOR  
No. 5705  
GERALD G. HULL  
*Gerald G. Huddleston*  
Gerald S. Huddleston, LS  
STATE OF UTAH

213 East Montezuma Avenue • Cortez, Colorado 81321 • 303-565-3330

MERIDIAN OIL INC.

LEASE NAME: 22-14 Cherokee-Federal  
 LEASE NO. U-46825  
 LOCATION: 1580' FNL - 2180' FWL  
 SENW Section 14-37S-23E  
 San Juan County, Utah  
 Cherokee Field

All lease/or unit operations will be conducted in such a manner that full compliance is made with applicable laws, regulations (43 CFR 3100), Onshore Oil and Gas Orders, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished the field representative to ensure compliance.

A. EIGHT POINT DRILLING PROGRAM

1.& 2. Estimated Tops:

Morrison	Surface	
Entrada	731	
Navajo	940	fresh water
Chinle	1910	
Shinarump	2469	
Cutler	2960	
Hermosa	4670	
Upper Ismay	5709	oil
Top Porosity	5738	oil
A Shale	5850	
Lower Ismay	5880	
Desert Creek	5961	oil
Chimney Rock	6036	
Akah	6060	
TD	6132	

All fresh water and prospectively valuable minerals encountered during drilling will be recorded by depth, cased, and cemented. All oil and gas shows will be tested to determine commercial potential.

3. Pressure Control Equipment:

- a. A 3000 psi WP wellhead will be installed on the surface casing. A 3000 psi WP Annular preventer and 3000 psi WP double gate preventer equipped with blind and pipe rams will be nipped up on wellhead.
- b. BOP systems will be consistent with API RP 53. Annular preventer will be tested to 1500 psi against casing. Pipe and blind rams, choke line and manifold will be tested to 1500 psi against casing. Casing will be tested to 1500 psi prior to drilling float shoe.
- c. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. Blowout preventor controls will be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. Preventers will be pressure tested before drilling casing cement plugs.

4. Casing program:

Anticipated cement tops will be reported as to depth, not the expected number of sacks.

Hole Size	Size	Depth	Casing				Cementing Program
			Weight	Grade	Thrd	Cond	
11	8-5/8	2,025'	24#	K-55	ST&C	New	Cement to sfc w/560 sx. Single stage. TOC @ 5200'. Caliper log + 20% excess.
7-7/8	5-1/2	6,132'	15.5#	K-55	LT&C	New	

5. Proposed drilling mud program:

A water base mud system from surface to TD. Maximum anticipated mud weight is 9.3#/gallon.

A mud logging unit will be on location from 3700' to TD.

6. Coring, Logging and Testing Program:

Coring

Upper Ismay - Probable



Logging

GR/DLL/MSFL	Base surface casing to TD (GR to surface)
GR/LDT/CNL/PEF	Base surface casing to TD
GR/Sonic	Base surface casing to TD (GR to surface display)
Dipmeter	Minimum op charge.

Testing

Upper Ismay - Probable  
 Desert Creek - Probable

Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) will be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3164. Two copies of all logs, core descriptions, core analysis, well-test data, geologic summaries, sample description, and all other surveys or data obtained and compiled 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 Moab District Manager.

7. Anticipated abnormal BHP or BHT:

No abnormal BHP or BHT are expected in this well.

Potentially hazardous conditions anticipated:

No H<sub>2</sub>S has been found, reported or is known to exist at these depths in this area.

8. Anticipated Starting Dates and Notifications of Operations

Required verbal notifications are summarized in Table I, attached. Written notification in the form of a Sundry Notice (Form 3160-5) will be submitted to the District Office within twenty-four (24) hours after spudding. If the spudding occurs on a weekend or holiday, the written report will be submitted on the following regular work day.

In accordance with Onshore Oil and Gas Order No. 1, this well will be reported on Form 9-329, "Monthly Report of Operations", starting with the month in which operations commence and continuing each month until the well is physically plugged and abandoned. This report will be filed directly with the BLM, Moab District Office, P. O. Box 970, Moab, Utah 84532.

Immediate Report: Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be promptly reported to the Resource Area in accordance with requirements of NTL-3A.

Should the well is successfully completed for production, the District Manager will be notified when the well is placed in a producing status. Such notification will be sent by telegram or other written communication, not later than 5 business days following the date on which the well is placed on production.

A first production conference will be scheduled within fifteen (15) days after receipt of the first production report. The Resource Area Office will coordinate the field conference.

A "Subsequent Report of Abandonment" (Form 3160-5), will be filed with the District Manager, within 30 days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration. Final abandonment will not be approved until the surface reclamation work required by the approved APD or approved abandonment notice has been completed to the satisfaction of the Area Manager or his representative, or the appropriate surface managing agency.

Approval to vent/flare gas during initial well evaluation will be obtained from the District Office. This preliminary approval will not exceed 30 days or 50 MMCF gas. Approval to vent/flare beyond this initial test period will require District Office approval pursuant to guidelines in NTL-4A.

O&G Order No. 1  
22-14 Cherokee-Federal  
1721N/Page 4

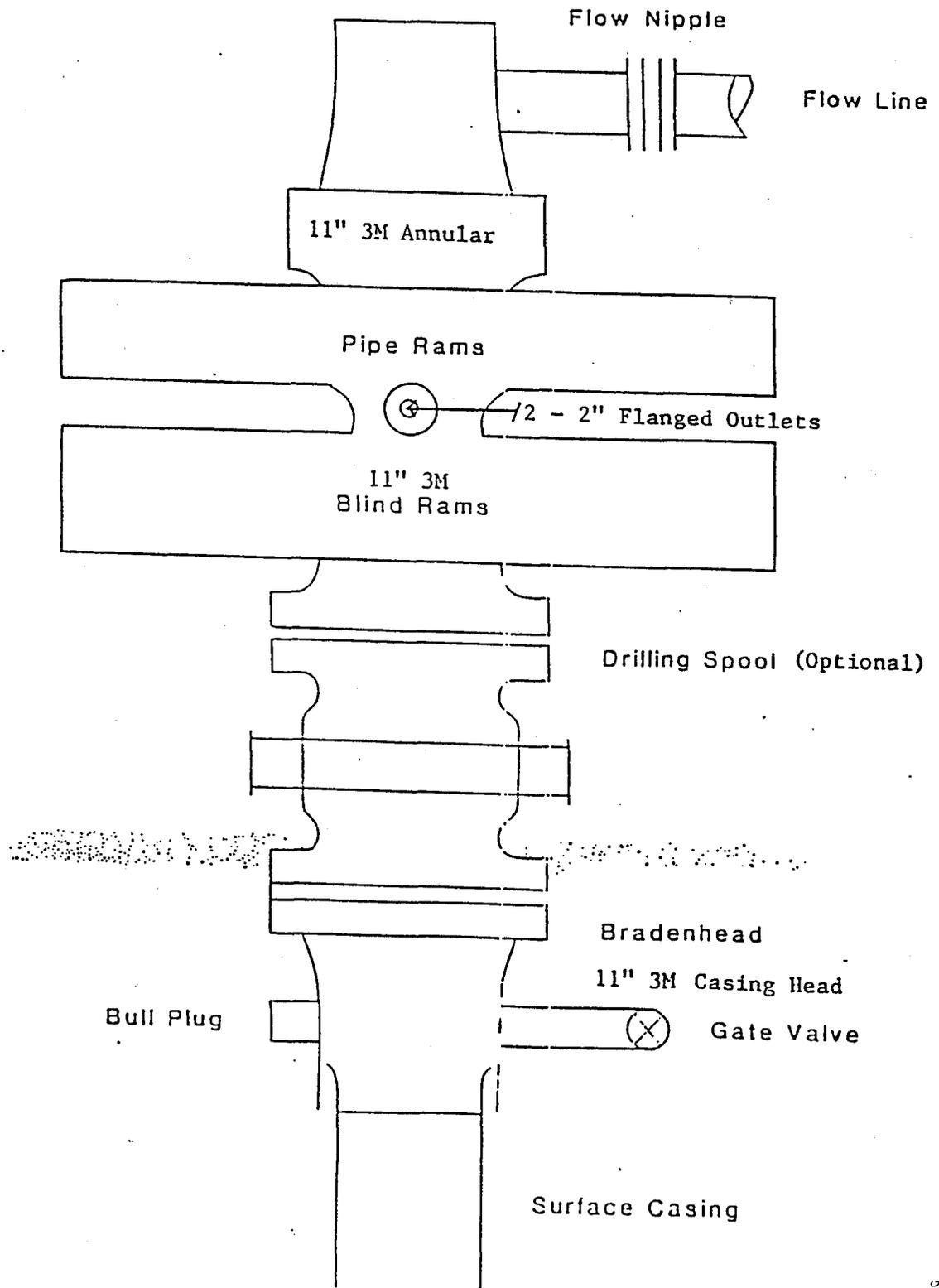
Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR 3162.6. The marker will be constructed as follows:

Above ground pipe, information beaded-on with a welding torch.

The following minimum information will be permanently placed on the marker with a plate, cap, or beaded-on with a welding torch: "Fed" or "Ind", as applicable. "Well number, location by 1/4 1/4 section, township and range". " Lease number".

CONFIDENTIAL INFORMATION

TYICAL B.O.P. INSTALLATION



Series 900 Double Gate B.O.P.,  
rated at 3000 psi Working Pressure.

When gas drilling operations begin a Shaffer type 50 or equivalent rotating head is installed on top of the flow nipple and the flow line is converted into a blowie line.

B. THIRTEEN POINT SURFACE USE PLAN

1. Existing Roads (Yellow)

- a. Location of proposed well in relation to town or other reference point:  
16 miles northwest of Hatch Trading Post.
- b. Proposed route to location. (See attached Exhibit "1").
- c. Existing and new access shall be maintained in good or better condition.

2. Planned Access Roads (Blue)

- a. The maximum total width will be 30 feet for 1/4 mile.
- b. Maximum grade is N/A.
- c. Turnouts will be constructed as needed.
- d. Road is centerline flagged from existing lease roads.
- e. Road will be drained as needed.
- f. Access will be built to Class III road standards.

Surface disturbance and vehicular travel will be limited to the approved location and approved access road. Any additional area needed will be approved in advance by the Area Manager.

The access road will be rehabilitated or brought to Class III Road Standards within 60 days of dismantling of the drilling rig. If this time frame cannot be met, the Area Manager will be notified so that temporary drainage control can be installed along the access road.

3. Location of Existing Wells (1 mile radius)

- a. Existing wells in the area are shown on attached Exhibit "1".

4. Location of Existing and/or Proposed Facilities if Well is Productive

Production facilities will be included in the Cherokee Tank Battery located NENW Section 14-37S-23E for off-lease storage and measurement.

The pipeline will be buried along access road to Central Tank Battery.

All permanent (onsite for six (6) months or longer) structures constructed or installed (including oil well pump jacks) will be painted a flat, nonreflective, earthtone color to match the standard environmental colors, as determined by the Rocky Mountain 5-State Interagency Committee. All facilities will be painted within six (6) months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) may be excluded. The color will be Desert Tan with Brown trim.

If a tank battery is constructed on this lease, it will be surrounded by a dike of sufficient capacity to contain 1-1/2 times the storage capacity of the largest tank in the battery.

All loading lines will be placed inside the berm surrounding the tank battery.

All site security guidelines identified in 43 CFR 3162.7 regulations will be adhered to.

All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the District Manager.

All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed.

Gas meter runs for each well will be located within five hundred (500) feet of the wellhead. The gas flowline will be buried from the wellhead to the meter and downstream for the remainder of the pad. Meter runs will be housed and/or fenced.

The oil and gas measurement facilities will be installed on the well location. The oil and gas meters will be calibrated in place prior to any deliveries. Tests for meter accuracy will be conducted monthly for the first three (3) months on new meter installations and at least quarterly thereafter. The Area Manager will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be submitted to the Resource Area Office. All meter measurement facilities will conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.

5. Location and Type of Water Supply

All water needed for drilling purposes will be hauled by Hay Hot Oil Service, a commercial water hauler, from a private source.

A temporary water use permit for this operation will be obtained from the Utah State Engineer, Mark Page, Price, Utah (657-1303).

Water obtained on private land, or land administered by another agency, will require approval from the owner or agency for use of the land.

6. Source of Construction Materials

Native soil materials from drilling location and access trail, which is available, will be used. Any additional materials needed will be hauled in from authorized commercial sources.

The use of materials under BLM jurisdiction will conform to 43 CFR 3610.2-3.

7. Methods for Handling Waste Disposal

The reserve pit will not be lined unless porous material is hit during construction of pit.

Three sides of the reserve pit will be fenced with four strands of barbed wire before drilling starts. The fourth side will be fenced as soon as the drilling is completed. The fence will be kept in good repair while the pit is drying.

All trash must be contained and disposed of by a trash basket or trash pit. Basket or pit must be totally enclosed with a fine wire mesh before the rig moves in. The road and pad will be kept litter free.

IF burning is required, a permit will be obtained from the State Fire Warden, George Kensly, (801) 587-2237.

Produced waste water will be confined to a (unlined) pit for a period not to exceed ninety (90) days after initial production. During the ninety (90) day period, an application for approval of a permanent disposal method and location, along with the required water analysis, will be submitted for the District Manager's approval pursuant to Onshore Oil and Gas Order No. 3 (NTL-2B).

8. Ancillary Facilities

Camp facilities will not be required.

9. Well Site Layout

Rig layout is shown on attached Exhibit "9a".

Cuts and fills are shown on attached Exhibit "9b".

The reserve pit will be located on west side of location.

The top 6 inches of soil material will be removed from the location and stockpiled separately on the Northwest corner.

Topsoil along the access will be reserved in place adjacent to the road.

Access to the well pad will be from the North.

10. Plans for Restoration of Surface:

Immediately on completion of drilling, the location and surrounding area will be cleared of all remaining debris, materials, trash and junk not required for production.

Before any dirt work to restore the location takes place, the reserve pit must be completely dry.

All disturbed areas will be recontoured to to the approximate natural contours.

The stockpiled topsoil will be spread evenly over the disturbed contours.

Prior to reseeding, all disturbed area, including the access rods, will be scarified and left with a rough surfce. Disturbed areas will be scarified six (6)inches deep, with rips eighteen (18) inches apart.

Seed will be broadcast at a time specified by the BLM. If broadcast, a harrow or some other implement will be dragged over the seeded area to assure seed coverage. Between October 1 and February 28.

6 lbs/acre crested wheatgrass (Agropyron desertorum)  
2 lbs/acre Western wheatgrass (Agropyron smithii)  
2 lbs/acre Fourwing saltbush (Atriplex canenscens)  
1 lbs/acre Desert bitterbrush (Purshia glandulosa)  
1/2 lbs/acre Yellow sweetclover.

The reserve pit and that portion of the location and access road not needed for production or production facilities will be reclaimed.

11. Surface Ownership: Federal  
Mineral Ownership: Federal

12. Other Information

The access and the well pad will be monitored by an archeologist during excavation.

There will be no deviation from the proposed drilling and/or workover program without prior approval from the District Manager. Safe drilling and operating practices must be observed. All wells, whether drilling, producing, suspended, or abandoned will be identified in accordance with 43 CFR 3162.2.

"Sundry Notice and Report on Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3164.

The dirt contractor will be provided with an approved copy of the surface use plan.

A cultural clearance will be required before any construction begins. If any cultural resources are found during construction, all work will stop and the Area Manager will be notified.

This permit will be valid for a period of one (1) year from the date of approval. After permit termination a new application will be filed for approval for any future operations.

13. Lessee or Operator's Field Representative and Certification

Meridian Oil Inc.

P. O. Box 1855

Billings, Montana 59103

1. Johnny L. Wright, Drilling Manager	406-256-4175	406-252-2889
2. Steve Cruickshank, Drilling Eng.	406-256-4164	406-252-0701
3. Douglas R. Harris, Reg. Drilling Eng.	406-256-4025	406-652-2381
4. John Pulley, Completion Supt.	406-256-4124	406-259-6156

CERTIFICATION:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct, and, that the work associated with the operations proposed herein will be performed by MERIDIAN OIL INC. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

D.R. Harris  
Douglas R. Harris  
Regional Drilling Engineer

11/17/87  
Date

/ssn

TABLE 1

NOTIFICATIONS

Notify the San Juan Resource Area, at (801) 587-2141 for the following:

- 2 days prior to commencement of dirt work, construction or reclamation;
- 1 day prior to spudding;
- 1 day prior to running and cementing surface casing;
- 1 day prior to pressure testing of BOPE and/or surface casing.

Notify the Moab District Office, Branch of Fluid Minerals at (801) 259-6111 for the following:

No well abandonment operations will be commenced without the prior approval of the District Manager. In the case of newly drilled dry holes, and in emergency situations, verbal approval can be obtained by calling the following individuals, in the order listed:

Steven Jones, Petroleum Engineer                      Office Phone: (801) 259-6111

Home Phone: (801) 259-7404

Lynn Jackson, Chief, Branch of Fluid Minerals

Office Phone: (801) 259-6111

Home Phone: (801) 259-7990

Paul Brown, I&E Coordinator

Office Phone: (801) 259-6111

Home Phone: (801) 259-7018

24 HOURS ADVANCE NOTICE IS REQUIRED FOR ALL ABANDONMENTS.



WELL PAD PLAN VIEW

Well

22-14

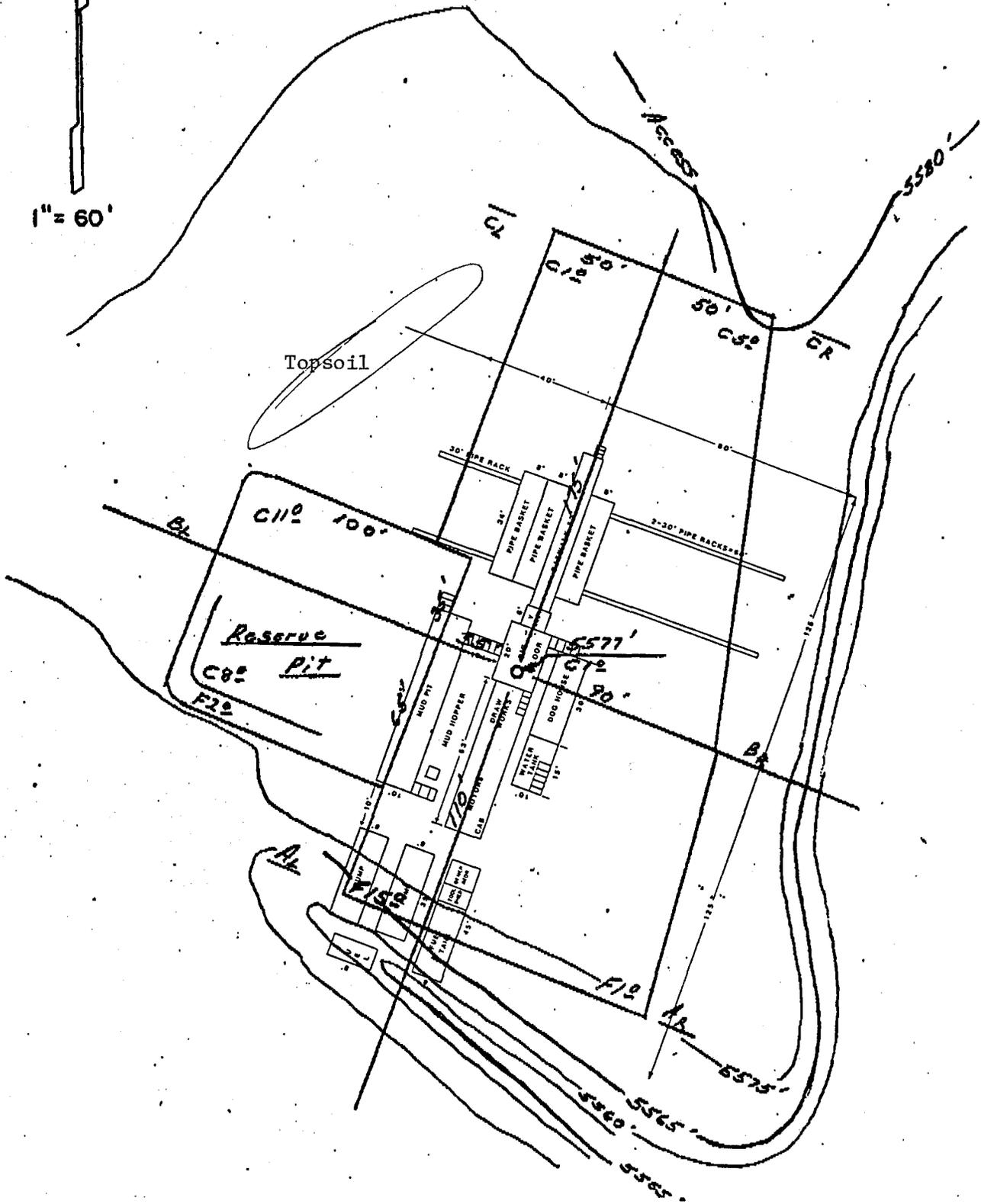


EXHIBIT "9a"  
Rig Layout

WELL PAD CROSS-SECTION

22-14

Cut   
Fill 

Scales: 1" = 60' H.  
1" = 30' V.

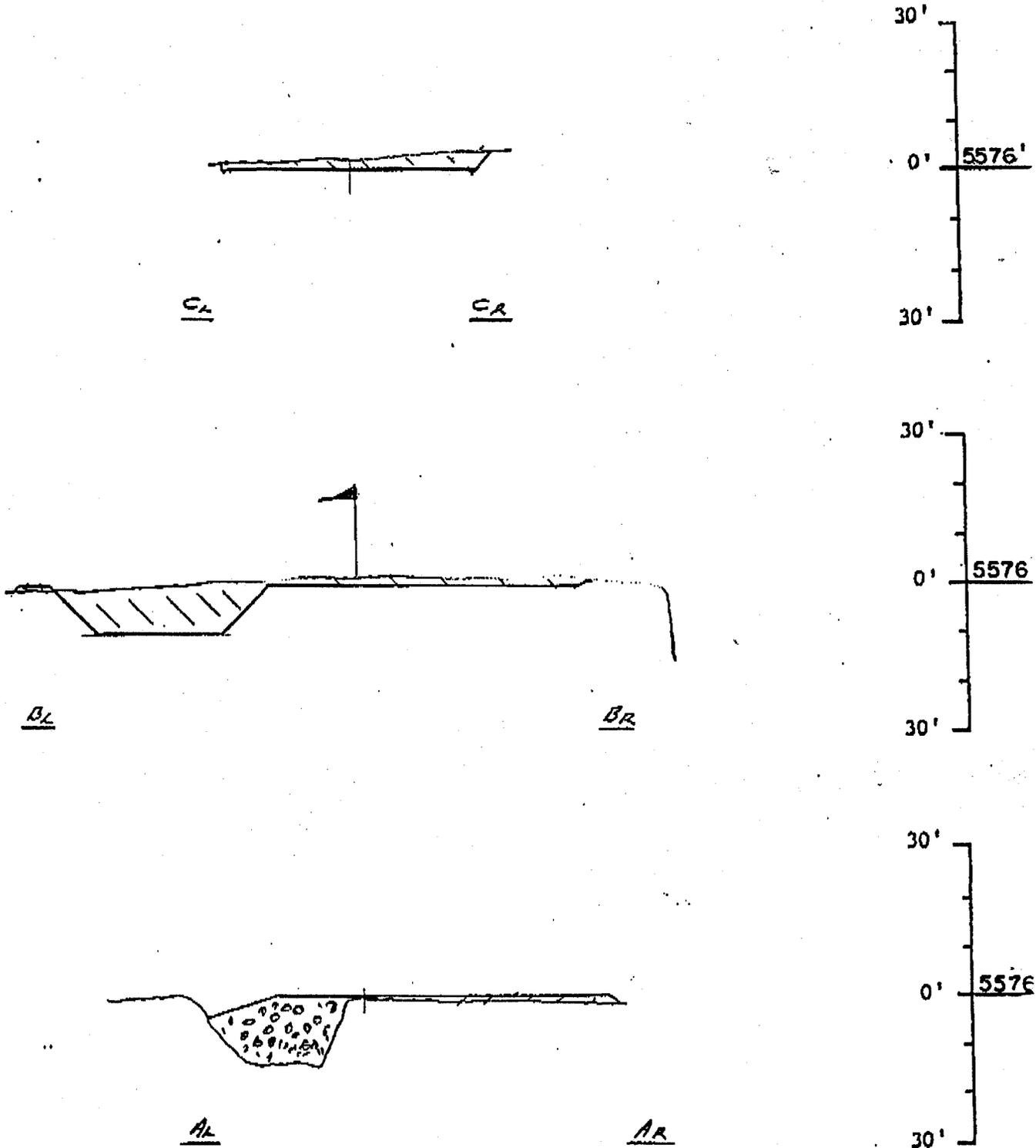


EXHIBIT "9b"  
Cuts and Fills

# CONFIDENTIAL

113008

OPERATOR Meridian Oil Co. DATE 11-23-87

WELL NAME Cherokee Fed. 22-14

SEC SE NW 14 T 37S R 23E COUNTY San Juan

43-037-31367  
API NUMBER

Fed.  
TYPE OF LEASE

CHECK OFF:

- PLAT
- BOND
- NEAREST WELL
- LEASE
- FIELD
- POTASH OR OIL SHALE

PROCESSING COMMENTS:

No other well within 920'

Water - #09-1499

Exception requested.

CONFIDENTIAL  
PERIOD  
EXPIRED  
ON 4-1-89

APPROVAL LETTER:

SPACING:  R615-2-3 \_\_\_\_\_ UNIT \_\_\_\_\_  R615-3-2

\_\_\_\_\_ CAUSE NO. & DATE \_\_\_\_\_  R615-3-3

STIPULATIONS:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



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

November 25, 1987

Meridian Oil Incorporated  
P. O. Box 1855  
Billings, Montana 59103

Gentlemen:

Re: Cherokee Federal 22-14 - SE NW Sec. 14, T. 37S, R. 23E  
1580' FNL, 2180' FWL - San Juan County, Utah

Approval to drill the referenced well is hereby granted in accordance with Rule R615-3-3, Oil and Gas Conservation General Rules.

In addition, the following actions are necessary to fully comply with this approval:

1. Spudding notification to the Division within 24 hours after drilling operations commence.
2. Submittal of an Entity Action Form to the Division within five working days of the time that the well is spudded or a change in operations or interests necessitates a change in entity status.
3. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.
4. Prompt notification to the Division should you determine that it is necessary to plug and abandon this well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695, or R. J. Firth, Associate Director, (Home) 571-6068.
5. Compliance with the requirements of Rule R615-3-22, Gas Flaring or Venting, Oil and Gas Conservation General Rules.

Page 2  
Meridian Oil Incorporated  
Cherokee Federal 22-14  
November 25, 1987

6. Prior to commencement of the proposed drilling operations, plans for toilet facilities and the disposal of sanitary waste at the drill site shall be submitted to the local health department having jurisdiction. Any such drilling operations and any subsequent well operations must be conducted in accordance with applicable state and local health department regulations. A list of all local health departments and copies of applicable regulations are available from the Division of Environmental Health, Bureau of General Sanitation, telephone (801) 538-6121.
7. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-037-31367.

Sincerely,



R. J. Firth  
Associate Director, Oil & Gas

as  
Enclosures  
cc: Branch of Fluid Minerals  
D. R. Nielson  
8159T

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

5. LEASE DESIGNATION AND SERIAL NO.	U-46825 <i>Dr.</i>
6. IF INDIAN, ALLOTTEE OR TRIBE NAME	N/A <b>120801</b>
7. UNIT AGREEMENT NAME	N/A
8. FARM OR LEASE NAME	Cherokee-Federal
9. WELL NO.	22-14
10. FIELD AND POOL, OR WILDCAT	Cherokee
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA	Section 14-37S-23E
12. COUNTY OR PARISH	San Juan
13. STATE	Utah
22. APPROX. DATE WORK WILL START*	December 20, 1987

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

1a. TYPE OF WORK  
 DRILL  DEEPEN  PLUG BACK

b. TYPE OF WELL  
 OIL WELL  GAS WELL  OTHER

2. NAME OF OPERATOR  
 MERIDIAN OIL INC.

3. ADDRESS OF OPERATOR  
 P. O. Box 1855, Billings, MT 59103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)  
 At surface: SENW (1580' FNL - 2180' FWL)  
 At proposed prod. zone: Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 17 miles northwest of Hatch Trading Post

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)  
 460'

16. NO. OF ACRES IN LEASE  
 1600

17. NO. OF ACRES ASSIGNED TO THIS WELL  
 40

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.  
 950'

19. PROPOSED DEPTH  
 6132'

20. ROTARY OR CABLE TOOLS  
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
 5576' GL (graded)

23. PROPOSED CASING AND CEMENTING PROGRAM

**RECEIVED**  
DEC 4 1987

DIVISION OF  
OIL, GAS & MINING

43-037-31367

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 D.P. Hawn TITLE Regional Drilling Engineer DATE 11/17/87  
(This space for Federal or State office use)

PERMIT NO. /S/ GENE NODINE APPROVAL DATE DEC 02 1987  
APPROVED BY DISTRICT MANAGER TITLE DISTRICT MANAGER DATE DEC 02 1987  
CONDITIONS OF APPROVAL, IF ANY:

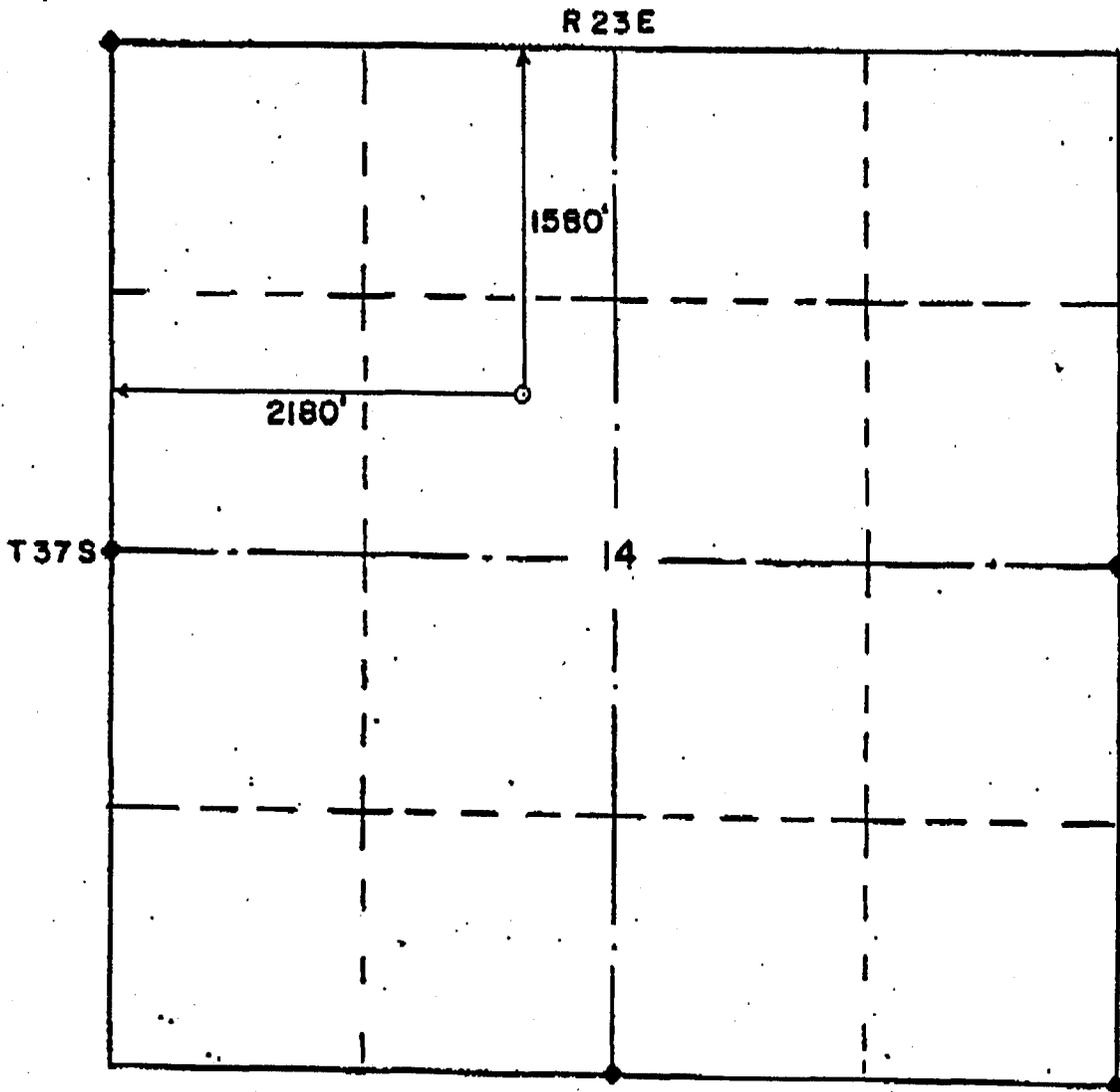
FLARING OR VENTING OF GAS IS SUBJECT TO NTL 4-A DATED 1/1/80

CONDITIONS OF APPROVAL ATTACHED

\*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations...

WELL LOCATION AND ACREAGE DEDICATION PLAT



1"=1000'

◆ brass cop

WELL LOCATION DESCRIPTION:  
 MERIDIAN OIL, Cherokee Federal #22-14  
 1580' FNL & 2180' FWL, grd. elevation 5577'  
 Section 14, T.37 S., R.23 E., SLM  
 San Juan County, Utah  
 Alternate; 1340' FN & 2030' FWL, 5581'grd.

The above plat is true and correct to my knowledge and belief.

4 November 1987

REGISTERED LAND SURVEYOR  
 No. 5705  
 GERALD G. HUDDLESTON  
*Gerald G. Huddleston*  
 Gerald G. Huddleston, LS  
 STATE OF UTAH

213 East Montezuma Avenue • Cortez, Colorado 81321 • 303-565-3330

Meridian Oil Inc.  
Well No. Cherokee-Federal 22-14  
Sec. 14, T. 37 S., R. 23 E.  
San Juan County, Utah  
Lease U-46825

CONDITIONS OF APPROVAL

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Meridian Oil Inc., is the bonded entity on this application. Liability will remain with the bonded party named above until we are formally notified by letter of the new bonded entity in reference to this Application for Permit to Drill.

B. THIRTEEN POINT SURFACE USE PLAN

1. The Class III road standards identified in your application to drill will also include 6" of compacted rock surface. These standards will be met prior to drilling.
2. If at any time the facilities located on public lands authorized by the terms of the lease are no longer included in the lease (due to a contraction in the unit or other lease or unit boundary change) the BLM will process a change in authorization to the appropriate statute. The authorization will be subject to appropriate rental, or other financial obligation determined by the authorized officer.

NOTIFICATIONS

Notify the San Juan Resource Area, at (801) 587-2141 for the following:

2 days prior to commencement of dirt work, construction or reclamation;

1 day prior to spudding.

Notify the Moab District Office, Branch of Fluid Minerals at (801) 259-6111 for the following:

No well abandonment operations will be commenced without the prior approval of the District Manager. In the case of newly drilled dry holes, and in emergency situations, verbal approval can be obtained by calling the following individuals, in the order listed.

Dale Manchester, Petroleum Engineer      Office Phone: (801) 259-6111

Home Phone:

Lynn Jackson, Chief, Branch of Fluid Minerals

Office Phone: (801) 259-6111

Home Phone: (801) 259-7990

Paul Brown, I&E Coordinator

Office Phone: (801) 259-6111

Home Phone: (801) 259-7018

24 hours advance notice is required for all abandonments.

121009

CONFIDENTIAL

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

0-1  
API #43-037-31367

NAME OF COMPANY: MERIDIAN OIL

WELL NAME: CHEROKEE FEDERAL 22-14

SECTION SE NW 14 TOWNSHIP 37S RANGE 23E COUNTY SAN JUAN

DRILLING CONTRACTOR EXTER

RIG # 68

SPUDED: DATE 12-4-87

TIME 6:00 PM

HOW Rotary

DRILLING WILL COMMENCE \_\_\_\_\_

REPORTED BY Steve Cruickshank

TELEPHONE # 303-565-7210 (Mobil 6406)

DATE 12-7-87 SIGNED JT

CORE LABORATORIES, INC.  
*Petroleum Reservoir Engineering*  
OKLAHOMA CITY, OKLAHOMA

January 21, 1988

REPLY TO  
SUITE 133  
400 SOUTH VERMONT  
OKLAHOMA CITY, OK  
73108

Meridian Oil, Inc.  
5613 DTC Parkway  
Englewood, Colorado 80111

Attn: Mr. Art Moore

Subject: Core Analysis Data  
Cherokee No. 22-14 Well  
San Juan County, Utah  
CLI File 57182-12997

Gentlemen:

Cores taken in the subject well in the Ismay formation were received at the Oklahoma City laboratory for special analytical testing described on the Procedure Page.

The accompanying Coregraph presents the Surface Core-Gamma Log and binomially averaged core analysis data in graphical form to aid correlation with downhole electrical surveys.

Tabular presentation of the measured physical properties may be found on pages one through five of this report.

Histograms of porosity and permeability in addition to a graph of permeability versus porosity may be found on pages six through eight.

It is a pleasure to have this opportunity of serving you.

Very truly yours,

CORE LABORATORIES, INC.

*Charles Devier*

Charles A. Devier  
Laboratory Manager

CAD:ja

3 cc - Addressee  
3 cc - Dan Soderstrom  
Billings, Montana

Meridian Oil, Inc.  
Cherokee No. 22-14 Well  
CLI File 57182-12997

Procedure Page

Handling and Analytical Procedures

Diamond coring equipment and water base mud were used to obtain 4.0 inch diameter cores between 5,768.0 and 5,880.0 feet.

The cores were preserved at the well site in saran and foil by CLI personnel.

The cores were transported to Oklahoma City by CLI personnel.

A Core-Gamma Log was recorded for downhole electric log correlation.

Core analysis was performed on right cylinder full diameter samples.

Fluid removal was accomplished using Dean Stark method.

Porosity was determined by Boyle's law method.

Air permeability measured in two horizontal directions--not Klinkenberg corrected.

Cores were preserved for future study.

Temporary storage of cores in Oklahoma City laboratory for a period of thirty days without additional charge.

**CORE ANALYSIS REPORT**  
**FOR**  
**MERIDIAN OIL COMPANY**  
**CHEROKEE FEDERAL NO. 22-14 WELL**  
**SAN JUAN COUNTY, UTAH**

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom; and for whose exclusive and confidential use; this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories (all errors and omissions excepted); but Core Laboratories and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operations, or profitableness of any oil, gas or other mineral well or formation in connection with which such report is used or relied upon.

## CORE LABORATORIES

Company : MERIDIAN OIL COMPANY  
 Well : CHEROKEE FEDERAL NO. 22-14 WELL  
 Location :  
 Co,State : SAN JUAN COUNTY, UTAH

Field :  
 Formation : ISMAY FORMATION  
 Coring Fluid : WATER BASE MUD  
 Elevation :

File No.: 57182-12997  
 Date : 20-JAN-1988  
 API No. :  
 Analysts: DEVIER

### CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH ft	PERMEABILITY		POROSITY (HELIUM) %	SATURATION (PORE VOLUME)		GRAIN DENSITY gm/cc	DESCRIPTION
		(MAXIMUM) Kair md	(90 DEG) Kair md		OIL %	WATER %		
1	5768.0- 69.0	215.	205.	22.9	12.5	47.4	2.84	Dol lt brn foss p.p. vug
2	5769.0- 70.0	45.0	41.0	22.1	1.8	39.3	2.88	Dol lt brn foss p.p. vug
3	5770.0- 71.0	157.	150.	26.8	1.4	52.1	2.88	Dol lt brn foss p.p. slily vug
4	5771.0- 72.0	11.0	11.0	11.1	2.2	43.0	2.82	Dol lt brn foss p.p. slily vug anhy
5	5772.0- 73.0	10.0	8.30	8.7	9.2	37.9	2.91	Dol lt brn foss p.p. anhy
* 6	5773.0- 74.0		8.40	15.7	3.2	30.9	2.82	Dol lt brn foss p.p. vug
7	5774.0- 75.0	9.00	7.70	17.9	2.4	31.7	2.87	Dol lt brn foss p.p. vug slily arg
8	5775.0- 76.0	3.20	2.40	8.6	1.1	31.8	2.90	Dol lt brn foss p.p. anhy slily arg
9	5776.0- 77.0	0.34	0.10	3.0	4.7	30.5	2.90	Dol lt brn p.p. anhy closed frac
10	5777.0- 78.0	0.93	0.93	12.3	1.0	35.3	2.85	Dol lt brn p.p. anhy sty arg
11	5778.0- 79.0	1.40	1.10	15.4	1.8	42.3	2.82	Dol lt brn p.p. anhy arg
12	5779.0- 80.0	2.50	0.85	12.2	4.4	39.1	2.84	Dol lt brn p.p. slily anhy slily arg foss
13	5780.0- 81.0	5.90	5.70	18.9	4.5	38.2	2.86	Dol lt brn p.p. slily anhy slily arg foss
14	5781.0- 82.0	11.0	9.20	14.9	8.7	30.8	2.89	Dol lt brn p.p. slily anhy slily arg foss
15	5782.0- 83.0	40.0	26.0	26.0	3.0	40.2	2.88	Dol lt brn p.p. slily anhy slily arg foss vug
16	5783.0- 84.0	21.0	20.0	21.9	1.4	41.3	2.86	Dol lt brn p.p. slily arg foss vug
17	5784.0- 85.0	29.0	29.0	23.3	3.5	43.3	2.87	Dol lt brn p.p. slily arg foss vug
18	5785.0- 86.0	29.0	29.0	22.7	6.9	37.2	2.86	Dol lt brn p.p. slily arg foss vug
19	5786.0- 87.0	28.0	26.0	22.9	4.4	40.5	2.87	Dol lt brn p.p. slily arg foss vug
20	5787.0- 88.0	13.0	11.0	18.6	9.9	26.5	2.87	Dol lt brn p.p. slily arg foss vug
* 21	5788.0- 89.0		33.0	23.7	4.0	40.6	2.85	Dol lt brn foss arg p.p. slily vug
22	5789.0- 90.0	7.40	7.40	15.5	3.9	40.5	2.86	Dol lt brn foss slily arg p.p.
23	5790.0- 91.0	2.00	1.90	12.2	3.4	39.0	2.85	Dol lt brn foss slily arg p.p.
24	5791.0- 92.0	3.10	3.00	14.1	2.7	41.1	2.83	Dol lt brn foss slily arg p.p.
25	5792.0- 93.0	2.00	1.90	10.8	8.2	35.2	2.84	Dol lt brn foss slily arg p.p.
26	5793.0- 94.0	2.40	2.40	12.1	3.6	39.1	2.83	Dol lt brn foss slily arg p.p.
27	5794.0- 95.0	1.70	1.70	9.7	1.5	36.9	2.82	Dol lt brn foss slily arg p.p.

# CORE LABORATORIES

Company : MERIDIAN OIL COMPANY  
Well : CHEROKEE FEDERAL NO. 22-14 WELL

Field :  
Formation : ISMAY FORMATION

File No.: 57182-12997  
Date : 20-JAN-1988

## C O R E A N A L Y S I S R E S U L T S

SAMPLE NUMBER	DEPTH ft	PERMEABILITY		POROSITY (HELIUM) %	SATURATION		GRAIN DENSITY gm/cc	DESCRIPTION
		(MAXIMUM) Kair md	(90 DEG) Kair md		(PORE VOLUME) OIL %	WATER %		
28	5795.0- 96.0	1.50	1.50	9.6	9.6	26.8	2.82	Do1 lt brn foss slily arg p.p.
29	5796.0- 97.0	0.86	0.58	4.9	3.1	34.9	2.83	Do1 lt brn foss slily arg p.p.
30	5797.0- 98.0	0.26	0.26	4.6	3.6	30.3	2.85	Do1 lt brn foss slily arg p.p.
31	5798.0- 99.0	0.79	0.75	7.9	4.1	33.0	2.83	Do1 lt brn foss slily arg p.p.
32	5799.0- 00.0	3.40	3.30	12.7	2.3	41.5	2.83	Do1 lt brn foss slily arg p.p.
33	5800.0- 01.0	16.0	16.0	20.1	4.9	37.7	2.86	Do1 lt brn foss slily arg p.p.
34	5801.0- 02.0	8.30	8.30	18.4	5.8	32.3	2.87	Do1 lt brn foss slily arg p.p.
35	5802.0- 03.0	2.70	2.30	9.6	1.1	27.0	2.89	Do1 lt brn foss slily arg p.p. anhy
36	5803.0- 04.0	2.30	2.30	19.1	9.1	33.7	2.89	Do1 lt brn foss slily arg p.p. anhy slily pyr
37	5804.0- 05.0	6.50	6.00	16.0	6.4	33.5	2.89	Do1 lt brn foss slily arg p.p. anhy slily pyr
* 38	5805.0- 06.0		9.30	17.9	4.7	41.8	2.87	Do1 lt brn foss slily arg p.p. anhy
* 39	5806.0- 07.0		12.0	11.6	1.2	45.9	2.83	Do1 lt brn foss slily arg p.p. anhy
40	5807.0- 08.0	4.30	3.60	18.3	2.1	38.7	2.85	Do1 lt brn foss slily arg p.p. slily anhy
41	5808.0- 09.0	7.90	7.90	18.6	2.2	38.4	2.87	Do1 lt brn foss slily arg p.p. anhy
42	5809.0- 10.0	5.10	4.70	17.3	2.5	37.9	2.87	Do1 lt brn foss slily arg p.p. anhy
43	5810.0- 11.0	11.0	9.10	19.9	1.6	40.5	2.86	Do1 lt brn foss slily arg p.p. anhy slily sh lam
44	5811.0- 12.0	3.00	2.20	17.1	1.7	39.2	2.85	Do1 lt brn foss slily arg p.p. anhy
45	5812.0- 13.0	6.80	6.10	20.0	3.6	38.9	2.87	Do1 lt brn foss slily arg p.p. anhy sty
46	5813.0- 14.0	3.50	3.30	19.8	4.6	30.3	2.89	Do1 lt brn foss slily arg p.p. anhy slily vug
47	5814.0- 15.0	19.0	18.0	23.9	2.6	44.3	2.88	Do1 lt brn foss slily arg p.p. anhy slily vug
48	5815.0- 16.0	6.60	6.50	23.1	3.3	41.9	2.79	Do1 lt brn foss slily arg p.p. anhy slily vug
49	5816.0- 17.0	16.0	15.0	22.8	2.3	39.0	2.86	Do1 lt brn foss slily arg p.p. anhy slily vug
50	5817.0- 18.0	14.0	10.0	15.9	2.2	46.3	2.83	Do1 lt brn foss slily arg p.p. slily anhy
51	5818.0- 19.0	6.10	6.10	9.8	2.7	30.3	2.83	Do1 lt brn foss slily arg p.p. sty
52	5819.0- 20.0	1.10	0.98	6.0	7.9	13.9	2.81	Do1 lt brn foss slily arg p.p. slily vug
53	5820.0- 21.0	0.70	0.58	4.2	13.1	17.5	2.80	Do1 lt brn foss slily arg p.p. slily vug
54	5821.0- 22.0	0.79	0.76	4.6	8.5	22.9	2.81	Ls lt brn foss slily arg p.p. slily vug dol
55	5822.0- 23.0	0.34	0.27	2.5	11.5	29.3	2.79	Ls lt brn slily arg p.p. dol
56	5823.0- 24.0	1.10	1.10	4.1	8.9	28.3	2.79	Ls lt brn slily arg p.p. dol

# CORE LABORATORIES

Company : MERIDIAN OIL COMPANY  
Well : CHEROKEE FEDERAL NO. 22-14 WELL

Field :  
Formation : ISMAY FORMATION

File No.: 57182-12997  
Date : 20-JAN-1988

## CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH ft	PERMEABILITY		POROSITY (HELIUM) %	SATURATION		GRAIN DENSITY gm/cc	DESCRIPTION
		(MAXIMUM) Kair md	(90 DEG) Kair md		(PORE VOLUME) OIL %	WATER %		
57	5824.0- 25.0	2.20	1.40	4.2	11.0	30.7	2.81	Ls lt brn slily arg p.p. sty dol
58	5825.0- 26.0	8.20	8.10	18.7	9.5	35.8	2.86	Dol lt brn slily arg p.p. anhy
59	5826.0- 27.0	7.60	6.50	23.9	13.0	42.9	2.81	Dol lt brn slily arg p.p. anhy
* 60	5827.0- 28.0		2.70	17.1	10.4	23.7	2.84	Dol lt brn slily arg p.p. anhy slily vug
61	5828.0- 29.0	2.30	2.10	17.8	3.1	55.7	2.80	Dol lt brn arg p.p.
62	5829.0- 30.0	4.90	4.50	19.0	2.7	50.9	2.82	Dol lt brn arg p.p. slily anhy
63	5830.0- 31.0	0.04	0.04	2.3	3.8	58.1	2.73	Ls lt brn foss arg p.p. dns dol
64	5831.0- 32.0	0.63	0.63	6.8	2.8	42.4	2.72	Ls lt brn foss arg p.p. dns dol slily anhy
65	5832.0- 33.0	3.90	3.50	14.6	1.8	40.7	2.74	Ls lt brn foss slily arg p.p. vug dol
66	5833.0- 34.0	4.70	3.80	14.7	3.2	35.9	2.73	Ls lt brn foss slily arg p.p. vug dol
67	5834.0- 35.0	4.90	4.50	12.6	13.9	49.7	2.76	Ls lt brn foss slily arg p.p. vug dol
68	5835.0- 36.0	0.52	0.48	5.5	9.6	25.2	2.80	Ls lt brn foss slily arg p.p. vug dol
69	5836.0- 37.0	2.30	2.10	9.0	10.4	18.0	2.80	Ls lt brn foss slily arg p.p. vug dol
70	5837.0- 38.0	1.00	0.97	6.6	10.9	17.3	2.80	Ls lt brn foss slily arg p.p. vug dol
71	5838.0- 39.0	2.50	1.70	7.0	16.3	25.3	2.80	Ls lt brn foss slily arg p.p. vug dol
72	5839.0- 40.0	2.70	1.60	8.6	13.1	20.2	2.81	Ls lt brn foss slily arg p.p. vug dol
73	5840.0- 41.0	0.91	0.81	9.1	9.8	18.7	2.81	Ls lt brn foss slily arg p.p. vug dol
74	5841.0- 42.0	0.93	0.86	10.2	8.2	17.1	2.80	Ls lt brn foss slily arg p.p. vug dol
75	5842.0- 43.0	1.60	1.20	6.3	16.7	30.7	2.80	Ls lt brn foss slily arg p.p. vug dol
76	5843.0- 44.0	2.80	2.50	8.3	7.8	24.9	2.78	Ls lt brn foss slily arg p.p. slily vug dol slily anhy
77	5844.0- 45.0	3.50	2.80	6.6	9.2	29.0	2.79	Ls lt brn foss slily arg p.p. dol
78	5845.0- 46.0	12.0	9.90	6.7	21.1	40.6	2.78	Ls lt brn foss slily arg p.p. dol
79	5846.0- 47.0	0.97	0.88	10.1	13.6	17.6	2.81	Ls lt brn foss slily arg p.p. slily vug dol
80	5847.0- 48.0	0.79	0.77	6.6	13.4	31.4	2.83	Ls lt brn foss slily arg p.p. slily vug dol
81	5848.0- 49.0	1.20	0.97	8.6	12.6	29.5	2.81	Ls lt brn foss slily arg p.p. slily vug dol
82	5849.0- 50.0	1.40	1.40	6.1	20.3	31.3	2.82	Ls lt brn foss slily arg p.p. slily vug dol
83	5850.0- 51.0	2.60	2.50	9.0	14.8	27.1	2.79	Ls lt brn foss slily arg p.p. slily vug dol
84	5851.0- 52.0	3.10	2.60	10.9	13.7	26.2	2.81	Ls lt brn foss slily arg p.p. slily vug dol
85	5852.0- 53.0	1.20	1.10	8.2	11.1	21.2	2.83	Ls lt brn foss slily arg p.p. slily vug dol

# CORE LABORATORIES

Company : MERIDIAN OIL COMPANY  
Well : CHEROKEE FEDERAL NO. 22-14 WELL

Field :  
Formation : ISMAY FORMATION

File No.: 57182-12997  
Date : 20-JAN-1988

## CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH ft	PERMEABILITY		POROSITY (HELIUM) %	SATURATION (PORE VOLUME)		GRAIN DENSITY gm/cc	DESCRIPTION
		(MAXIMUM) Kair md	(90 DEG) Kair md		OIL %	WATER %		
86	5853.0- 54.0	1.50	1.20	6.9	19.3	28.7	2.80	Ls lt brn foss slily arg p.p. slily vug dol
87	5854.0- 55.0	0.74	0.68	6.6	16.7	22.1	2.82	Ls lt brn foss slily arg p.p. dol
88	5855.0- 56.0	1.60	1.60	7.2	17.5	25.0	2.84	Ls lt brn foss slily arg p.p. dol
89	5856.0- 57.0	1.60	1.40	8.8	19.2	31.1	2.86	Dol lt brn foss slily arg p.p.
90	5857.0- 58.0	1.60	1.50	7.2	17.0	26.3	2.87	Dol lt brn foss slily arg p.p.
91	5858.0- 59.0	3.50	3.40	12.4	18.3	30.3	2.85	Dol lt brn foss arg dns
92	5859.0- 60.0	3.00	2.80	15.2	30.7	30.6	2.81	Slt dk brn foss dol dns slily anhy
93	5860.0- 61.0	2.10	2.00	15.5	31.5	27.5	2.80	Slt dk brn foss dol dns slily anhy
94	5861.0- 62.0	17.0	0.38	12.8	29.7	27.8	2.81	Slt dk brn dol dns slily anhy
95	5862.0- 63.0	0.15	0.15	11.0	3.0	60.9	2.81	Slt dk brn dol dns slily anhy
96	5863.0- 64.0	0.13	0.13	10.7	3.7	57.6	2.81	Slt dk brn dol dns slily anhy
97	5864.0- 65.0	0.10	0.09	11.2	4.4	58.4	2.81	Slt dk brn dol dns slily anhy sty
98	5865.0- 66.0	0.03	0.03	2.4	10.9	83.7	2.77	Ls dk brn foss dol dns arg
99	5866.0- 67.0	0.03	0.03	2.9	6.8	90.4	2.78	Ls dk brn foss dol dns arg
100	5867.0- 68.0	0.04	0.04	6.4	4.0	47.5	2.80	Ls dk brn foss dol dns arg
101	5868.0- 69.0	0.04	0.03	5.2	2.0	46.7	2.77	Ls lt brn foss slily dol slily arg dns
102	5869.0- 70.0	0.02	0.02	3.5	3.8	66.1	2.75	Ls dk brn foss slily dol slily arg dns
103	5870.0- 71.0	0.02	0.02	4.4	3.3	59.2	2.76	Ls dk brn foss slily dol slily arg dns
104	5871.0- 72.0	0.05	0.05	4.0	3.7	75.0	2.75	Ls dk brn foss slily dol slily arg dns
105	5872.0- 73.0	0.07	0.07	5.7	3.5	61.8	2.75	Ls dk brn foss slily dol slily arg dns
106	5873.0- 74.0	0.33	0.22	6.2	2.2	56.6	2.75	Ls dk brn foss slily dol slily arg dns sty
107	5874.0- 75.0	0.13	0.08	5.5	3.6	60.6	2.76	Ls dk brn foss slily dol slily arg dns slily anhy
108	5875.0- 76.0	0.03	0.03	4.8	4.2	67.1	2.75	Dol dk brn foss slily arg dns slily anhy
* 109	5876.0- 77.0		<.01	6.1	5.7	68.3	2.76	Dol dk brn foss slily arg dns
110	5877.0- 78.0	0.06	0.06	5.4	4.1	47.4	2.76	Dol dk brn foss slily arg dns
111	5878.0- 79.0	0.02	0.02	2.9	4.5	71.2	2.75	Ls dk brn foss slily dol dns
112	5879.0- 80.0	0.04	0.03	0.7	0.0	88.9	2.72	Ls dk brn foss dns

# CORE LABORATORIES

Company : MERIDIAN OIL COMPANY  
 Well : CHEROKEE FEDERAL NO. 22-14 WELL

Field :  
 Formation : ISMAY FORMATION

File No.: 57182-12997  
 Date : 20-JAN-1988

## C O R E   A N A L Y S I S   R E S U L T S

SAMPLE NUMBER	DEPTH  ft	PERMEABILITY		POROSITY (HELIUM)  %	SATURATION (PORE VOLUME)		GRAIN DENSITY  gm/cc	DESCRIPTION
		(MAXIMUM) Kair md	(90 DEG) Kair md		OIL %	WATER %		
* DENOTES PLUG ANALYSIS								

# CORE LABORATORIES

Company : MERIDIAN OIL COMPANY  
 Well : CHEROKEE FEDERAL NO. 22-14 WELL

Field :  
 Formation : ISMAY FORMATION

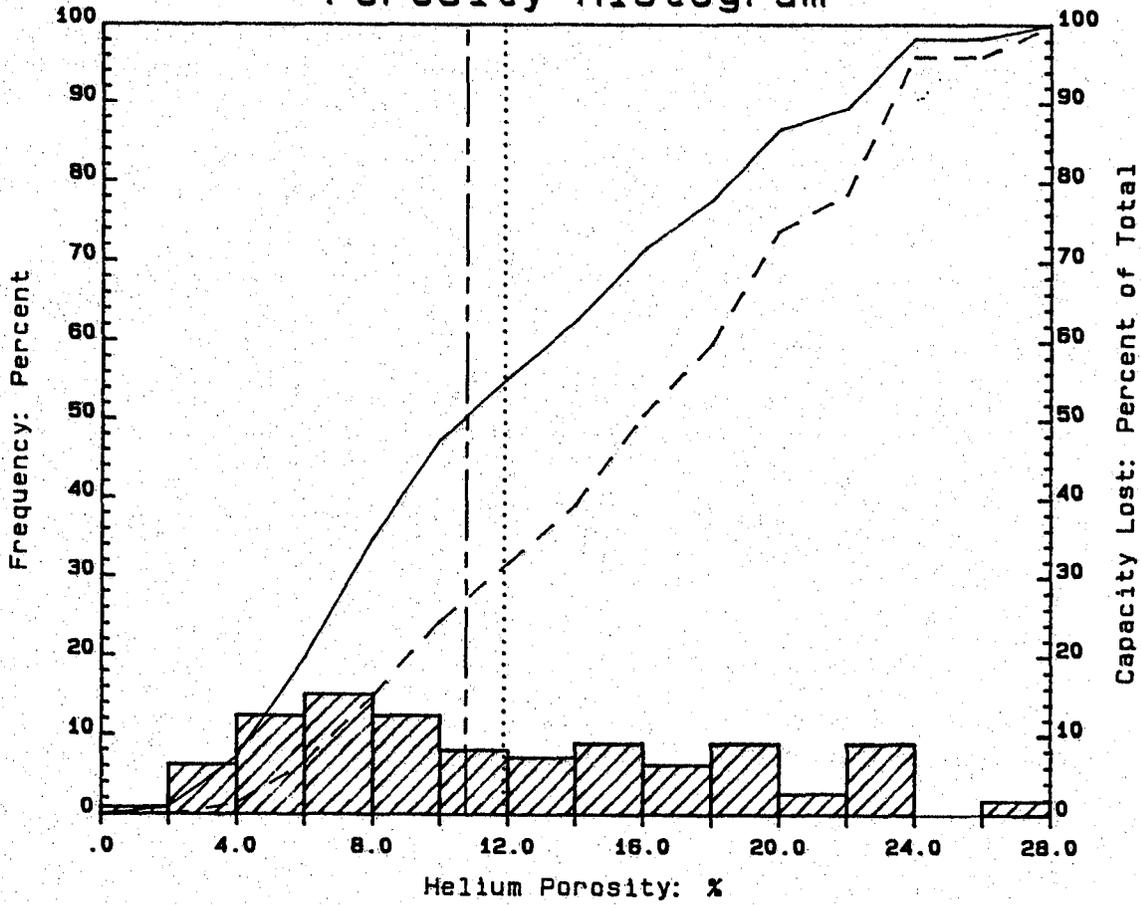
File No.: 57182-12997  
 Date : 20-JAN-1988

TABLE I

## SUMMARY OF CORE DATA

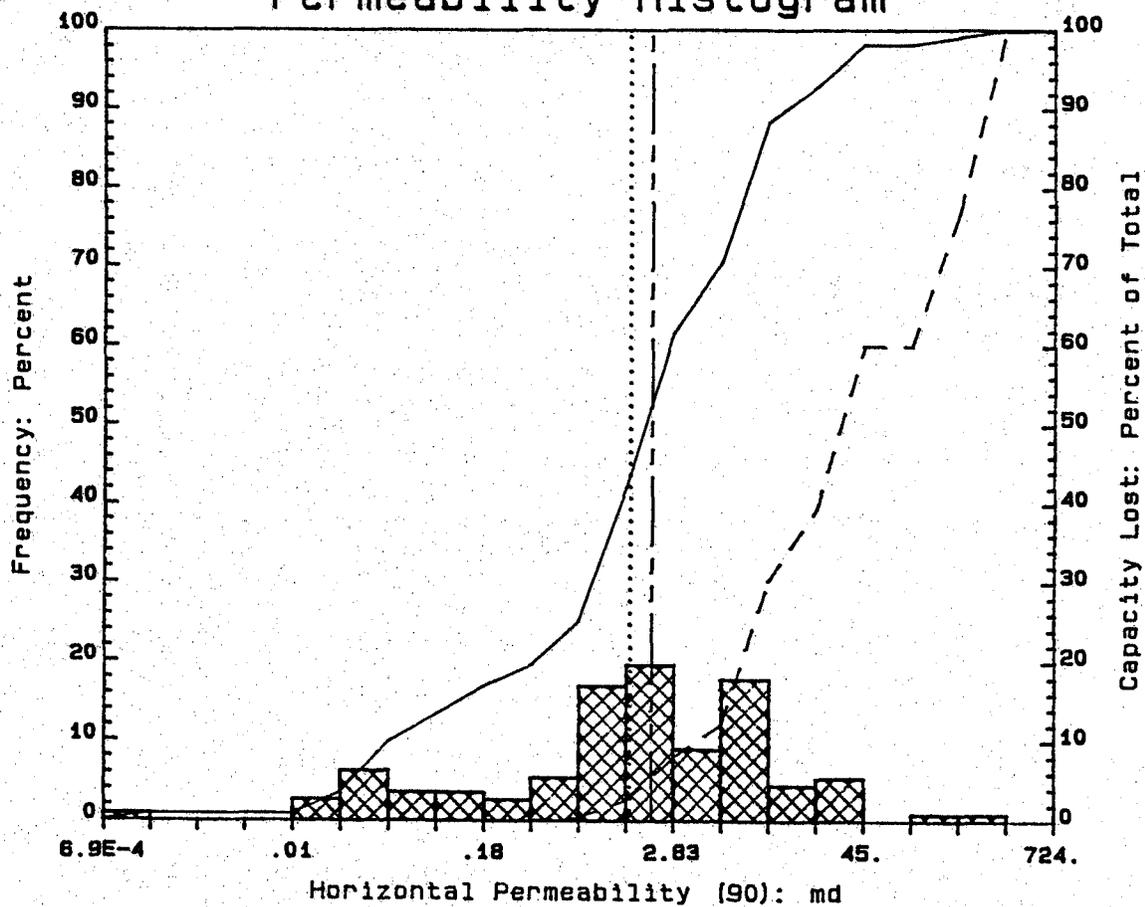
ZONE AND CUTOFF DATA	CHARACTERISTICS REMAINING AFTER CUTOFFS	
<b>ZONE:</b>	<b>ZONE:</b>	<b>PERMEABILITY:</b>
Identification ----- NOT SPECIFIED	Number of Samples ----- 112	Flow Capacity ----- 891.7 md-ft
Top Depth ----- 5768.0 ft	Thickness Represented - 112.0 ft	Arithmetic Average ---- 7.96 md
Bottom Depth ----- 5880.0 ft		Geometric Average ---- 1.50 md
Number of Samples ----- 112		Harmonic Average ----- 0.07 md
	<b>POROSITY:</b>	Minimum ----- 0.00 md
<b>DATA TYPE:</b>	Storage Capacity ----- 1331.0 $\phi$ -ft	Maximum ----- 205. md
Porosity ----- (HELIUM)	Arithmetic Average ---- 11.9 %	Median ----- 2.05 md
Permeability ----- (90 DEG) Kair	Minimum ----- 0.7 %	Standard Dev. (Geom) -- K-10 $\pm 0.917$ md
	Maximum ----- 26.8 %	
<b>CUTOFFS:</b>	Median ----- 10.8 %	<b>HETEROGENEITY (Permeability):</b>
Porosity (Minimum) ----- 0.0 %	Standard Deviation ---- $\pm 6.5$ %	Dykstra-Parsons Var. -- 0.806
Porosity (Maximum) ----- 100.0 %		Lorenz Coefficient ---- 0.645
Permeability (Minimum) --- 0.0000 md	<b>GRAIN DENSITY:</b>	
Permeability (Maximum) --- 100000. md	Arithmetic Average ---- 2.82 gm/cc	<b>AVERAGE SATURATIONS (Pore Volume):</b>
Water Saturation (Maximum) 100.0 %	Minimum ----- 2.72 gm/cc	Oil ----- 6.8 %
Oil Saturation (Minimum) - 0.0 %	Maximum ----- 2.91 gm/cc	Water ----- 38.1 %
Grain Density (Minimum) -- 2.00 gm/cc	Median ----- 2.82 gm/cc	
Grain Density (Maximum) -- 3.00 gm/cc	Standard Deviation ---- $\pm 0.04$ gm/cc	
Lithology Excluded ----- NONE		

# Porosity Histogram



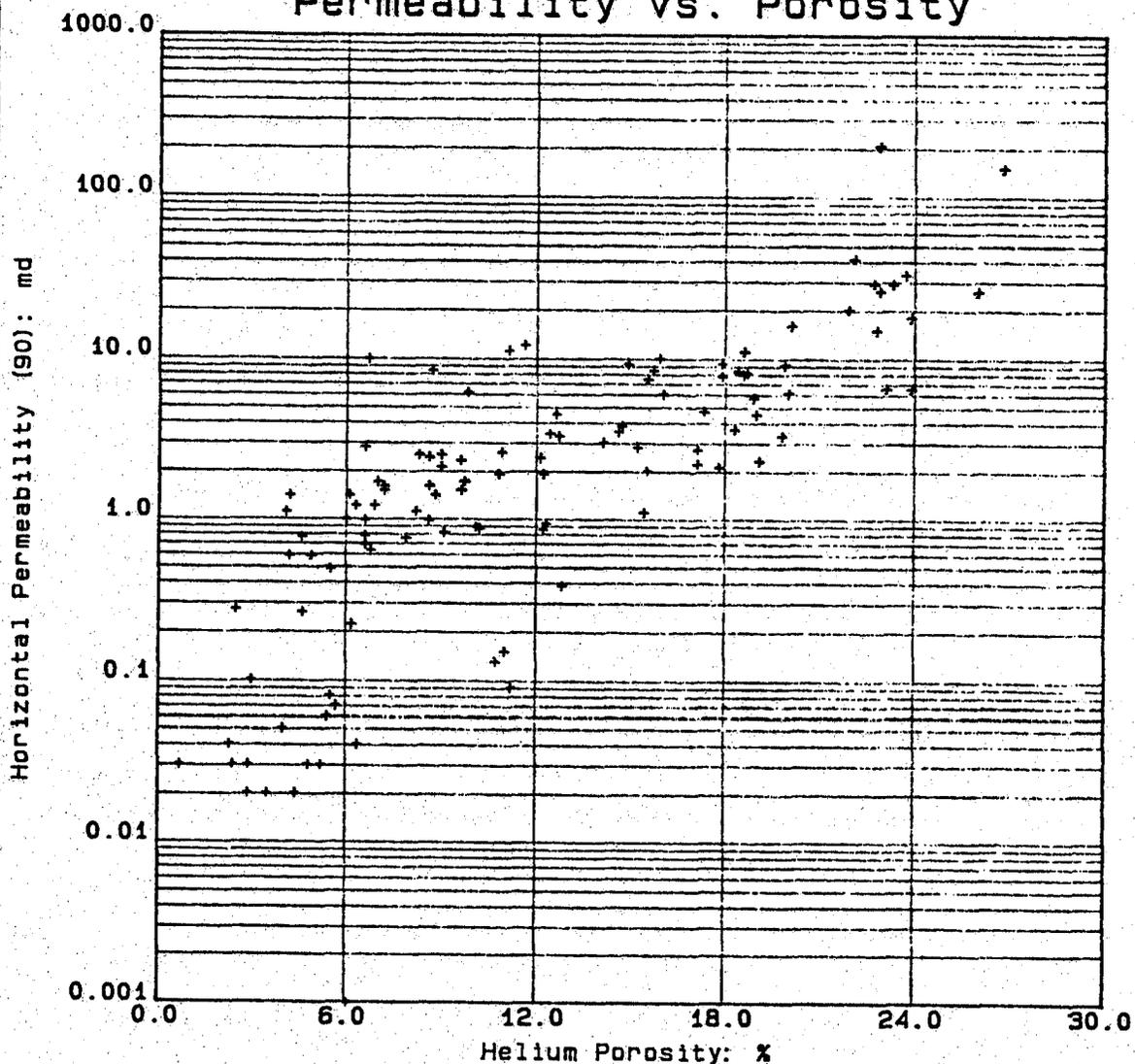
<p><b>MERIDIAN OIL COMPANY</b>                  CHEROKEE FEDERAL NO. 22-14 WELL                  SAN JUAN COUNTY, UTAH                  ISMAY FORMATION                  5768-5880 feet                  Page 6                  Core Laboratories</p>	<p>- LEGEND -</p> <p>—— Median Value (10.8)                  ..... Arith. Average (11.9)                  —— Cumulative Frequency                  - - - Cumulative Capacity Lost</p> <p>112 Samples</p> <p style="text-align: right;">20-Jan-1988</p>
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# Permeability Histogram



<p><b>MERIDIAN OIL COMPANY</b>  <b>CHEROKEE FEDERAL NO. 22-14 WELL</b>  <b>SAN JUAN COUNTY, UTAH</b>  <b>ISMAY FORMATION</b>  <b>5768-5880 feet</b>  <b>Page 7</b></p>	<p><b>- LEGEND -</b></p> <p>— Median Value (2.05)          ..... Geom. Average (1.50)          — Cumulative Frequency          - - - Cumulative Capacity Lost</p> <p><b>112 Samples</b></p>
<p>Core Laboratories</p>	<p>20-Jan-1988</p>

# Permeability vs. Porosity



<p><b>MERIDIAN OIL COMPANY</b>                  CHEROKEE FEDERAL NO. 22-14 WELL                  SAN JUAN COUNTY, UTAH                  ISMAY FORMATION                  5768-5880 feet                  Page 8</p>	<p>- LEGEND -                  ISMAY FORMATIO</p>
<p>Core Laboratories</p>	<p>20-Jan-1988</p>

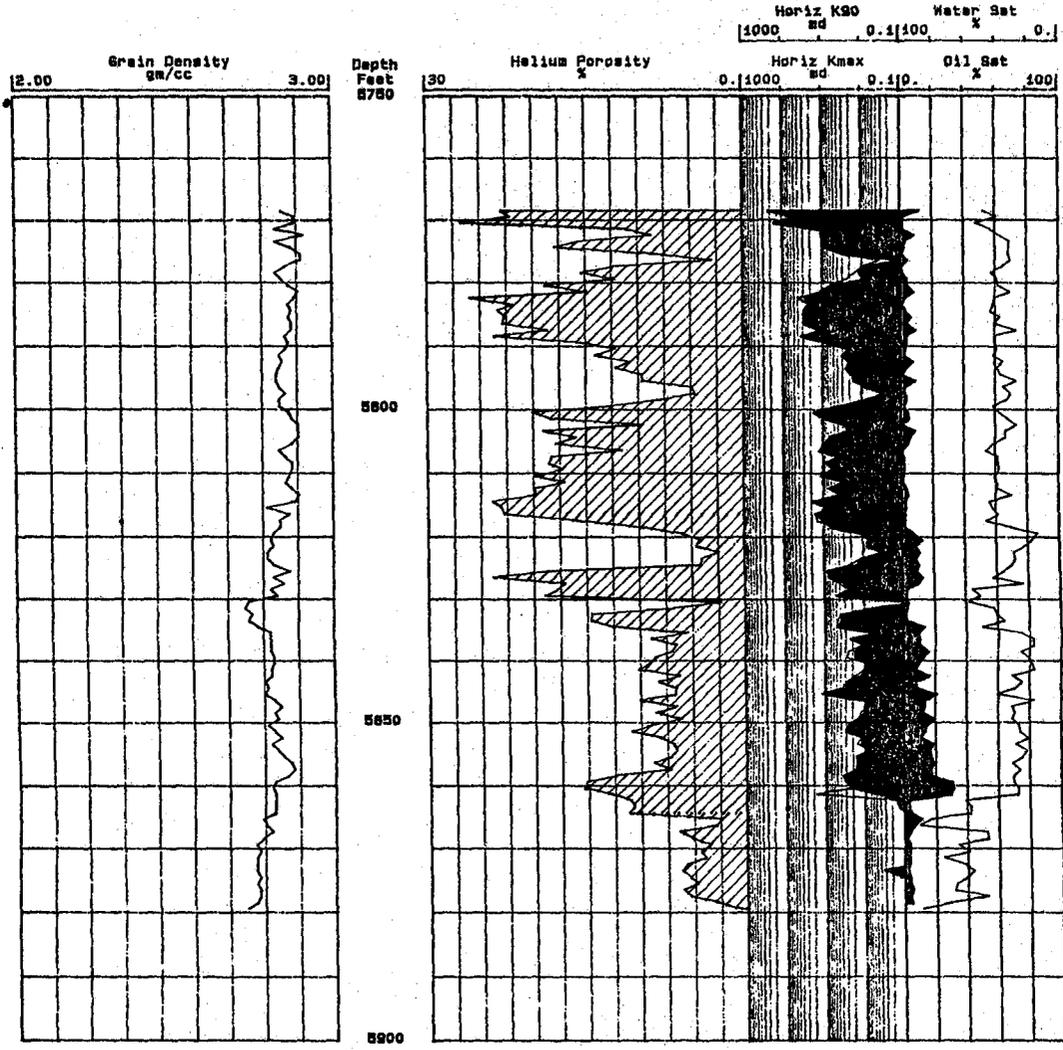
# CORRELATION COREGRAPH

**MERIDIAN OIL COMPANY**  
 CHEROKEE FEDERAL NO. 22-14 WELL  
 SAN JUAN COUNTY, UTAH  
 IGMAY FORMATION  
 5766-5880 feet

Vertical Scale  
 5.00 in = 100.0 ft

Core Laboratories

20-Jan-1968



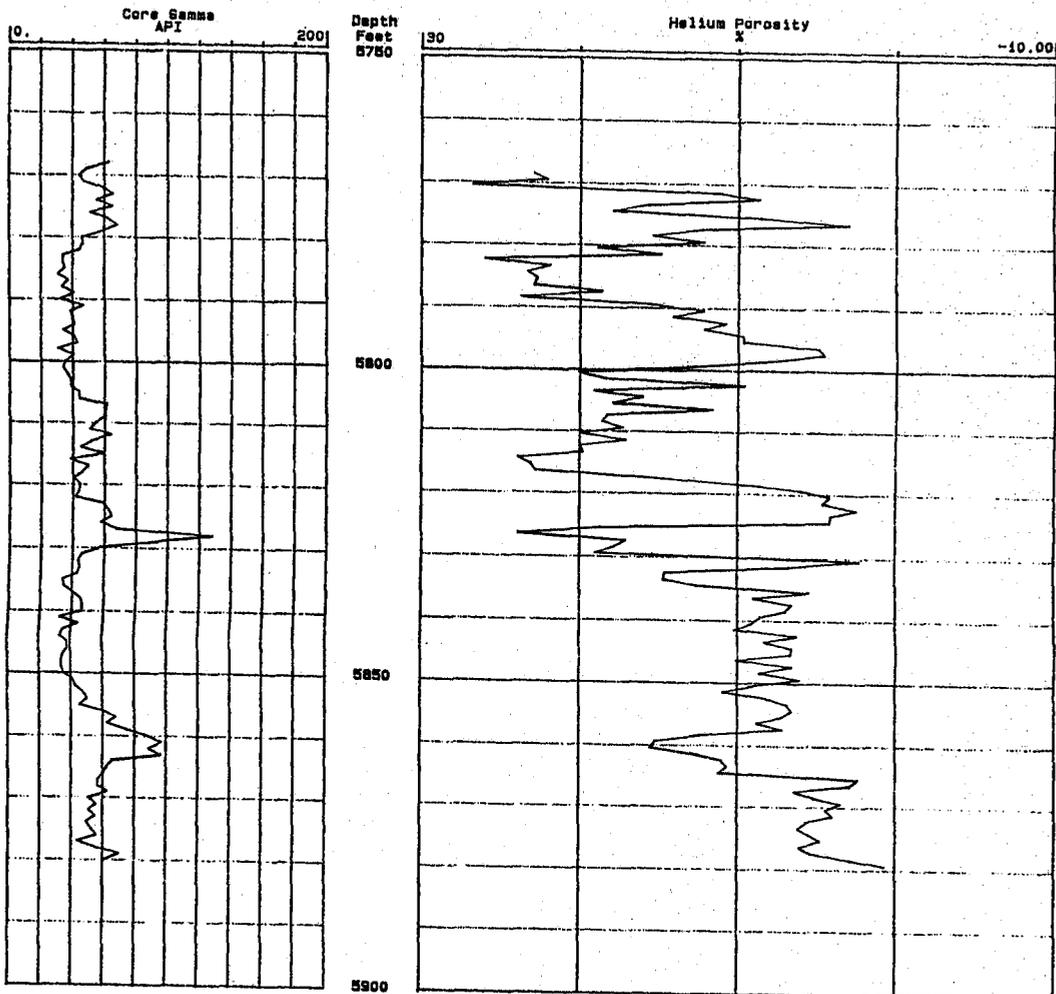
# CORE-GAMMA CORRELATION

MERIDIAN OIL COMPANY  
CHEROKEE FEDERAL NO. 22-14 WELL  
SAN JUAN COUNTY, UTAH  
ISMAY FORMATION  
5768-5880 feet

Vertical Scale  
5.00 in = 100.0 ft

Core Laboratories

20-Jan-1988



# MERIDIAN OIL

## TRANSMITTAL LETTER RECORD OF SHIPMENT OF CONFIDENTIAL INFORMATION

TO: Utah Dept. of Natural Resources FROM: A. H. Moore  
Division of Oil, Gas and Mining Name  
355 W. North Temple Exploration Manager  
3 Triad Center, Suite 350 Title  
Salt Lake City, Utah 84180-1203 DATE: February 9, 1988  
Attn: Well Records VIA: Mail

QUANTITY	DESCRIPTION
	<u>✓ Cherokee Federal 22-14</u>
<u>1</u>	<u>✓ Borehole Compensated Sonic Log</u>
<u>1</u>	<u>✓ Compensated Neutron-Litho Density</u>
<u>1</u>	<u>✓ Dual Laterolog/MSFL</u>
<u>1</u>	<u>✓ Cyberlook</u>
<u>1</u>	<u>✓ RMGE Final Well Report</u>
	<u>✓ MUD LOG</u>

INSTRUCTIONS: Please acknowledge receipt promptly by signing and returning the copy.

RECEIVED BY: Vicky CARNEY DATE: 3-28-88

MERIDIAN OIL INC.  
22-14 CHEROKEE FEDERAL  
SECTION 14, T37S, R23E  
SAN JUAN COUNTY - UTAH

GEOLOGIC REPORT  
BY  
BILL NAGEL  
ROCKY MOUNTAIN GEO-ENGINEERING COMPANY

**RECORDED**  
MAR 28 1988

DEPARTMENT OF  
OIL, GAS & MINING

T A B L E O F C O N T E N T S

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GEOLOGIC SUMMARY & ZONES OF INTEREST-----	33

WELL SUMMARY

OPERATOR: MERIDIAN OIL INC.  
WELL NAME: 22-14 CHEROKEE FEDERAL  
LOCATION: SE/NW SECTION 14, T37S, R23E  
FOOTAGE: 1580' FNL - 2180' FWL  
COUNTY: SAN JUAN  
STATE: UTAH  
AREA: CHEROKEE  
ELEVATION: GL 5576 - KB 5588  
SPUD DATE: 12/4/87  
COMPLETION DATE: 12/17/87  
DRILLING ENGINEER: JIMMY REEDER  
WELLSITE GEOLOGY: ROCKY MOUNTAIN GEO-ENGINEERING COMPANY  
GEOLOGIST: BILL NAGEL  
CONTRACTOR: EXETER DRILLING, RIG #68  
TOOL PUSHER: D. D. LETO  
HOLE SIZE: 11" TO 2015' - 7 7/8" TO T.D.  
CASING RECORD: 8 5/8" TO 2015'  
DRILLING MUD: MILPAK  
MUD ENGINEER: JIMMY REEDER  
ELECTRIC LOGGING: SCHLUMBERGER  
TYPE OF LOGS RUN: GR-DLL-MSFL, GR-CNL-LTD, GR-BHC SONIC  
TOTAL DEPTH: 6134'  
STATUS: RUN PRODUCTION CASING 5½"

MERIDIAN OIL INC.  
 22-14 CHEROKEE FEDERAL  
 SECTION 14, T37S, R23E  
 SAN JUAN COUNTY - UTAH

## WELL CHRONOLOGY

DATE & # DAYS	MDNT DEPTH	FTG/ DAY	DAILY OPERATIONS
12/4/87 (1)	-0-	235	RIG UP - DRLG RAT & MOUSE HOLE
12/5/87 (2)	235	402	DRLG SURFACE - POOH
12/6/87 (3)	637	1020	POOH - LOST 2 CONES - RIH W/MAG - POOH - RIH W/GLOBE BASKET - MILL FISH - POOH - RIH W/MAG - POOH & RIH W/BIT - DRLG - POOH - RIH W/MAG - POOH W/FISH - RIH & DRLG AHEAD
12/7/87 (4)	1657	358	DRLG - WAIT ON WTR - DRLG - POOH - RUN CSG - CIRC - CMT - WOC
12/8/87 (5)	2015	653	TEST WELL HEAD - NIP UP - TEST BOP - DRLG CMT - DRLG AHEAD
12/9/87 (6)	2668	1124	DRLG AHEAD
12/10/87 (7)	3792	575	DRLG - POOH - CHG BIT - RIH - WASH & REAM - DRLG AHEAD
12/11/87 (8)	4367	717	DRLG - POOH
12/12/87 (9)	5084	291	POOH - CHG BIT - RIH - WASH & REAM - DRLG - POOH - CLN JUNK BASKET - CUT DRL LINE - CHG BIT - RIH - DRL
12/13/87 (10)	5375	391	DRLG - LOST JETS - POOH - CHG BIT - RIH DRLG
12/14/87 (11)	5667	101	DRLG - CIRC - POOH - RIH - DRLG ON JUNK - CIRC - POOH - P.U. CORE BBL - RIH
12/15/87 (12)	5760	113	WASH TO BOT - CORE - POOH - LAY DN CORE # 1 - RIH - CORE - POOH
12/16/87 (13)	5881	164	POOH - LAY DN CORE #2 - LAY DN CORE BBL - RIH - DRLG
12/17/87 (14)	6045	89	POOH - CHG BIT - RIH - DRLG - CIRC - POOH - RUN E-LOGS



SAMPLE DESCRIPTIONS

3500-3510	80%	SH grngy red-orng sft blk-pty occ slty
	20%	SLTST redorng sft blk arg occ slsdy calc
3510-3520	70%	SH redorng gygrn brn sft blk-pty occ slty
	30%	SLTST AA
3520-3530	80%	SH AA
	20%	SLTST AA
3530-3540	70%	SH AA
	20%	SLTST redorng sft blk arg calc
	10%	SS clr fg mcmt ang-sbang slcalc
3540-3550	70%	SH redorng grn dkbrn sft blk-pty occ slty
	30%	SLTST AA
3550-3570	80%	SH AA
	20%	SLTST AA
3570-3580	70%	SH redorng grn brn mar sft blk-pty occ slty
	20%	SLTST AA
	10%	SS clr f-vfg mcmt msrt sbang slcalc
3580-3590	70%	SH AA
	30%	SLTST redorng sft blk arg calc
3590-3600	70%	SH AA
	20%	SLTST AA
	10%	SS clr f-vfg p-mcmt msrt sbang calc
3600-3610	50%	SH red orng-red grn tan sft blk-pty occ slty
	30%	SLTST AA
	20%	SS AA
3610-3620	50%	SH AA
	30%	SS clr f-vfg uncons-pcmt msrt sbang-ang calc
	20%	SLTST AA
3620-3630	50%	SH AA
	40%	SLTST orngred sft arg calc occ sl sdy
	10%	SS AA
3630-3640	70%	SH red-orng grn ltgy sft-frm pty-blky occ slty
	30%	SLTST AA
3640-3650	60%	SH redorng brn grn ltgy sft-frm pty-blky occ slty
	30%	SLTST AA
	10%	SS clr vfg p-mcmt msrt sbang slcalc
3650-3660	50%	SH AA
	40%	SLTST redorng sft-frm arg calc
	10%	SS AA

3660-3670	50% SH red-orng brn grn tan ltgy sft-frm blk-pty occ slty 40% SLTST AA
3670-3680	70% SH AA 30% SLTST orng-red sft-frm blk occ sndy calc
3680-3690	50% SH red-orng frn ltgy occ yel sft-frm blk-pty occ slty 50% SLTST AA
3690-3700	50% SLTST orng-red sft-frm blk occ slsdy calc 40% SH AA 10% SS clr vfg occ fg mcmt-pcmt msrt sbang slcalc
3700-3710	60% SLTST AA 40% SH grn orn-red red brn sft-frm blk-pty occ sdy
3710-3720	50% SLTST orng-red red sft blk sdy ip 50% SH grn orngred redbrn gybrn sft-slfrm blk
3720-3730	60% SH AA 40% SLTST grn orng-red red sft-frm blk calc
3730-3740	70% SH grn brn mar gygrn yel-grn slfrm-frm grd to SLTST 30% SLTST AA
3740-3750	70% SH AA 30% SLTST orng-red red sft-frm blk calc
3750-3760	60% SH grn yel-grn mar brngy slfrm-frm blk-pty 40% SLTST AA
3760-3770	50% SH AA 50% SLTST orng orn-redbrn sft-slfrm blk-pty calc ip
3770-3780	60% SLTST AA 40% SH grn orng orng-red mar gy sft-frm blk-pty
3780-3790	50% SLTST orng-red orng orng-yel pnk sft-slfrm blk calc 50% SH AA
3790-3800	60% SLTST AA 40% SH grn brn mar slfrm-frm blk-pty grd to SLTST
3800-3810	50% SH 50% SLTST brn orng-red orng sft blk-pty calc
3810-3820	70% SLTST AA 30% SH grngy sft-slfrm blk-pty grd to SLTST
3820-3830	80% SLTST orng orng-red brn pk sft-slfrm blk-pty calc 20% SH AA
3830-3840	70% SLTST AA 20% SH grngy orng sft blk slsdy calc
3840-3850	90% SLTST orng orngred blk 10% SH AA

3850-3860	70%	SLTST AA
	30%	SH grngy brn slfrm-frm blk
3860-3870	60%	SLTST orng orngred brn slfrm-frm blk-pty calc
	40%	SH AA
3870-3880	50%	SLTST AA
	50%	SH grn orng gybrn sft-slfrm blk-pty
3880-3890	60%	SH AA
	40%	SLTST orng orngred brn sft blk
38900-3900	60%	SH grn orng gy sft-frm blk-pty
	40%	SLTST AA
3900-3910	50%	SH AA
	50%	SLTST orng-orngred brn sft blk sdy ip calc
3910-3920	60%	SH grn orngred tan gy sft-slfrm blk-pty
	40%	SLTST AA
3920-3930	60%	SLTST orngred-orng brn sft blk calc sdy ip
	40%	SH AA
3930-3940	70%	SLTST AA
	30%	SH red orngred grn sft-slfrm blk-pty calc ip
3940-3950	60%	SLTST orng orngred brn tn sft blk
	40%	SH AA
3950-3960	50%	SLTST AA
	50%	SH red orngred grn sft-frm blk
3960-3970	50%	SH AA
	40%	SLTST AA
	10%	LS redorng-redbrn buf slsly
3970-3980	50%	SH grngy red sft blk-pty
	40%	SLTST AA
	10%	LS AA
3980-3990	40%	SH AA
	30%	SLTST AA
	10%	SS clr vfg mcmt wsrt sbrd slcalc
	10%	CALC frac fl calc pk wht-orng sft
3990-4000	50%	SH grn yelgrn red sft-slfrm blk-pty
	40%	SLTST orng orngred brn sft-slfrm blk calc
	10%	CALC AA
4000-4010	50%	SH AA
	50%	SLTST red orngredbrn slfrm-frm blk
4010-4020	60%	SH grn orngred gy redgrn blk-pty
	30%	SLTST AA
	10%	LS buf orng sft-hd
4020-4030	60%	SH AA
	40%	SLTST orngredbrn sft-frm blk

4030-4040	40%	SH grn orngred yelgrn slfrm-frm blkyltly
	30%	SLTST AA
	20%	LS orng orngred buf sft-hd crpxl
	10%	SS clr vfg-fg uncons
4040-4050	40%	SS AA
	30%	SH grn yelgrn red slfrm-frm blkyltly
	20%	SLTST Orng brn brnorg slfrm-frm blkyltly
	10%	LS AA
4050-4060	50%	SS clr f-vfg uncons mcmt
	20%	SH AA
	20%	SLTST AA
	10%	LS orng orngred buf crpxl
4060-4070	40%	SS clr wh f-vfg uncons mcmt msrt calc cmt
	30%	SLTST red orngred brnred sft-frm blkyltly
	20%	SH grn red orngred sft-slfrm blkyltly
	10%	LS AA
4070-4080	40%	SLTST red orngred brnred mar sft-frm blkyltly
	30%	SS AA
	20%	SH AA
	10%	LS orng lt-mtn slfrm-frm blkyltly /abnt calc fil frac
4080-4090	50%	SLTST AA
	20%	SH gygrn orng slfrm-frm blkyltly
	20%	LS AA
	10%	SS clr wh f-vfg uncons mcmt msrt
4090-4100	40%	SLTST orng mar red slfrm-frm blkyltly
	40%	SH AA
	20%	LS orng lt-mgy tn sft-hd mcrxl
4100-4110	50%	SLTST orng-red sft-frm blkyltly arg slsdy calc
	40%	SH AA
	10%	SS clr f-vfg p-mcmt msrt sbarg slcalc
4110-4120	60%	SLTST AA
	30%	SH red-orng grn gy sft-frm occ slty & sdy
	10%	SS AA
4120-4130	50%	SLTST orng-red sft-frm blkyltly arg occ slsdy slcalc
	40%	SH AA
	10%	SS AA
4130-4140	40%	SLTST AA
	40%	SH AA
	20%	SS clr f-vfg uncons-pcmt msrt sbang-sbrd slcalc
4140-4150	50%	SH red orng-red grn brn gy frm-sft sbkyltly occ slty sdy
	30%	SLTST AA
	20%	SS AA
4150-4160	50%	SH AA
	40%	SLTST orng-red sft-frm blkyltly occ sdy arg calc
	10%	SS AA

4160-4170 50% SH AA  
40% SLTST AA  
10% SS clr f-vfg occ mg uncons-mcmt msrt sbang-sbrd

4170-4180 50% SLTST AA  
30% SH red-orng grn brn sft-frm blk-pty occ slty & sdy  
10% SS AA  
10% ANHY wh-ltred sft

4180-4190 50% SLTST red-orng sft-frm blk-pty occ slsdy arg slcalc  
40% SH AA  
10% SS AA

4190-4200 40% SLTST AA  
40% SH AA  
10% SS clr f-vfg mcmt-uncons msrt sbang-sbrd slcalc  
10% ANHY wh sft

4200-4210 60% SH red-orng brn grn sft-frm blk-pty occ slty  
40% SLTST AA

4210-4220 70% SH AA  
30% SLTST orng-red frm blk occ pty arg occ slsdy slcalc

4220-4230 60% SH AA  
30% SLTST AA  
10% SS clr vfg mcmt-uncons msrt sbang-sbrd slcalc

4230-4240 60% SH red brn gy grn sft-frm blk-pty occ slty  
30% SLTST AA  
10% ANHY wh sft

4240-4250 60% SH AA  
30% SLTST orng-red frm blk occ pty arg occ slsdy slcalc  
10% LS orng-tan frm-hd blk micxl

4250-4260 70% SH redbrn grn sft-frm blk-pty occ slty & lmy  
30% SLTST AA

4260-4270 50% SH AA  
30% SLTST AA  
10% ANHY wh sft  
10% SS clr occ red vfg pcmt msrt sbang-sbrd occ slarg

4270-4280 40% SH AA  
30% SLTST orng-red sft-frm blk arg occ sdy slcalc  
30% SS clr f-vfg pcmt msrt sbang-sbrd occ slarg

4280-4290 40% SH red brn grn gy frm blk-pty occ slty lmy  
40% SLTST AA  
10% LS tan-brn frm blk micxl  
10% SS AA

4290-4300 50% SH AA  
40% SLTST orng-red occ brn frm blk arg occ sdy slcalc  
10% SS clr vfg pcmt msrt sbang-sbrd occ slarg

4300-4310 50% SH red brn gfn yelgrn sft-frm blk occ slty

	40%	SLTST AA
	10%	LS orng yelorng redorng slfrm-frm crpxl
4310-4320	60%	SH AA
	40%	SLTST ornred redbrn m-dkbrn tan frm blk y arg slcalc
4320-4330	50%	SH grn brn red tan frm blk y-plty
	50%	SLTST AA
4330-4340	60%	SH AA
	40%	SLTST mar orng orngred brn frm blk y
4340-4350	60%	SLTST AA
	40%	SH grn brn red frm blk y-plty occ slty
4350-4360	50%	SLTST Orng orngred brn redbn frm blk y-plty calc
	40%	SH AA
	10%	LS yel gy orng slfrm-frm crpxl
4360-4370	40%	SH grn redgrn brn frm blk y occ slty
	40%	SLTST AA
	20%	LS AA
4370-4380	40%	SH AA
	30%	SLTST red orngred maroon brn frm blk y calc occ sdy
	30%	LS Orng yelorng tan frm crpxl
4380-4390	70%	SLTST mar orng brn tan sft-frm blk y calc
	20%	SH grn yelgrn gy slfrm-frm blk y-plty occ slty
	10%	LS AA
4390-4400	80%	SLTST AA
	20%	SH AA
4400-4410	70%	SLTST orngbrn mar tan slfrm blk y calc
	30%	SH AA
4410-4420	80%	SLTST AA
	20%	SH grn yelgrn red orng sft-frm blk y occ slty
4420-4430	90%	SLTST tan orng gy mar sft blk y occ sdy occ arg
	10%	SH AA
4430-4440	80%	SLTST AA
	20%	SH grn yelgrn sft-slfrm blk y
4440-4450	70%	SLTST Orng tan brn sft-slfrm blk y occ sdy calc
	30%	SH AA
4450-4460	60%	SLTST AA
	40%	SH grn yelgrn mar gy sft-frm blk y-plty
4460-4470	60%	SLTST rdbn gy tn slfrm-frm blk y-plty calc
	40%	SH AA
4470-4480	70%	SLTST AA
	30%	SH grn red tan sft-frm blk y-plty

4480-4490	50%	LS gy-gygrn orng orngrd sft-hd occ slty
	30%	SLTST AA
	20%	SH grn mar slfrm-frm blk
4490-4500	40%	SLTST red orngred brn tan slfrm-frm blk calc
	40%	LS AA
	20%	SH AA
4500-4510	50%	SH grn orng orngred tan slfrm-frm blk-pty
	30%	LS lt-dkgy orng-yelorng sft-hd occ micxl
	20%	SLTST AA
4510-4520	40%	SH AA
	40%	LS AA
	20%	SLTST orng brn mar slfrm blk calc
4520-4530	50%	SLTST AA
	30%	SH grn orng brn sft-slfrm blk occ slty
	20%	LS orngbrn gy hd blk occ micxl
4530-4540	40%	SLTST orng redorng brn redben slfrm-frm blk calc
	30%	SH AA
	30%	LS AA
4540-4550	50%	SH gen orng gy brn slfrm-frm blk occ slty
	30%	SLTST AA
	20%	LS AA
4550-4560	60%	SH AA
	30%	SLTST orng-orngrd gy brn slfrm-frm blk occ sdy
	10%	LS Orng gy hd blk
4560-4570	60%	SH grn red yelgrn tan brn gy slfrm-frm blk-pty
	30%	SLTST AA
	10%	SS clr vfg occ fg mcmt msrt sbang-ang calc
4570-4580	50%	SH AA
	40%	SLTST rdbrn mar gy frm blk calc occ sdy
	10%	SS AA
4580-4590	40%	SH brn orng grn gy slfrm-frm blk-pty
	40%	SLTST AA
	20%	LS gy hd blk-pty micxl
4590-4600	50%	SH AA
	40%	SLTST rdbrn gy orngrd tan slfrm-frm blk-pty calc arg
	10%	LS AA
4600-4610	40%	LS m-dkgy ltgy-tan frm blk micxl occ sdy arg
	40%	SH AA
	20%	SLTST AA
4610-4620	50%	LS AA
	30%	SH red orng brn grn frm-sft blk-pty occ slty sdy
	20%	SLTST AA
4620-4630	60%	LS m-dkgy ltgy frm blk mcxl occ slty sdy arg
	20%	SH AA
	20%	SLTST rdbrn gy frm blk occ sdy arg calc

4630-4640	50%	LS AA	
	30%	SH red brn grn sft-frm blk-pty	occ slty sdy
	20%	SLTST AA	
4640-4650	70%	LS mgy occ ltgy-tan ltbrn frm-hd blk	occ pty mcxl-crpxl sl arg occ slsly
	20%	SH AA	
	10%	SLTST AA	
4650-4660	70%	LS AA	
	20%	SH AA	
	10%	SS clr vfg pcmt msrt sbang-sbrd	slcalc
4660-4670	40%	SH red orng brn grn frm-sft blk-pty	occ slty sdy
	30%	LS AA	
	20%	SLTST redorng brn frm blk	occ slty arg calc
	10%	SS AA	
4670-4680	50%	SH AA	
	30%	LS mgy occ dkgy ltgy frm-hd blk	mc-crpxl slarg
	20%	SLTST AA	
4680-4690	40%	SS clr vfg occ fg pcmt-uncons msrt	sbang-sbrd
	40%	LS AA	
	20%	SH AA	
4690--4700	40%	SS AA	
	30%	LS AA	
	30%	SH red orng gy grn frm-sft blk-pty	occ slty sdy
4700-4710	30%	SH AA	
	30%	LS m-ltgy tan frm-hd blk	occ pty mic-crpxl occ arg slty
	20%	SLTST orng-red frm-sft blk-pty	arg occ sdy
	20%	SS AA	
4710-4720	40%	SH red orng grn ltgy sft-frm blk-pty	occ slty sdy
	30%	LS AA	
	20%	SLTST AA	
	10%	SS clr vfg uncons-pcmt msrt sbang	
4720-4730	50%	SH AA	
	30%	LS m-ltgy mbrn tan frm-hd blk	occ pty crp-micxl occ arg slty
	20%	SLTST AA	
4730-4740	50%	SH AA	
	30%	LS AA	
	20%	SLTST orng-red occ brn frm blk	arg occ sdy calc
4740-4750	40%	SH red orng grn ltgy sft-frm blk-pty	occ slty sdy
	40%	LS m-dkgy ltgy-tan frm-hd blk-pty	crp-micxl occ arg slty
	10%	SLTST AA	
	10%	SS clr vfg uncons-pcmt msrt sbang-sbrd	
4750-4760	40%	LS AA	
	40%	SH AA	
	20%	SLTST red-orng frm blk	arg calc occ sdy

4760-4770 60% LS ltgy-ltbrn crm-wh mgy frm-hd blk-pty mic-crpxl occ arg &  
chky occ sl slty  
20% SH AA  
20% SLTST AA

4770-4780 60% LS AA  
30% SH red brn grn sft-frm blk-pty occ slty & sdy  
10% SS clr-ltgy vfg uncons-pcmt wsrt sbang-sbrd

4780-4790 70% LS lt-mgyltbn tan-wh hd-frm blk-pty mic-crpxl occ arg  
30% SH AA

4790-4800 80% LS AA  
20% SH red brn grn sft-frm blk-pty occ slty & sdy

4800-4810 80% LS ltgy-wh ltbrn-ltgy tan frm-hd blk occ pty mic-crpxl occ  
sl arg  
10% CHT brn smky trnsl hd ang  
10% SH AA

4810-4820 90% LS AA  
10% CHT AA

4820-4830 80% LS ltgy-ltbrn wh-ltgy mgy frm-hd blk occ pty mic-crpxl occ sl  
chky occ chty  
20% SH red gygrn brn frm blk-pty occ slty

4830-4840 70% LS AA  
20% SH AA  
10% SLTST red-orng frm blk arg slcalc

4840-4850 60% LS AA  
20% SH red brn grngy frm blk-pty occ slty  
20% SLTST AA

4850-4860 50% LS ltgy-tan wh lt-mbrn frm-hd blk occ pty crp-micxl occ sl  
arg & slty  
20% SH AA  
20% SLTST AA  
10% SS clr vfg uncons-psrt sbang-sbrd

4860-4870 50% LS AA  
20% SH AA  
20% SS AA  
10% SLTST redorng frm blk-pty occ slty

4870-4880 70% LS ltgy-wh ltbrn-mbrn tan frm-hd blk occ pty crp-micxl occ sl  
slty occ chty  
20% SH red brn gygrn frm blk-pty occ slty  
10% SLTST

4880-4890 60% LS AA  
30% SS clr occ ltgy f-vfg pcmt-uncons msrt sbang-sbrd  
10% SH AA

4890-4900 60% LS AA  
20% SS AA  
20% SH red grn brn frm blk-pty occ slty

4900-4910	40%	LS tan-wh lt-mbrn frm-hd blk crp-micxl occ slsly
	30%	SLTST ltgy redbrn red sdy ip slcalc frm
	30%	SH AA
4910-4920	40%	LS AA
	30%	SH redbrn m-dkgy frm blk-pty occ slty & sdy
	20%	SLTST AA
	10%	SS clr vfg mcmt-uncons msrt sbang-sbrd occ slty
4920-4930	40%	LS AA
	40%	SH AA
	20%	SLTST ltgy-mgy rdbn red frm blk sdy ip slcalc
4930-4940	40%	SH AA
	30%	LS tn-wh lt-mbrn mgy frm-hd blk crp-micxl occ slsly
	30%	SLTST AA
4940-4950	40%	SH red brn m-dkgy frm blk occ slty & sdy calc
	30%	LS AA
	20%	SLTST AA
	10%	SS clr vfg mcmt msrt sbang-sbrd occ slty
4950-4960	50%	SH red grn lt-mgy brn frm blk occ slty & sdy calc
	30%	LS ltgy-tan lt-mbrn mgy frm-hd blk crpxl occ slsly & arg
	20%	SLTST AA
4960-4970	50%	SH AA
	40%	LS AA
	10%	SLTST rdbn mgy brn frm blk occ slsdy slcalc
4970-4980	60%	SH rdorng brn dkgy frm blk-pty occ slty calc
	40%	LS AA
4980-4990	50%	SH AA
	50%	LS lt-mgy frm blk-pty crpxl arg occ slsly
4990-5000	60%	SH red lt-mgy frm blk-pty occ slsdy calc
	40%	LS AA
5000-5010	70%	SH AA
	30%	LS lt-mgy tan frm blk-pty mic-crpxl arg ip
5010-5020	60%	SH red mgy frm blk-pty occ slsdy calc
	40%	LS AA
5020-5030	60%	SH AA
	20%	LS AA
	20%	SLTST red brn mgy frm blk occ slsdy calc
5030-5040	60%	SH red m-dkgy tan frm blk-pty occ slty
	20%	LS AA
	20%	SLTST AA
5040-5050	50%	SH AA
	30%	SLTST AA
	20%	LS lt-mgy tan frm blk-pty mic-crpxl
5050-5060	40%	SH AA

	30%	SLTST red brn orng red frm blkyl calc
	30%	LS AA
5060-5070	50%	SH red grn m-dkgy tan slfrm-frm blkyl-ptylty occ slty
	30%	SLTST AA
	20%	LS AA
5070-5080	40%	SH AA
	40%	SLTST AA
	20%	LS lt-mgy orngred slfrm-frm blkyl crpxl
5080-5090	60%	SH AA
	30%	SLTST rdbrn orgred mar slfrm-frm blkyl slcalc-calc
	10%	LS AA
5090-5100	50%	SH grn red brn m-dkgy slfrm-frm blkyl slcalc ip
	30%	SLTST AA
	20%	LS AA
5100-5110	50%	SH AA
	30%	LS m-ltgy ltbrn-tn frm-hd blkyl crp-micxl occ sl arg
	20%	SLTST AA
5110-5120	40%	SH AA
	30%	LS AA
	30%	SLTST red grn ltgy frm blkyl-ptylty occ sdy
5120-5130	50%	SH red grn brn m-dkgy slfrm-frm blkyl slcalc
	30%	LS AA
	20%	SLTST AA
5130-5140	50%	SH AA
	20%	LS lt-mbrn lt-mgy frm-hd blkyl occ ptylty crp-micxl occ sl arg
	10%	SS clr vfg uncons-pcmt msrt sbang-sbrd slslty
5140-5150	40%	SH red brn grn gy frm blkyl-ptylty occ sdy
	40%	LS AA
	20%	SLTST AA
5150-5160	40%	SH AA
	40%	LS lt-mgy mbrn frm-hd blkyl occ ptylty micxl
	20%	SLTST redorng mgy frm blkyl occ sdy arg slcalc
5160-5170	50%	SH red m-dkgy brn frm blkyl-ptylty occ slty
	40%	LS AA
	10%	SLTST AA
5170-5180	60%	SH AA
	40%	LS ltgy-tan ltbrn frm-hd blkyl occ ptylty micxl
5180-5190	70%	SH red m-dkgy ltgy frm blkyl-ptylty occ sl slty
	30%	LS AA
5190-5200	60%	SH AA
	30%	LS AA
	10%	SLTST red orng mgy frm blkyl arg slcalc
5200-5210	50%	SH AA

	40%	LS ltgy-tan ltbrn mgy frm-hd blk	occ plty crpxl occ micxl occ
		sl slty	
	10%	SLTST AA	
5210-5220	50%	SH red m-dkgy brn frm blk-plty	occ sl slty
	50%	LS AA	
5220-5230	50%	SH AA	
	50%	LS ltgy-tan mgy frm-hd blk	occ plty crpxl occ slslty & chty
5230-5240	50%	SH red m-dkgy brn frm blk-plty	occ lmy & slty
	40%	LS AA	
	10%	SLTST red orng frm blk arg calc	
5240-5250	50%	SH AA	
	50%	LS ltgy-tan mgy gybrn frm-hd blk	mic-crpxl occ sl arg & slty & chty
5250-5260	60%	LS AA	
	40%	SH red m-dkgy frm blk-plty	occ slty & lmy
5260-5280	70%	LS ltgy-wh tan-mgy ltbrn frm-hd blk	occ plty mic-crpxl occ chty & sl slty
	30%	SH AA	
5280-5290	60%	LS ltgy-wh tan-mgy ltbrn frm-hd blk	occ plty mic-crpxl occ chty & sl slty
	40%	SH AA	
5290-5300	60%	LS AA	
	40%	SH m-dkgy frm blk-plty lmy	occ slty
5300-5310	70%	LS ltgy-wh mgy tan gybrn frm-hd blk-plty	mic-crpxl slslty
	30%	SH AA	
5310-5320	80%	LS AA	
	20%	SH m-dkgy red slfrm-frm blk-plty	occ slty
5320-5330	50%	LS ofwh lt-mgy tan gy brn frm-hd blk	mic-crpxl slslty
	50%	SH AA	
5330-5340	60%	LS AA	
	40%	SH m-dkgy red mar orngred brn slfrm-frm	blk-plty occ slty
5340-5350	60%	LS AA	
	30%	SH AA	
	10%	SLTST gybrn ltbrn red slfrm-frm	blk arg calc
5350-5360	60%	SH AA	
	40%	LS wh-mgy tan gybrn frm-hd blk-plty	mic-crpxl
5360-5370	50%	SH m-dkgy red mar orngred brn grn slfrm-frm	blk-plty occ slty
	50%	LS AA	
5370-5380	60%	LS wh-mgy tan gybrn frm-hd blk	occ plty mic-crpxl occ slslty
	40%	SH AA	

5380-5390 70% LS AA  
30% SH m-dkgy red mar brn slfrm-frm blkyl-pty occ slty occ calc

5390-5400 60% LS wh-mgy tan gybrn frm-hd pty-blky mic-crpxl occ slsly occ chty  
40% SH AA

5400-5410 50% LS AA  
50% SH m-dkgy red orngred brn mar slfrm-frm pty-bli occ slcalc

5410-5420 60% SH AA  
40% LS wh-mgy tan gybrn frm-hd pty-blky mic-crpxl occ slsly

5420-5430 60% SH m-dkgy red orngred brn mar grn slfrm-frm pty occ blkyl  
40% LS AA

5430-5440 70% SH AA  
30% LS wh-mgy tan gybrn frm-hd pty-occ blkyl occ slsly mic-crpxl  
occ chty

5440-5450 60% LS AA  
40% SH m-dkgy red orngred brn mar frm pty-blky occ calc occ slty

5450-5460 50% LS wh-tan ltgy-mgy gybrn frm-hd blkyl-pty occ sl mic-crpxl occ  
chty & arg ip  
40% SH AA  
10% SLTST redorng frm blkyl arg slcalc

5460-5470 50% SH red m-dkgy grn frm blkyl-pty occ lmy & slty  
50% LS AA

5470-5480 60% LS wh-tan lt-mgy grybrn frm-hd blkyl-pty occ arg ip & chty  
30% SH AA  
10% CHT clr-ltbrn ang hd

5480-5490 50% LS AA  
40% SH AA  
20% SLTST orng-red frm blkyl arg slcalc

5490-5500 60% LS AA  
40% SH red m-dkgy gygrn frm blkyl-pty occ lmy & slsly

5500-5510 70% LS wh-ltgy mgy tan ltbrn frm-hd blkyl occ pty crp-micxl occ  
sl arg & chty  
30% SH AA

5510-5520 60% LS AA  
40% SH m-dkgy red grn frm blkyl-pty occ lmy & slty

5520-5530 40% LS wh-ltgy mgy tan ltbrn frm-hd blkyl-pty mic-crpxl occ slarg  
40% SH AA  
20% SLTST orngred mgy frm blkyl arg

5530-5550 50% LS AA  
50% SH m-dkgy red frm blkyl-pty occ slty & lmy

5550-5560 60% SH m-dkgy frm blkyl-pty occ slsly  
40% LS AA

5560-5570	60% SH AA 40% LS ltgy-tan ltbrn frm-hd blk-pty mic-crpxl occ chty
5570-5580	60% SH AA w/sl carb 40% LS AA
5580-5590	50% SH AA 50% LS ltgy-tan gybrn frm-hd blk occ pty mic-crpxl
5590-5600	60% LS AA 40% SH m-dkgy frm blk-pty occ slty
5600-5610	50% SH AA 50% LS ltgy-tan gybrn frm-hd blk-pty mic-crpxl occ chty
5610-5620	60% LS AA 40% SH AA w/calc
5620-5630	70% LS lt-mgy tan gybrn frm-hd blk-pty mic-crpxl 30% SH AA
5630-5640	60% LS AA 40% SH AA
5640-4650	70% LS lt-mgy tan gybrn frm-hd blk-pty mic-crpxl occ chty 30% SH AA
4650-5660	60% LS AA 40% SH m-dkgy frm blk-pty occ slty occ lmy
5660-5670	60% LS AA 30% SH AA 10% CHT buf clr-trns1 hd
5670-5680	90% LS ltgy-ltbrn wh-tan frm-hd blk-pty mic-crpxl occ arg-chky ip occ chty & dol 10% CHT AA
5680-5690	80% LS AA 20% SH m-dkgy red frm blk-pty occ slty & lmy & carb
5690-5700	70% LS ltgy-ltbrn wh-tan frm-hd blk-pty mic-crpxl occ chky-arg ip occ dol 30% SH AA
5700-5710	60% LS AA 40% SH m-dkgy red frm blk-pty occ lmy
5710-5720	70% LS lt-mgy tan gybrn frm blk-pty mic-crpxl occ chty 30% SH AA
5720-5730	60% SH m-dkgy red slfrm-frm blk occ pty lmy 40% LS AA
5730-5740	50% SH AA 50% LS lt-mgy tan gybrn slfrm-frm blk occ pty mic-crpxl occ arg

- 5740-5750 50% SH m-dkgy red slfrm-frm blkylmy  
40% LS AA  
10% ANHY wh sft
- 5750-5760 40% SH AA  
30% LS lt-mgy tan gybrn frm-hd blkyl-pty mic-crpxl occ slarg occ dol  
20% DOL lt-mbrn frm blkyl micxl-vfxl occ gran & anhy occ lmy w/  
TR INTXL PP Ø  
10% ANHY AA
- 5760-5766 40% SH m-dkgy frm blkyl-pty occ lmy  
40% LS AA  
20% DOL AA

CORE #1 (5768-5828) (CUT 60' - RECV 60')

- 5768-5771 DOL brn frm-hd micxl-vfxl arg occ frm pp & suc Ø & occ vug Ø w/  
tr-no yel FLOR/occ strm wh CUT
- 5771-5773 DOL brn frm-hd mic-vfxl arg fair suc Ø w/tr-no yel FLOR/sl mlky CUT  
occ anhy nod
- 5773-5776 DOL brn frm-hd micxl-vfxl arg occ succo/ w/no FLOR/slo mlky CUT
- 5776-5778 ANHY wh hd occ dol incl
- 5778-5779 DOL brn frm-hd micxl dns arg occ sl suc Ø occ coal incl
- 5559-5782 DOL brn frm-hd mic-vfxl arg occ suc Ø occ pp Ø w/no FLOR slo mlky CUT  
w/occ ltgy LS incl & ANHY nod
- 5782-5787 DOL brn frm-hd micxl-vfxl arg occ coal incl occ lmy fr suc Ø occ pp  
vug Ø w/tr-no yel FLOR/mod strm yel CUT/occ ANHY nod
- 5787-5792 LS ltgy frm-hd micxl occ arg occ brn dol incl w/tr yel FLOR/slo mlky  
CUT/occ ANHY nod
- 5792-5795 LS ltgy frm-hd occ arg occ fos micxl occ dol incl brn vfxl suc + pp  
vuf Ø w/no FLOR/mlky CUT/occ ANHY nod
- 5795-5800 LS ltgy frm-hd micxl occ arg occ fos dol occ dol incl brn vfxl suc  
+ pp vug Ø w/no FLOR/slo strm yel CUT/occ ANHY nod
- 5800-5804 DOL lt-mbrn frm-hd micxl arg occ lmy g pp + vug Ø w/tr yel FLOR/slo  
strm yel CUT/abnt ANHY nod
- 5804-5811 DOL mbrn occ ltgy mic-vfxl f pp + vug Ø w/tr-no yel FLOR/slo strm  
yel CUT/occ ANHY nod
- 5811-5813 DOL + LS AA good pp + vug Ø
- 5813-5818 DOL mbrn micxl occ vfx arg w/occ LS incl occ pp +vug Ø w/no FLOR/mod  
mod strm yel CUT/occ ANHY nod
- 5818-5825 LS ltgy hd occ arg micxl-crpxl occ calc incl dolc fair pp + vug Ø  
occ brn 0 STN + oil fl vugs fr yel FLOR/mod strm yel CUT

- 5825-5827 DOLO mbrn hd-frm micxl arg fr pp  $\emptyset$  occ vug  $\emptyset$  gd yel FLOR fast strm  
yel CUT/abnt ANHY nod
- 5827-5828 DOLO mbrn mic-vfxl occ arg gd suc  $\emptyset$  gd pp + vug  $\emptyset$  brn 0 STN/gd yel  
yel FLOR/fast strmg yel CUT
- CORE #2 (5828-5881) (CUT 53' - RECV 52')
- 5838-5829 DOLO mbrn-mgy occ arg micxl occ vfxl occ fr suc + pp  $\emptyset$  occ fr yel  
FLOR/mod strmg yel CUT/abnt ANHY nod
- 5829-5831 DOLO mbrn-mgy mic-vfxl grdg to LS mgy micxl occ p suc + pp  $\emptyset$ /fr yel  
FLOR/mod strmg yel CUT
- 5831-5835 LS mgy frm-hd micxl occ vfxl slarg occ carb incl fr suc  $\emptyset$  occ fr pp +  
occ fr pp + vug  $\emptyset$ / fr yel FLOR/mod strmg yel CUT
- 5835-5838 LS mgy frm-hd micxl occ arg mod dol mod fos occ fr suc  $\emptyset$  occ fr pp +  
vug  $\emptyset$  /gd yel FLOR/f strmg yel CUT/mbrn 0 STN
- 5838-5845 LS mgy frm-hd micxl occ arg occ dol mod fos gd pp + vug  $\emptyset$  occ gd suc  
 $\emptyset$  gd yel FLOR/f strmg yel CUT/gd mbrn 0 STN
- 5845-5854 LS mgy frm-hd micxl occ arg occ dol mod f good pp + vug  $\emptyset$  occ g suc  
 $\emptyset$ /gd yel FLOR fast strm yel CUT/occ mbrn 0 STN /occ ANHY nod
- 5854-5858 LS mgy hd-frm micxl grdg to DOL mbrn frm-hd micxl p vug pp  $\emptyset$  gd yel  
FLOR/mod strm yel CUT /occ mbrn 0 STN
- 5858-5865 DOLO mgy hd frm micxl-crxl arg occ SH INCL-thin bds tt occ anhy  
nod/no FLOR/occ slo mlky CUT
- 5865-5868 DOLO mgy hd frm mic-crxl arg w/abnt thin blk carb SH bds tt/no  
FLOR occ slo mlky CUT
- 5868-5878 DOLO mgy hd frm micxl arg grdg to LS mgy frm-hd occ arg mic-crxl tt/  
NO FLOR/occ slo mlky CUT
- 5873-5876 LS mgy hd-frm mic-crxl arg occ fos tt/NO FLOR/occ slo mlky CUT
- 5876-5881 LS mgy hd mic-crxl occ arg occ abnt fos tt/NO FLOR/occ slo mlky cut
- 5881-5890 70% SH blk frm-hd carb occ dol plty  
30% LS mgy hd mic-crxl occ arg tt /no FLOR/occ slo mlky cut  
\*\*\*\*\*
- 5890-5900 80% SH AA  
10% LS AA  
10% ANHY hd blk wh
- 5900-5910 60% SH blk frm-hd plty carb occ dol  
20% DOLO mbrn frm-hd blk crp-micxl occ arg  
20% ANHY wh frm-hd
- 5910-5920 30% LS lt-mgy frm-hd blk micxl occ chky-arg occ fos frag  
30% DOLO AA  
20% SH AA  
20% ANHY AA

5920-5930 40% LS AA occ slty  
30% DOL mbrn occ mgy frm-hd blk y crp-micxl occ arg  
30% ANHY AA

5930-5940 40% LS lt-mgy occ mbrn frm-hd blk y crp-micxl occ arg + chky occ v  
slty  
30% DOL AA  
30% ANHY wh hd blk y

5940-5950 40% ANHY AA  
30% LS AA  
30% DOL mbrn frm-hd blk y mic-vfxl occ arg occ fair suc ø /no FLOR/  
slo wk mlky CUT

5950-5960 40% DOL mbrn frm-hd blk y mic-vfxl occ slslty + arg occ f suc ø/  
NO FLOR/slo wk mlky CUT  
30% LS AA  
30% ANHY wh hd blk y

5960-5970 30% DOL AA  
30% SH blk frm plty-blky carb  
30% LS mgy-ltgy frm-hd blk y micxl occ chlky & arg  
10% ANHY AA

5970-5980 60% SH blk frm blk y-plty carb  
20% DOL AA  
20% LS AA

5980-5990 70% SH AA  
30% LS m-ltgy frm-hd blk y micxl occ chlky & arg

5990-6000 60% DOL mbrn mgy frm-hd blk y crpxl occ p suc ø/NO FLOR  
40% LS AA

6000-6010 50% DOL AA  
30% LS m-ltgy frm-hd blk y micxl occ arg  
20% SH blk y frm blk y occ plty carb

6010-6020 40% LS AA  
30% DOL mbrn mgy frm-hd blk y crpxl occ poor suc ø  
20% SH AA

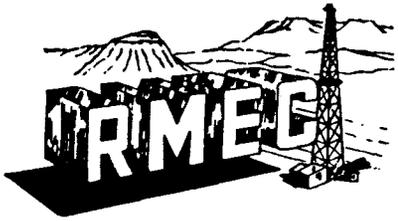
6020-6030 60% DOL AA  
30% SH blk frm blk y-plty carb  
10% LS m-ltgy frm hd blk y micxl occ arg occ chlky

6030-6040 60% SH AA  
20% LS AA  
20% DOL mbrn mgy frm-hd blk y crpxl occ p suc ø

6040-6050 40% LS m-ltgy buf frm-hd blk y mic-vfxl occ arg  
30% DOL AA  
20% SH AA  
10% ANHY wh slfrm-frm blk y

6050-6060 50% DOL m-ltgy mbrn frm-hd mic-crpxl gran occ arg-slarg  
30% LS AA  
10% SH blk frm blk y-plty carb  
10% ANHY AA

6060-6070	60% DOL AA 30% LS m-ltgy frm-hd blk micxl occ slarg 10% SH AA
6070-6080	60% DOL m-ltgy frm-hd micxl gran occ arg 20% LS AA 20% SH AA
6080-6090	30% SH blk frm blk-pty occ carb 30% DOL AA 30% LS AA 20% ANHY wh frm blk
6090-6100	50% SH AA 30% DOL mbrn mgy frm blk crp-micxl occ lmy & arg 20% LS AA
6100-6110	60% DOL mgy mbrn frm-hd blk crp-micxl occ arg & lmy occ slsly 40% SH AA
6110-6120	50% DOL AA vsly 30% LS mgy frm-hd blk crp-micxl dol occ arg 20% SH blk frm pty carb
6120-6134	40% DOL mgy mbrn frm-hd blk crp-micxl slty occ arg 20% ANHY wh hd blk 20% LS AA 20% SH AA



# ROCKY MOUNTAIN GEO-ENGINEERING CO.

WELL LOGGING — CORE AND WATER ANALYSIS  
2450 INDUSTRIAL BLVD. PHONE 243-3044 GRAND JUNCTION, COLORADO 81501

COMPANY MERIDIAN OIL INC.  
WELL NO. 22-14 CHEROKEE FEDERAL  
LOCATION SAN JUAN COUNTY, UTAH

ZONE OF INTEREST NO. 1

INTERVAL: From 5764 To 6768

DRILL RATE: Abv 6 min/ft Thru 1.75 min/ft Below 3 min/ft

### MUD GAS-CHROMATOGRAPH DATA

M=1000 ppm

	TOTAL	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	OTHER
Before	42	6M	.8M	.4M	.3M		
During	90	11M	2.1M	.9M	.8M		
After	50	7M	.9M	.5M	.2M		

Type gas increase: Gradual  Sharp

Gas variation within zone: Steady  Erratic  Increasing  Decreasing

CARBIDE HOLE RATIO:  $\frac{\text{GRAMS READING}}{\text{X Min. in Peak}} = \underline{\hspace{2cm}}$  Sensitivity: Poor  Fair  Good

FLUO: Mineral  Even  Spotty  CUT: None  Streaming  
 None  % in total sample                      Poor  Slow   
 Poor  Fair  Mod   
 Fair  % in show lithology                      Good  Fast   
 Good  COLOR:                      COLOR:                     

STAIN: None  Poor  Fair  Good  Live  Dead  Residue  Even  Spotty  Lt.  Dk.

POROSITY: Poor  Fair  Good  Kind SUCROSIC & VUGUALR

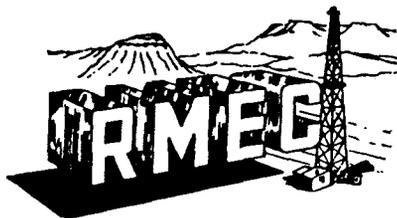
LITHOLOGY DOL lt-mbrn frm blkx micxln-vfxln occ gran & anhy

SAMPLE QUALITY Poor

NOTIFIED Art Moore @ 8:00 AM HRS. DATE: 12-14-87

REMARKS Upper Ismay

ZONE DESCRIBED BY Bill Nagel



# ROCKY MOUNTAIN GEO-ENGINEERING CO.

WELL LOGGING — CORE AND WATER ANALYSIS

2450 INDUSTRIAL BLVD.

PHONE 243-3044

GRAND JUNCTION, COLORADO 81501

COMPANY MERIDIAN OIL INC.

WELL NO. 22-14 CHEROKEE FEDERAL

LOCATION SAN JUAN COUNTY, UTAH

ZONE OF INTEREST NO. 2

INTERVAL: From 5709 To 5718

DRILL RATE: Abv 5 min/ft Thru 4.5 min/ft Below 8.5 min/ft

### MUD GAS-CHROMATOGRAPH DATA

M=1000 ppm

	TOTAL	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	OTHER
Before	40	6.1M	.8M	.4M	.2M		
During	100	9.3M	1.25M	.7M	.4M		
After	50	4M	.63M	.4M	.2M		

Type gas increase: Gradual  Sharp

Gas variation within zone: Steady  Erratic  Increasing  Decreasing

CARBIDE HOLE RATIO:  $\frac{\text{GRAMS}}{\text{READING}}$  X Min. in Peak = \_\_\_\_\_ Sensitivity: Poor  Fair  Good

FLUO: Mineral  Even  Spotty   
 None  % in total sample 5%  
 Poor   
 Fair  % in show lithology 5%  
 Good  COLOR: yellow

CUT: None  Streaming  
 Poor  Slow   
 Fair  Mod   
 Good  Fast   
 COLOR: yellow

STAIN: None  Poor  Fair  Good  Live  Dead  Residue  Even  Spotty  Lt.  Dk.

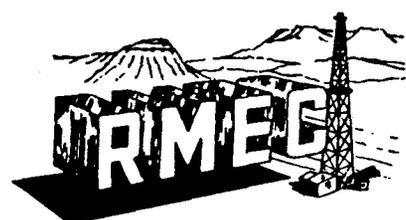
POROSITY: Poor  Fair  Good  Kind Vugular

LITHOLOGY DOL: mbrn occ ltgy mic-vfxln occ crpxln occ arg w/ LS incl ltgy micxln  
occ Anhy nod SAMPLE QUALITY Good

NOTIFIED Art Moore @ 8:00 AM HRS. DATE: 12-15-87

REMARKS Core #1 Upper Ismay

ZONE DESCRIBED BY Bill Nagel



# ROCKY MOUNTAIN GEO-ENGINEERING CO.

WELL LOGGING — CORE AND WATER ANALYSIS

2450 INDUSTRIAL BLVD.

PHONE 243-3044

GRAND JUNCTION, COLORADO 81501

COMPANY MERIDIAN OIL INC.

WELL NO. 22-14 CHEROKEE FEDERAL

LOCATION SAN JUAN COUNTY, UTAH

ZONE OF INTEREST NO. 3

INTERVAL: From 5826 To 5829

DRILL RATE: Abv 10 min/ft Thru 5 min/ft Below 8 min/ft

### MUD GAS-CHROMATOGRAPH DATA

M=1000 ppm

	TOTAL	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	OTHER
Before	50	4M	6.3M	.4M	.2M		
During	90	7.5M	1.17M	.84M	.39M		
After	50	4M	.7M	.4M	.2M		

Type gas increase: Gradual  Sharp

Gas variation within zone: Steady  Erratic  Increasing  Decreasing

CARBIDE HOLE RATIO:  $\frac{\text{GRAMS}}{\text{READING}}$  X Min. in Peak = \_\_\_\_\_ Sensitivity: Poor  Fair  Good

FLUO: Mineral  Even  Spotty   
 None  % in total sample 70  
 Poor   
 Fair  % in show lithology 70  
 Good  COLOR: yellow

CUT: None  Streaming  
 Poor  Slow   
 Fair  Mod   
 Good  Fast   
 COLOR: yellow

STAIN: None  Poor  Fair  Good  Live  Dead  Residue  Even  Spotty  Lt.  Dk.

POROSITY: Poor  Fair  Good  Kind Sucrosic & Vugular

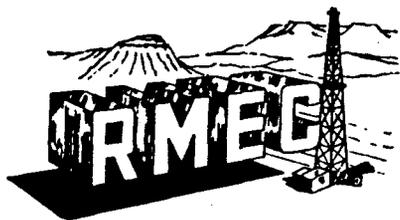
LITHOLOGY DOL: mbrn frm-hd mic-vfxln occ arg

SAMPLE QUALITY Good

NOTIFIED Art Moore @ 8:00 AM HRS. DATE: 2-16-87

REMARKS Core #1 Upper Ismay

ZONE DESCRIBED BY Bill Nagel



# ROCKY MOUNTAIN GEO-ENGINEERING CO.

WELL LOGGING — CORE AND WATER ANALYSIS

2450 INDUSTRIAL BLVD.

PHONE 243-3044

GRAND JUNCTION, COLORADO 81501

COMPANY MERIDIAN OIL INC.

WELL NO. 22-14 CHEROKEE FEDERAL

LOCATION SAN JUAN COUNTY, UTAH

ZONE OF INTEREST NO. 4

INTERVAL: From 5832 To 5838

DRILL RATE: Abv 8 min/ft Thru 3 min/ft Below 6 min/ft

### MUD GAS-CHROMATOGRAPH DATA

M=1000 ppm

	TOTAL	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	OTHER
Before	50	6M	.9M	.5M	.2M		
During	120	8M	1.68M	1.1M	.5M		
After	50	6M	.8M	.4M	.2M		

Type gas increase: Gradual  Sharp

Gas variation within zone: Steady  Erratic  Increasing  Decreasing

CARBIDE HOLE RATIO:  $\frac{\text{GRAMS}}{\text{READING}}$  X Min. in Peak = \_\_\_\_\_ Sensitivity: Poor  Fair  Good

FLUO: Mineral  Even  Spotty   
None  % in total sample 70  
Poor   
Fair  % in show lithology 70  
Good  COLOR: yellow

CUT: None  Streaming  
Poor  Slow   
Fair  Mod   
Good  Fast   
COLOR: yellow

STAIN: None  Poor  Fair  Good  Live  Dead  Residue  Even  Spotty  Lt.  Dk.

POROSITY: Poor  Fair  Good  Kind Sucrosic & Vugular

LITHOLOGY LS: mgy frm-hd micxln occ vfxln sl arg occ dol mod fos

SAMPLE QUALITY Good

NOTIFIED ART MOORE @ 8:00 AM HRS. DATE: 12-16-87

REMARKS Core #2 Upper Ismay

ZONE DESCRIBED BY Bill Nagel



# ROCKY MOUNTAIN GEO-ENGINEERING CO.

WELL LOGGING — CORE AND WATER ANALYSIS

2450 INDUSTRIAL BLVD.

PHONE 243-3044

GRAND JUNCTION, COLORADO 81501

COMPANY MERIDIAN OIL INC.

WELL NO. 22-14 Cherokee Federal

LOCATION SAN JUAN COUNTY, UTAH

ZONE OF INTEREST NO. 5

INTERVAL: From 5858 To 5862

DRILL RATE: Abv 7 min/ft Thru 5 min/ft Below 12 min/ft

### MUD GAS-CHROMATOGRAPH DATA

M=1000 ppm

	TOTAL	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	OTHER
Before	65	5.2M	.8M	.58M	.22M		
During	120	8.2M	1.8M	1.1M	.5M		
After	60	5.3M	.8M	.5M	.22M		

Type gas increase: Gradual  Sharp

Gas variation within zone: Steady  Erratic  Increasing  Decreasing

CARBIDE HOLE RATIO:  $\frac{\text{GRAMS}}{\text{READING}}$  X Min. in Peak = \_\_\_\_\_

Sensitivity: Poor  Fair  Good

FLUO: Mineral  Even  Spotty   
 None  % in total sample \_\_\_\_\_  
 Poor   
 Fair  % in show lithology \_\_\_\_\_  
 Good  COLOR: \_\_\_\_\_

CUT: None  Streaming  
 Poor  Slow   
 Fair  Mod   
 Good  Fast   
 COLOR: yellow

STAIN: None  Poor  Fair  Good  Live  Dead  Residue  Even  Spotty  Lt.  Dk.

POROSITY: Poor  Fair  Good  Kind Vugular

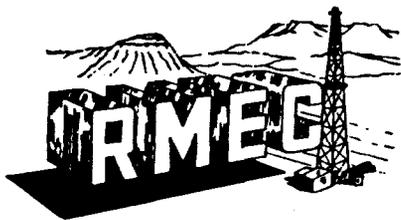
LITHOLOGY DOL: mgy hd frm micxln-crxln arg occ sh incl-thin sh bds TT

SAMPLE QUALITY Good

NOTIFIED Art Moore @ 8:00 AM HRS. DATE: 12-16-87

REMARKS Core #2 Upper Ismay

ZONE DESCRIBED BY Bill Nagel



# ROCKY MOUNTAIN GEO-ENGINEERING CO.

WELL LOGGING — CORE AND WATER ANALYSIS

2450 INDUSTRIAL BLVD.

PHONE 243-3044

GRAND JUNCTION, COLORADO 81501

COMPANY Meridian Oil Inc.

WELL NO. 22-14 Cherokee Federal

LOCATION San Juan County, Utah

ZONE OF INTEREST NO. 6

INTERVAL: From 5946 To 5954

DRILL RATE: Abv 5.5 min/ft Thru 3 min/ft Below 4.5 min/ft

### MUD GAS-CHROMATOGRAPH DATA

M=1000 ppm

	TOTAL	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	OTHER
Before	20	1.0M	.2M	.15M	.1M		
During	120	4.5M	2.2M	.9M	.4M		
After	50	2M	6.1M	.4M	.2M		

Type gas increase: Gradual  Sharp

Gas variation within zone: Steady  Erratic  Increasing  Decreasing

CARBIDE HOLE RATIO:  $\frac{\text{GRAMS}}{\text{READING}}$  X Min. in Peak = \_\_\_\_\_ Sensitivity: Poor  Fair  Good

FLUO: Mineral  Even  Spotty   
 None  % in total sample \_\_\_\_\_  
 Poor   
 Fair  % in show lithology \_\_\_\_\_  
 Good  COLOR: \_\_\_\_\_

CUT: None  Streaming  
 Poor  Slow   
 Fair  Mod   
 Good  Fast   
 COLOR: white

STAIN: None  Poor  Fair  Good  Live  Dead  Residue  Even  Spotty  Lt.  Dk.

POROSITY: Poor  Fair  Good  Kind Sucrosic

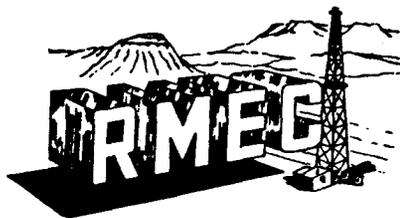
LITHOLOGY DOL: mgy frm-hd blkly mic-vfxln occ sl slty & arg

SAMPLE QUALITY Fair

NOTIFIED Art Moore @ 8:00 AM HRS. DATE: 12-17-87

REMARKS Lower Ismay

ZONE DESCRIBED BY Bill Nagel



# ROCKY MOUNTAIN GEO-ENGINEERING CO.

WELL LOGGING — CORE AND WATER ANALYSIS

2450 INDUSTRIAL BLVD.

PHONE 243-3044

GRAND JUNCTION, COLORADO 81501

COMPANY MERIDIAN OIL INC.

WELL NO. 22-14 CHEROKEE FEDERAL

LOCATION SAN JUAN COUNTY, UTAH

ZONE OF INTEREST NO. 7

INTERVAL: From 5998 To 6002

DRILL RATE: Abv 5 min/ft Thru 2 min/ft Below 5.5 min/ft

### MUD GAS-CHROMATOGRAPH DATA

M=1000 ppm

	TOTAL	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	OTHER
Before	60	2.5M	.7M	.5M	.2M		
During	300	19M	4.2M	2.1M	.8M		
After	50	1.8M	6M	.4M	.2M		

Type gas increase: Gradual  Sharp

Gas variation within zone: Steady  Erratic  Increasing  Decreasing

CARBIDE HOLE RATIO:  $\frac{\text{GRAMS}}{\text{READING}}$  X Min. in Peak = \_\_\_\_\_ Sensitivity: Poor  Fair  Good

FLUO: Mineral  Even  Spotty   
None  % in total sample \_\_\_\_\_  
Poor   
Fair  % in show lithology \_\_\_\_\_  
Good  COLOR: \_\_\_\_\_

CUT: None  Streaming  
Poor  Slow   
Fair  Mod   
Good  Fast   
COLOR: \_\_\_\_\_

STAIN: None  Poor  Fair  Good  Live  Dead  Residue  Even  Spotty  Lt.  Dk.

POROSITY: Poor  Fair  Good  Kind Sucrosic

LITHOLOGY DOL: mbrn mgy frm -hd blkx crpxln occ poor suc ø no flor

SAMPLE QUALITY poor-fair

NOTIFIED Art Moore @ 8:00 AM HRS. DATE: 12-17-87

REMARKS Desert Creek

ZONE DESCRIBED BY Bill Nagel

MERIDIAN OIL INC.  
 22-14 CHEROKEE FEDERAL  
 SECTION 14, T37S, R23E  
 SAN JUAN COUNTY - UTAH

FORMATION	FORMATION TOPS		
	SAMPLE TOP	E-LOG TOP	SUB SEA DATUM
CUTLER	----	3062'	+2556'
HERMOSA	4675'	4698'	+ 890'
UPPER ISMAY	5724'	5737'	- 149'
TOP Ø	5764'	5762'	- 174'
"A" SHALE	5886'	5883'	- 295'
LOWER ISMAY	5926'	5915'	- 327'
GOTHIC SHALE	5959'	5963'	- 375'
DESERT CREEK	5988'	5989'	- 401'
"BUG" ZONE	6030'	6058'	- 470'
CHIMNEY ROCK SH	6058'	6075'	- 487'
AKAH	6088'	6101'	- 513'
PARADOX SALT	6132'	----	- 544'
TOTAL DEPTH	6134'	6134'	- 546'

GEOLOGIC SUMMARY  
AND  
ZONES OF INTEREST

The Meridian Oil Inc.'s well 22-14 Cherokee Federal was located in was located in SE/NW, Section 14, T37S, R23E of San Juan County, Utah. The well was spudded on December 4, 1987 in the Upper Morrison Formation and a total depth of 6134' was reached in the top of the Paradox Salt on December 17, 1987. The well was a wildcat Ismay and Desert Creek test. Geological coverage began at 3500' in the Cutler Formation. All tops and depths used in this report are electric log depths.

CUTLER (3062' - 4698')

The Cutler Formation was characterized by interbedded shale, siltstone, sandstone and occasional thin limestone beds, becoming increasingly limy near the base. Shale was red, orange, green, maroon, brown, light-to-medium gray, blocky-to-platy, firm-soft and occasionally silty and sandy. Sandstone was clear, very fine-to-fine grained, occasionally medium grained, poor-to-medium cemented, medium sorted, subrounded-to-angular and slightly calcareous. Siltstone was red-to-orange, brown, light gray, firm, blocky, argillaceous, calcareous and occasionally sandy. Limestone was red-to-orange brown, light gray, firm-to-hard, blocky-to-platy, cryptocrystalline-to-microcrystalline, and occasionally argillaceous and silty. The Cutler had no show of interest.

HERMOSA (4698' - 5737')

The Hermosa Formation consisted of interbedded limestone and shale with occasional siltstone and sandstone and a few very thin anhydrite beds. Limestone was gray, brown, tan, white, microcrystalline-cryptocrystalline, firm-to-hard, blocky and occasionally argillaceous and silty. Shale was red, green, brown, medium-to-dark gray, firm, blocky-to-platy, and occasionally sandy, silty and limy. Siltstone was red, brown, firm, blocky, argillaceous and occasionally sandy and calcareous. Sandstone was clear, light gray, poorly-to-medium cemented, medium-to-well sorted and subangular-to-subrounded. Anhydrite was white, soft, blocky and dense.

Several gas shows noted in the Hermosa occurred at the following intervals: 5389-5396' of 35 units, 5432-5436' of 27 units, 5449-5452' of 50 units, 5500-5504' of 70 units and 5542-5544' of 120 units. None of these shows indicated a show of interest.

UPPER ISMAY (5737' - 5883')

The Upper Ismay was composed of interbedded limestone, dolomite and anhydrite. The Upper Ismay was cored, starting at the top of the porosity. A detailed description of the cored interval can be found in either the core log or in the sample descriptions. The limestone was light-to-medium gray, firm-to-hard, microcrystalline-to-cryptocrystalline and occasionally very fine crystalline, and occasionally argillaceous, dolomitic and fossiliferous. The dolomite was light-to-medium brown, light-to-medium gray, firm-to-hard, microcrystalline-to-very fine crystalline.

There were several gas shows noted in the Upper Ismay at the following intervals:

- 5764-5768 - 90 units with no fluorescence or stain with slow streaming cut and 20% porosity
- 5803-5807 - 68 units with a trace of yellow fluorescence and slow streaming yellow cut with a 14% porosity
- 5810-5816 - 100 units with occasional trace of yellow fluorescence and slow streaming yellow cut with 19% porosity
- 5826-5829 - 90 units with good yellow fluorescence and fast streaming yellow cut with good visual sucrosic and vugular porosity and 24% Neutron-Density porosity
- 5832-5838 - 120 units with good yellow fluorescence and fast streaming yellow cut with 12% porosity
- 5858-5862 - 120 units with no fluorescence and weak milky cut with 15% porosity

"A" SHALE (5883' - 5915')

The "A" Shale separates the Upper and Lower Ismay Formations. The black, firm, platy, carbonaceous and dolomitic shale produced an 80 unit gas show at 5906'-5914'.

LOWER ISMAY (5915' - 5963')

The Lower Ismay was composed of interbedded limestone, dolomite and anhydrite. Limestone was light-to-medium gray, occasionally medium brown, blocky, cryptocrystalline-to-microcrystalline and occasionally argillaceous, silty and chalky. Dolomite was medium brown, firm-to-hard, blocky, microcrystalline-to-very fine crystalline and occasionally argillaceous and silty.

One gas show was noted in the Lower Ismay came from a dolomite at 5949-5954' of 120 units. It had no fluorescence, but had a slow, weak, milky cut with fair sucrosic porosity and 7% Neutron-Density porosity.

GOTHIC SHALE (5963' - 5989')

The Gothic Shale separates the Lower Ismay from the Desert Creek Formation. The shale was black, carbonaceous, blocky-platy, dolomitic and produced a 90 unit gas show.

DESERT CREEK (5989' - 6075')

The Desert Creek was composed of dolomite, limestone, shale and anhydrite. Dolomite was medium brown, medium-to-light gray, firm-to-hard, blocky, cryptocrystalline-to-microcrystalline and occasionally argillaceous. Limestone was light-to-medium gray, firm-to-hard, blocky, microcrystalline and argillaceous and chalky.

Two shows were noted in the Desert Creek. The first was 300 units, coming from a dolomite at 5998-6002' just above a thick anhydrite and had no fluorescence or cut with 14% porosity. The second show of 55 units was at 6022-6024' and came from a dolomite with 11% porosity and had no fluorescence or cut.

CHIMNEY ROCK SHALE (6075' - 6101')

The Chimney Rock Shale separates the Desert Creek from the Akah. The Chimney Rock Shale was black, firm, blocky-to-platy, carbonaceous and dolomitic.

AKAH (6101' - 6132')

The Akah was composed of interbedded shale, dolomite and anhydrite with occasional limestone beds. The shale was black, firm, blocky-to-platy, carbonaceous and dolomitic. The dolomite was medium gray, medium brown, firm-to-hard, blocky, microcrystalline and occasionally silty, argillaceous and limy. The limestone was medium gray, firm-to-hard, blocky, cryptocrystalline-to-microcrystalline, dolomitic and occasionally argillaceous. The gas increased from 25-to-120 units at 6090-6112' while drilling the Akah and decreased to 55 units at total depth. This well was drilled two feet into the Paradox Salt for T. D.

APR 06 1988  
 JUN 01 1980-4  
 NOVEMBER 1983  
 (formerly 9-330)  
 OIL, GAS & MINING

**CONFIDENTIAL INFORMATION**

Form approved.  
 Budget Bureau No. 1004-0137  
 Expires August 31, 1985

UNITED STATES  
 DEPARTMENT OF THE INTERIOR  
 BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE

(See other instructions on reverse side)

**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. REMVR.  Other \_\_\_\_\_

2. NAME OF OPERATOR  
 MERIDIAN OIL INC.

3. ADDRESS OF OPERATOR  
 P.O. Box 1855, Billings, MT 59103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)\*  
 At surface SENW (1580' FNL - 2180' FWL)  
 At top prod. interval reported below same  
 At total depth same

14. PERMIT NO. 49-037-31367  
 DATE ISSUED 11-25-87

5. LEASE DESIGNATION AND SERIAL NO.  
 U-46825 Dr.

6. IF INDIAN, ALLOTTEE, OR COPIES NAME  
 N/A 040717

7. UNIT AGREEMENT NAME  
 N/A

8. FARM OR LEASE NAME  
 Cherokee-Federal

9. WELL NO.  
 22-14

10. FIELD AND POOL, OR WILDCAT  
 Cherokee

11. SEC. T. R., M., OR BLOCK AND SURVEY OR AREA  
 Section 14-37S-23E

12. COUNTY OR PARISH  
 San Juan  
 13. STATE  
 Utah

15. DATE SPUDDED 12-4-87  
 16. DATE T.D. REACHED 12-17-87  
 17. DATE COMPL. (Ready to prod.) 1-1-88  
 18. ELEVATIONS (DP, RAB, RT, OR, ETC.)\* 5577' GL  
 19. BLEV. CASINGHEAD 5589' KB

20. TOTAL DEPTH, MD & TVD 6134  
 21. PLUG BACK T.D., MD & TVD 6040  
 22. IF MULTIPLE COMPL., HOW MANY\* N/A  
 23. INTERVALS DRILLED BY  
 ROTARY TOOLS X  
 CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\*  
 5763' - 5866' Ismay  
 25. WAS DIRECTIONAL SURVEY MADE  
 No

26. TYPE ELECTRIC AND OTHER LOGS RUN  
 CNLD, BGS, DLM/SFL, Cyberlook, CBL 3-28-88 mud  
 27. WAS WELL CORED  
 Yes

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

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8-5/8"	24#	2014	11"	630 sxs "B"	None
5-1/2"	15.5#	6134	7-7/8"	235 sxs "B"	None

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
N/A				

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-7/8"	5733'	5700

31. PERFORATION RECORD (Interval, size and number)

5859' - 5866', 4 spf, 28 holes  
 5826' - 5838', 4 spf, 48 holes  
 5763' - 5818', 4 spf, 164 holes

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5859' - 5866'	1000 gal 28% MSR 100
5763' - 5838'	5300 gal 28% MSR 100

33. PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
1-1-88	Flowing	Producing

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
3-29-88	24	14/64"		10	817	0	81700:1

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
1450	N/A		10	817	0	43.7°

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)  
 Sold to Western Gas Processors  
 TEST WITNESSED BY  
 David Overgaard

35. LIST OF ATTACHMENTS  
 Core Analysis

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

SIGNED D.R. Hair TITLE Regional Drilling Engineer DATE 3-31-88

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

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

6

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.	NAME	TOP	
					MEAS. DEPTH	TRUE VERT. DEPTH
Ismay	5768	5880	See Attached	Cutler	3062	+2556
				Hermosa	4698	+890
				Upper Ismay	5737	-149
				Top $\emptyset$	5762	-174
				"A" Shale	5883	-295
				Lower Ismay	5915	-327
				Gothic Shale	5963	-375
				Desert Creek	5989	-401
				Bug Zone	6058	-470
				Chimney Rock Sh.	6075	-487
				Akah	6101	-513
				Paradox Salt	--	-544
				TD	6134	-546

38. GEOLOGIC MARKERS

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPL  
(Other instructions on re-  
verse side)

Form approved.  
Budget Bureau No. 1004-0135  
Expires August 31, 1985

**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 <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. U-46825	
2. NAME OF OPERATOR MERIDIAN OIL INC.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A	
3. ADDRESS OF OPERATOR P. O. Box 1855, Billings, MT 59103		7. UNIT AGREEMENT NAME N/A	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface NENW (810' FNL - 1550' FWL)		8. FARM OR LEASE NAME Cherokee-Federal	
14. PERMIT NO. 43-037-31290/31367		9. WELL NO. 11-14 and 22-14	
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 5630' KB		10. FIELD AND POOL, OR WILDCAT Cherokee	
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Section 14-37S-23E	
		12. COUNTY OR PARISH San Juan	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 <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <u>NTL-4A</u>	<input checked="" type="checkbox"/>

(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.)

Permission to flare gas on an emergency basis is requested for the above named facility. All gas is being sold to Western Gas Processors at the present time, with no flaring. The process equipment is equipped with hi-lo valves to shut in the units in the event of high line pressure or low pressure. There may be a failure that would result in gas being flared, therefor a request to flare is being made.

**CONFIDENTIAL**

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

SIGNED Will Braver TITLE Production Superintendent DATE 4/27/88

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side



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

June 6, 1988

Meridian Oil Inc.  
P.O. Box 1855  
Billings, Montana 59103

Gentlemen:

Re: Request for Gas Venting or Flaring Approval

The Division of Oil, Gas And Mining has received several sundry notices requesting standing approval for emergency gas venting or flaring for the following wells in San Juan County:

Havasu Federal #22-19, Sec. 19, T. 38S, R. 24E  
Havasu Federal #41-24, Sec. 24, T. 38S, R. 24E  
Havasu Federal #42-24, Sec. 24, T. 38S, R. 24E  
Cherokee Federal #11-14, Sec. 14, T. 37S, R. 23E  
Cherokee Federal #22-14, Sec. 14, T. 37S, R. 23E  
Cherokee Federal #33-14, Sec. 14, T. 37S, R. 23E  
Cherokee Federal #43-14, Sec. 14, T. 37S, R. 23E

Your request was reviewed with Board of Oil, Gas and Mining during the informal briefing session of their May 26, 1988 Board meeting.

The Board determined that your request for standing approval to vent or flare gas from the subject wells on an emergency basis shall not be granted. It was the opinion of the Board that in cases of emergency venting or flaring, you must immediately notify the Division and properly report the volumes and duration of any such venting or flaring. The Division shall review all emergency venting or flaring of gas to ensure that such action is unavoidable and adheres to principles of proper conservation.

In this situation, the Board has granted the Division administrative authority to allow gas venting or flaring from the subject wells for verifiable emergencies. If, in the opinion of the Division staff, any reported venting or flaring is not justified, the Division will inform the Board and further action may be taken in accordance with the rules and orders of the Board.

Page 2  
Meridian Oil Inc.  
June 6, 1988

The factors which the Division may consider in reviewing emergency gas venting or flaring are:

1. The disruption of gas transportation and the reasons for such disruption.
2. The ability of Meridian to restrict production as long as correlative rights are protected and without causing waste.
3. The potential for any other conservation oriented alternative to gas venting or flaring.

If you have any further questions concerning this action, please contact John Baza at the letterhead address and telephone number. Thank you for your consideration in this matter.

Best regards,



Dianne R. Nielson  
Director

JRB  
cc: R. J. Firth  
Well files  
0458T-50-51

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**RECEIVED**  
JAN 26 1995  
LOT 1453  
DIV OF OIL, GAS & MINING

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires March 31, 1993

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to deepen or re-enter to a different reservoir.

Use "APPLICATION FOR PERMIT-" for such proposals.

**SUBMIT IN TRIPPLICATE**

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other	6. If Indian, Allottee or Tribe Name N/A
2. Name of Operator <b>D. J. SIMMONS COMPANY LTD. PARTNERSHIP</b>	7. If Unit or CA, Agreement Designation N/A
3. Address and Telephone No. <b>P. O. BOX 1469, FARMINGTON, NM 87499</b>	8. Well Name and No. <b>CHEROKEE</b> <b>FEDERAL 22-14</b>
4. Location of Well (Footage, Sec., T., R., M or Survey Description) <b>1580' FNL &amp; 2180' FWL SEC. 14 - T37S-R23E</b>	9. API Well No.    3136700 <b>43-037-</b>
	10. Field and Pool, or Exploratory Area <b>CHEROKEE</b>
	11. County or Parish, State <b>SAN JUAN COUNTY, UTAH</b>

**12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment	<input type="checkbox"/> Change of Plans
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion	<input type="checkbox"/> New Construction
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Altering Casing	<input type="checkbox"/> Conversion to Injection
	<input checked="" type="checkbox"/> Other <u>Change of Operator</u>	<input type="checkbox"/> Dispose Water <small>(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)</small>

13. Described 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.)\*  
 Please be advised that effective November 1, 1994, **D. J. SIMMONS CO. LTD. PARTNERSHIP** will be operator of the Cherokee Federal 22-14; NW/4 of Section 14 - T37S-R23E; San Juan County, Utah; and is responsible for the operations conducted in the subject well.

**D. J. SIMMONS CO. LTD. PARTNERSHIP IS RESPONSIBLE UNDER THE TERMS AND CONDITIONS OF THE LEASE FOR OPERATIONS CONDUCTED ON THE LEASED LANDS OR PORTIONS THEREOF.**  
**BOND COVERAGE FOR THIS WELL IS PROVIDED BY BLM BOND NO. 9009293. FORMER OPERATOR WAS MERIDIAN OIL INC.**

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

Signed *[Signature]* Title Agent Date 12/1/94

(This space for Federal or State office use)

Approved *[Signature]* Title Associate District Manager Date 1/23/95  
 By *[Signature]*

Condition of Approval, If any: CONDITIONS AS ABOVE

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statement or representations as to any matter within its jurisdiction.

D. J. Simmons Company Ltd. Partnership  
Well No. 22-14  
Sec. 14, T. 37 S., R. 23 E.  
San Juan County, Utah  
Lease U-46825

CONDITIONS OF APPROVAL

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Be advised that D. J. Simmons Company Ltd. Partnership is considered to be the operator of the above wells and is responsible under the terms and conditions of the lease for the operations conducted on the leased lands.

Bond coverage for this well is provided by UT1002 (Principle - D. J. Simmons Company Ltd. Partnership) via surety consent as provided for in 43 CFR 3104.2.

This office will hold the aforementioned operator and bond liable until the provisions of 43 CFR 3106.7-2 continuing responsibility are met.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED  
FEB 10 1995

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

DIV OF OIL, GAS & MINING

SUNDRY NOTICES AND REPORTS ON WELLS

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

15. Lease Designation and Serial No.  
U-46825

6. If Indian, Allottee or Tribe Name  
N/A

7. If Unit or CA, Agreement Designation  
N/A

8. Well Name and No.  
Federal 22-14

9. API Well No.  
3131600

10. Field and Pool, or Exploratory Area  
CHEROKEE

11. County or Parish, State  
San Juan County, Utah

SUBMIT IN TRIPLICATE

1. Type of Well  
 Oil Well  Gas Well  Other

2. Name of Operator  
INTEGRITY FINANCIAL

3. Address and Telephone No.  
c/o Petroco, Inc.; P. O. Box 1622; Roosevelt, Utah 84066

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
1580' FNL & 2180' FWL SEC 14 - T37S-R23E

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input checked="" type="checkbox"/> Other <u>Change of Operator</u>
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Dispose Water

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

13. 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.)\*

Please be advised that effective November 1, 1994, INTEGRITY FINANCIAL will be Operator of the Cherokee Federal 22-14; SE¼ of Section 14 - T37S-R23E; San Juan County, Utah; and is responsible for the operations conducted in the subject well.

INTEGRITY FINANCIAL IS RESPONSIBLE UNDER THE TERMS AND CONDITIONS OF THE LEASE FOR OPERATIONS CONDUCTED ON THE LEASED LANDS OR PORTIONS THEREOF.

BOND COVERAGE FOR THIS WELL IS PROVIDED BY BLM BOND NO. 9009293. FORMER OPERATOR WAS MERIDIAN OIL INC.

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

Signed William C. Stringer Title Agent Date 1-17-95

(This space for Federal or State office use)  
WILLIAM C. STRINGER Associate District Manager FEB - 7 1995

Approved by \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_  
Conditions of approval, if any:

CONDITIONS OF APPROVAL ATTACHED

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

# The Oil & Gas Asset **CLEARINGHOUSE**

A Texas Corporation

February 23, 1995

Utah Division of Oil, Gas & Mining  
Dept. of Natural Resources & Energy  
3 Triad Center #350  
Salt Lake City, Utah 84180-1203

Attn: Lisha Cordova

RE: Federal Lease USA U-46825  
Federal Lease USA U-40440  
San Juan County, Utah

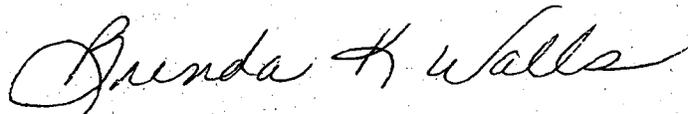
Dear Ms. Cordova:

Enclosed please find four (4) copies of Sundry Notices and Reports on Wells, Forms 3160-5, for the above referenced Federal Leases in San Juan County, Utah which name D. J. Simmons Company Limited Partnership as Operator.

Please review these forms and update your files accordingly. Thank you very much for your assistance in this matter and please contact me if there is any problem or question about this transfer.

Very truly yours,

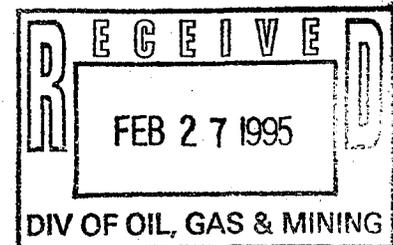
THE OIL & GAS ASSET CLEARINGHOUSE, INC.



Brenda K. Walls  
Land Administrator

Enclosures

Sale 108\*145



**MERIDIAN OIL**

March 6, 1995

State of Utah  
Department of Natural Resources  
Division of Oil, Gas and Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, UT 84180-1203

RE: Change of Operator

Gentlemen:

Effective November 1, 1994 Meridian Oil Inc. resigned as operator of the following wells:

11-14 Cherokee Federal, API #4303731290  
22-14 Cherokee Federal, API #4303731367  
33-14 Cherokee Federal, API #4303731316  
43-14 Cherokee Federal, API #4303731364

The new operator of the above listed properties is D. J. Simmons Company, LTD.  
Partnership.

Yours truly,



Maralene Spawn  
Supervisor, Volume Administration

Division of Oil, Gas and Mining  
**OPERATOR CHANGE WORKSHEET**

Routing:	
1	<del>LFC</del> 7-PL ✓
2	LWF 8-SJ ✓
3	<del>BTSS</del> 9-FILE ✓
4	VLC ✓
5	RJF ✓
6	LWP ✓

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

- Change of Operator (well sold)       Designation of Agent  
 Designation of Operator             Operator Name Change Only

(MERIDIAN TO INTEGRITY APRV 2-7-95)  
 11-1-94

The operator of the well(s) listed below has changed (EFFECTIVE DATE: \_\_\_\_\_)

TO (new operator)	<u>INTEGRITY FINANCIAL</u>	FROM (former operator)	<u>MERIDIAN OIL INC</u>
(address)	<u>C/O PETROCO INC</u>	(address)	<u>PO BOX 3209</u>
	<u>PO BOX 1622</u>		<u>ENGLEWOOD CO 80155-3209</u>
	<u>ROOSEVELT UT 84066</u>		
phone (801 )	<u>722-3000</u>	D.J. SIMMONS COMPANY LTD	phone (303 ) <u>930-9419</u>
account no.	<u>N 7155(A)</u>	9035 S 700 E	account no. <u>N 7230</u>
		SANDY UT 84070-2418	
		C/O MARK DOLAR	
		(801)561-3121	
		NO225 (MERIDIAN TO DJ SIMMONS APRV BY BLM 1-23-95)	

Well(s) (attach additional page if needed):

Name:	<u>CHEROKEE FED 11-14/ISMY</u>	API:	<u>43-037-31290</u>	Entity:	<u>10694</u>	Sec	<u>14</u>	Twp	<u>37S</u>	Rng	<u>23E</u>	Lease Type:	<u>U46825</u>
Name:	<u>CHEROKEE FED 22-14/ISMY</u>	API:	<u>43-037-31367</u>	Entity:	<u>10694</u>	Sec	<u>14</u>	Twp	<u>37S</u>	Rng	<u>23E</u>	Lease Type:	<u>"</u>
Name:	<u>CHEROKEE FED 33-14/ISMY</u>	API:	<u>43-037-31316</u>	Entity:	<u>10757</u>	Sec	<u>14</u>	Twp	<u>37S</u>	Rng	<u>23E</u>	Lease Type:	<u>U40440</u>
Name:	<u>CHEROKEE FED 43-14/ISMY</u>	API:	<u>43-037-31364</u>	Entity:	<u>10757</u>	Sec	<u>14</u>	Twp	<u>37S</u>	Rng	<u>23E</u>	Lease Type:	<u>"</u>
Name:	_____	API:	_____	Entity:	_____	Sec	_____	Twp	_____	Rng	_____	Lease Type:	_____
Name:	_____	API:	_____	Entity:	_____	Sec	_____	Twp	_____	Rng	_____	Lease Type:	_____
Name:	_____	API:	_____	Entity:	_____	Sec	_____	Twp	_____	Rng	_____	Lease Type:	_____

**OPERATOR CHANGE DOCUMENTATION**

- Yes 1. (Rule R615-8-10) Sundry or other legal documentation has been received from former operator (Attach to this form). *(Rec'd 1-27-95) (Rec'd 2-13-95) (Rec'd 3-6-95)*
- Yes 2. (Rule R615-8-10) Sundry or other legal documentation has been received from new operator (Attach to this form). *(Rec'd 1-26-95/DJ Simmons) (Rec'd 2-10-95/Integrity)*
- N/A 3. The Department of Commerce has been contacted if the new operator above is not currently operating any wells in Utah. Is company registered with the state? (yes/no) \_\_\_\_\_ If yes, show company file number: \_\_\_\_\_.
- Yes 4. (For Indian and Federal Wells ONLY) The BLM has been contacted regarding this change (attach Telephone Documentation Form to this report). Make note of BLM status in comments section of this form. Management review of Federal and Indian well operator changes should take place prior to completion of steps 5 through 9 below.
- Yes 5. Changes have been entered in the Oil and Gas Information System (Wang/IBM) for each well listed above. *(1-30-95/DJ Simmons) (2-16-95/Integrity)*
- Sup 6. Cardex file has been updated for each well listed above. *2-7-95*
- Sup 7. Well file labels have been updated for each well listed above. *2-7-95*
- Yes 8. Changes have been included on the monthly "Operator, Address, and Account Changes" memo for distribution to State Lands and the Tax Commission. *(1-30-95/DJ Simmons) (2-16-95/Integrity)*
- Yes 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.

**ENTITY REVIEW**

1. (Rule R615-8-7) 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).
2. State Lands and the Tax Commission have been notified through normal procedures of entity changes.

**BOND VERIFICATION (Fee wells only)**

1. (Rule R615-3-1) The new operator of any fee lease well listed above has furnished a proper bond.
2. A copy of this form has been placed in the new and former operators' bond files.
3. The former operator has requested a release of liability from their bond (yes/no)     . Today's date                      19    . If yes, division response was made by letter dated                      19    .

**LEASE INTEREST OWNER NOTIFICATION RESPONSIBILITY**

1. (Rule R615-2-10) The former operator/lessee of any **fee lease** well listed above has been notified by letter dated                      19    , of their responsibility to notify any person with an interest in such lease of the change of operator. Documentation of such notification has been requested.
2. Copies of documents have been sent to State Lands for changes involving **State leases**.

**FILMING**

1. All attachments to this form have been microfilmed. Date: March 27 1995.

**FILING**

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 have been filed in the Operator Change file.

**COMMENTS**

## MONTHLY OIL AND GAS PRODUCTION REPORT

OPERATOR NAME AND ADDRESS:

C/O PETROCO, INC.  
 INTEGRITY FINANCIAL  
 PO BOX 1622  
 ROOSEVELT UT 84066

UTAH ACCOUNT NUMBER: N7155

REPORT PERIOD (MONTH/YEAR): 6 / 97

AMENDED REPORT  (Highlight Changes)

Well Name API Number      Entry      Location	Producing Zone	Well Status	Days Oper	Production Volumes		
				OIL(BBL)	GAS(MCF)	WATER(BBL)
FEDERAL 14-8 4301530061 00437 265 07E 8	MNKP					
FEDERAL 12-17 4301530062 00438 265 07E 17	MNKP					
ENERGETICS FED 21-20 4301530036 00439 265 07E 20	MNKP					
RIVER JUNCTION 11-18 4304731316 09705 095 20E 18	GRRV					
CHEROKEE FEDERAL 11-14 4303731290 10694 375 23E 14	ISMY			446825		
CHEROKEE FEDERAL 22-14 4303731367 10694 375 23E 14	ISMY			"		
CHEROKEE FEDERAL 33-14 4303731316 10757 375 23E 14	ISMY			440440		
CHEROKEE FEDERAL 43-14 4303731364 10757 375 23E 14	ISMY			"		
SHANE FEDERAL 1 4303731406 10999 375 24E 7	ISMY					
<b>TOTALS</b>						

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

I hereby certify that this report is true and complete to the best of my knowledge. Date: \_\_\_\_\_  
 Name and Signature: \_\_\_\_\_ Telephone Number: \_\_\_\_\_

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

**SUNDRY NOTICES AND REPORTS ON WELLS**

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

5. Lease Designation and Serial No.  
U-46825

6. If Indian, Allottee or Tribe Name  
N/A

7. If Unit or CA, Agreement Designation  
N/A

8. Well Name and No.  
Cherokee Federal 22-14

9. API Well No.  
43-037-31367

10. Field and Pool, or Exploratory Area  
Cherokee

11. County or Parish, State  
San Juan, Utah

**SUBMIT IN TRIPLICATE**

1. Type of Well  
 Oil Well    Gas Well    Other

2. Name of Operator  
Dolar Oil Properties, L.C.

3. Address and Telephone No.  
935 E. South Union Avenue, Suite D-202, Midvale, UT 84047

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
SE<sup>1</sup>NW<sup>1</sup> (1580' FNL - 2180' FWL)  
Sec. 14; T37S-R23E, SLM

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input checked="" type="checkbox"/> Other <u>Change of Operator</u>
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Dispose Water

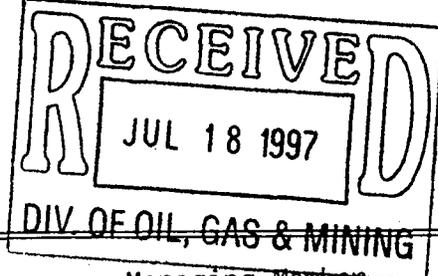
(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. 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.)\*

Please be advised that effective July 1, 1997, Dolar Oil Properties, L.C. will be Operator of the Cherokee Federal 22-14; SE<sup>1</sup>NW<sup>1</sup> of Section 14 - T37S-R23E, SLM; San Juan County, Utah; and is responsible for the operations conducted in the subject well.

Dolar Oil Properties, L.C. is responsible under the terms and conditions of the lease for operations conducted on the leased lands or portions thereof.

Bond coverage for this well is provided by BLM Bond No. UT1082. Former Operator was Integrity Financial c/o Petroco, Inc.



14. I hereby certify that the foregoing is true and correct  
 Signed [Signature] Title Managing Member Date 7/9/97

(This space for Federal or State office use)  
 Approved by /s/ Brad D. Palmer Title Assistant Field Manager, Resource Management Date JUL 16 1997  
 Conditions of approval, if any:

**CONDITIONS OF APPROVAL ATTACHED**

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Dolar Oil Properties, L.C.  
Well No. Cherokee Federal 22-14  
SENW Sec. 14, T37S-R23E  
San Juan County, Utah  
Lease UTU-46825

CONDITIONS OF APPROVAL

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Be advised that Dolar Oil Properties, L.C. is considered to be the operator of the above well and is responsible under the terms and conditions of the lease for the operations conducted on the leased lands.

Bond coverage for this well is provided by UT1082 (Principal - Dolar Oil Properties, L.C.) via surety consent as provided for in 43 CFR 3104.2.

This office will hold the aforementioned operator and bond liable until the provisions of 43 CFR 3106.7-2 continuing responsibility are met.

## SELF-CERTIFICATION STATEMENT

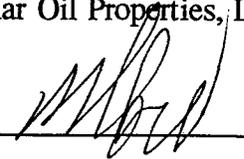
Under the Federal regulations in effect as of June 15, 1988, designation of operator forms are no longer required when operator is not 100% record title holder. An operator is now required to submit a Self-Certification Statement to the appropriate Bureau office stating that said operator has the right to operate upon the leasehold premises.

Please be advised that:

Dolar Oil Properties, L.C.  
935 E. South Union Avenue, Suite D-202  
Midvale, Utah 84047

is considered to be the operator of Well No. **Cherokee Federal Well No. 22-14**, Section 14: SENW, Township 37 South, Range 23 East, SLB&M, Lease U-46825, San Juan County, Utah; and is responsible under the terms and conditions of the lease for the operations conducted upon the leased lands. Bond coverage is provided by Utah Federal Bond UT-1082.

Dolar Oil Properties, L.C.

By:  \_\_\_\_\_

Title: Managing Member

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

**SUNDRY NOTICES AND REPORTS ON WELLS**

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

5. Lease Designation and Serial No.

U-46825

6. If Indian, Allottee or Tribe Name

N/A

7. If Unit or CA, Agreement Designation

N/A

8. Well Name and No.

Cherokee Federal #22-14

9. API Well No.

43-037-31367

10. Field and Pool, or Exploratory Area

Cherokee

11. County or Parish, State

San Juan County,  
Utah

**SUBMIT IN TRIPLICATE**

1. Type of Well

Oil Well  Gas Well  Other

2. Name of Operator

Integrity Financial

3. Address and Telephone No.

c/o Petroco, Inc. P.O. Box 1622, Roosevelt, UT 84066

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

SENW (1580' FNL - 2180' FWL)  
Sec. 14: T37S-R23E, SLM

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment	<input type="checkbox"/> Change of Plans
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion	<input type="checkbox"/> New Construction
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Altering Casing	<input type="checkbox"/> Conversion to Injection
	<input checked="" type="checkbox"/> Other <u>Releasing bond number</u>	<input type="checkbox"/> Dispose Water

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

13. 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.)\*

Please be advised that effective July 1, 1997, Dolar Oil Properties, L.C., 935 E. South Union Ave, D-202, Salt Lake City, UT 84047 will be Operator of Cherokee Federal #22-14 well.

Please release BLM Bond No. 9009293. The new bond no. is UT1082 from Dolar Oil Properties, L.C.

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

Signed

*[Signature]*

Title

*Agent for Integrity*

Date

7/23/97

(This space for Federal or State office use)

Approved by

Conditions of approval, if any:

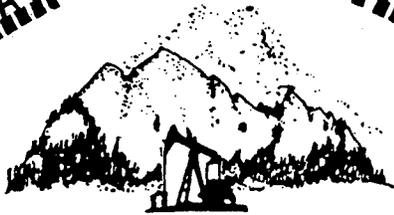
Title

Date

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*See instruction on Reverse Side

# DOLAR OIL PROPERTIES LC

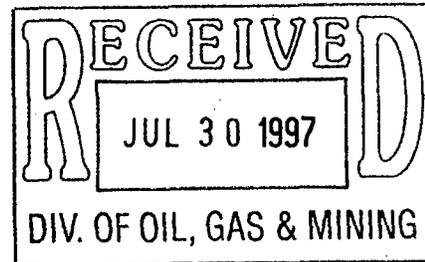


Phone: (801) 561-3121  
Fax: (801) 561-3133

935 East South Union Avenue  
Suite D-202  
Salt Lake City, Utah 84047

July 28, 1997

Ms. Lesha Cordova  
Utah State Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
P.O. Box 145801  
Salt Lake City, UT 84114-5801



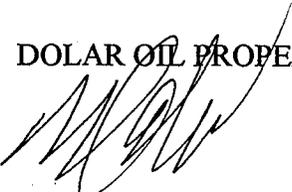
RE: Sundry notices for the Cherokee Field  
Township 37 South, Range 23 East  
San Juan County, Utah

Dear Lesha:

Enclosed please find photocopies of executed change of operator sundry notices for the following wells: Cherokee Federal #11-14, Cherokee Federal #22-14, Cherokee Federal #33-14, and Cherokee Federal #43-14 located in San Juan County, Utah. Attached to the sundry notices you will find a Self-Certification Notice and a Conditions of Approval. Also enclosed please find a sundry notice for each well from Integrity Financial concerning the release of bond number 9009293. As well as sundry notices from Dolar Oil Properties, L.C. releasing Integrity's bond and activating BLM Bond number UT1082. Thank you for your time and attention to this matter. Please do not hesitate to call should you have any questions.

Sincerely yours,

DOLAR OIL PROPERTIES, L.C.

  
Mark S. Dolar, CPL/ESA

MSD/ckk  
Enclosures (12)

A:CKDASUNDRYCHERUT

**OPERATOR CHANGE WORKSHEET**

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

Routing	
1-JEC ✓	6-VAC ✓
2-GLH ✓	7-KAS ✓
3-DTS ✓	8-SI ✓
4-VLD ✓	9-FILE
5-JRB ✓	

- Change of Operator (well sold)       Designation of Agent  
 Designation of Operator       Operator Name Change Only

The operator of the well(s) listed below has changed, effective: 7-1-97

<p><b>TO:</b> (new operator) <u>DOLAR OIL PROPERTIES LC</u>      <b>FROM:</b> (old operator) <u>INTEGRITY FINANCIAL</u>                  (address) <u>935 E S UNION AVE #D-202</u>      (address) <u>C/O PETROCO, INC.</u>  <u>MIDVALE UT 84047</u>  <u>MARK DOLAR</u>                  Phone: <u>(801)561-3121</u>                  Account no. <u>N1680 (7-30-97)</u></p>	<p><u>PO BOX 1622</u>  <u>ROOSEVELT UT 84066</u>                  Phone: <u>(801)722-3000</u>                  Account no. <u>N7155(A)</u></p>
---	--

WELL(S) attach additional page if needed:

Name: <u>CHEROKEE FED 11-14/IS</u>	API: <u>43-037-31290</u>	Entity: <u>10694</u>	S	<u>14</u>	T	<u>37S</u>	R	<u>23E</u>	Lease: <u>U46825</u>
Name: <u>CHEROKEE FED 22-14/IS</u>	API: <u>43-037-31367</u>	Entity: <u>10694</u>	S	<u>14</u>	T	<u>37S</u>	R	<u>23E</u>	Lease: <u>U46825</u>
Name: <u>CHEROKEE FED 33-14/IS</u>	API: <u>43-037-31316</u>	Entity: <u>10757</u>	S	<u>14</u>	T	<u>37S</u>	R	<u>23E</u>	Lease: <u>U40440</u>
Name: <u>CHEROKEE FED 43-14/IS</u>	API: <u>43-037-31364</u>	Entity: <u>10757</u>	S	<u>14</u>	T	<u>37S</u>	R	<u>23E</u>	Lease: <u>U40440</u>
Name: _____	API: _____	Entity: _____	S	_____	T	_____	R	_____	Lease: _____
Name: _____	API: _____	Entity: _____	S	_____	T	_____	R	_____	Lease: _____
Name: _____	API: _____	Entity: _____	S	_____	T	_____	R	_____	Lease: _____

**OPERATOR CHANGE DOCUMENTATION**

1. (r649-8-10) Sundry or other legal documentation has been received from the **FORMER** operator (attach to this form). *(rec'd 7-30-97)*
2. (r649-8-10) Sundry or other legal documentation has been received from the **NEW** operator (Attach to this form). *(rec'd 7-18-97)*
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: #LC012098. (e#-2-7-96)
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.
5. Changes have been entered in the **Oil and Gas Information System (3270)** for each well listed above. *(7-30-97)*
6. **Cardex** file has been updated for each well listed above. *(7-30-97)*
7. Well file labels have been updated for each well listed above. *(7-30-97)*
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. *(7-30-97)*
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.

**ENTITY REVIEW**

- lec 1. (r649-8-7) Entity assignments have been reviewed for all wells listed above. Were entity changes made? (yes/no) no If entity assignments were changed, attach copies of Form 6, Entity Action Form.
- N/A 2. Trust Lands, Sovereign Lands, Tax Commission, etc., have been notified through normal procedures of entity changes.

**BOND VERIFICATION - (FEE WELLS ONLY)**

- N/A/lec 1. (r649-3-1) The NEW operator of any fee lease well listed above has furnished a proper bond.
2. A copy of this form has been placed in the new and former operator's bond files.
3. The FORMER operator has requested a release of liability from their bond (yes/no)    , as of today's date    . If yes, division response was made to this request by letter dated    .

**LEASE INTEREST OWNER NOTIFICATION OF RESPONSIBILITY**

- N/A 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.
- 8/1/97 BTJ
- N/A 2. (r649-2-10) The former operator of any fee lease wells listed above has been contacted and informed by letter dated     19    , of their responsibility to notify all interest owners of this change.

**FILMING**

- ✓ 1. All attachments to this form have been microfilmed. Today's date: 8-8-97

**FILING**

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**

970730 Blm / Moab Aprv. 7-16-97 rd. 7-1-97.

\_\_\_\_\_

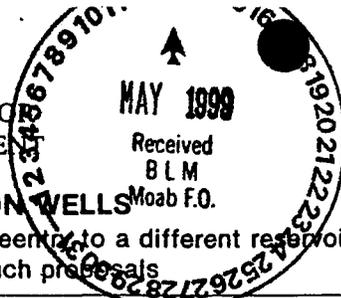
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT



FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

**SUNDRY NOTICES AND REPORTS ON WELLS**

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

5. Lease Designation and Serial No.

U-46825

6. If Indian, Allottee or Tribe Name

N/A

7. If Unit or CA, Agreement Designation

N/A

8. Well Name and No.

Cherokee Federal #22-14

9. API Well No.

43-037-31367

10. Field and Pool, or Exploratory Area

Cherokee Field

11. County or Parish, State

San Juan County,  
Utah

**SUBMIT IN TRIPLICATE**

1. Type of Well

Oil Well  Gas Well  Other

2. Name of Operator

B.K. Seeley Jr., doing business as Seeley Oil Company

3. Address and Telephone No.

P.O. Box 9015, Salt Lake City, Utah 84109-0015

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> (1580' FNL - 2180' FWL)  
Sec. 14, T37S-R23E, SLM

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input checked="" type="checkbox"/> other <u>Change of Operator</u>
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Dispose Water

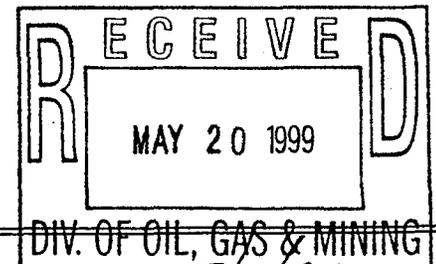
(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. 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.)\*

Please be advised that effective May 1, 1999, B.K. Seeley, Jr., doing business as Seeley Oil Company will be Operator of the Cherokee Federal #22-14; SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> of Section 14 - T37S-R23E, SLM; San Juan County, Utah; and is responsible for the operations conducted in the subject well.

B.K. SEELEY JR., DOING BUSINESS AS SEELEY OIL COMPANY IS RESPONSIBLE UNDER THE TERMS AND CONDITIONS OF THE LEASE FOR OPERATIONS CONDUCTED ON THE LEASED LANDS OR PORTIONS THEREOF.

BOND COVERAGE FOR THIS WELL IS PROVIDED BY UTAH FEDERAL BOND NO. 0692. FORMER OPERATOR WAS DOLAR OIL PROPERTIES, L.C.



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

Signed B.K. Seeley Jr.

Title owner

Date 5/1/99

(This space for Federal or State office use)

Approved by William King

Title Assistant Field Manager,

Date 5/14/99

Conditions of approval, if any:

**CONDITIONS OF APPROVAL ATTACHED**

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*See instruction on Reverse Side

cc: Dolar Oil Properties, LC  
LOGM  
5/14/99

**SELF-CERTIFICATION STATEMENT**

Under the Federal regulations in effect as of June 15, 1988, designation of operator forms are no longer required when operator is not 100% record title holder. An operator is now required to submit a Self-Certification Statement to the appropriate Bureau office stating that said operator has the right to operate upon the leasehold premises.

Please be advised that:

B.K. Seeley, Jr., doing business as Seeley Oil Company  
P.O. Box 9015  
Salt Lake City, Utah 84109-0015

is considered to be the operator of Well No. **Cherokee Federal Well No. 22-14**, Section 14: SE $\frac{1}{4}$ NW $\frac{1}{4}$ , Township 37 South, Range 23 East, SLB&M, Lease U-46825, San Juan County, Utah; and is responsible under the terms and conditions of the lease for the operations conducted upon the leased lands. Bond coverage is provided by Utah Federal Bond 0692.

B.K. Seeley, Jr., doing business as Seeley Oil Company

By: B.K. Seeley  
Title: Owner

B.K. Seeley, Jr., doing business as Seeley Oil Company  
Well No. Cherokee Federal 22-14  
SE¼NW¼ Sec. 14, T37S-R23E  
San Juan County, Utah  
Lease UTU-46825

CONDITIONS OF APPROVAL

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Be advised that B.K. Seeley, Jr., doing business as Seeley Oil Company is considered to be the operator of the above well and is responsible under the terms and conditions of the lease for the operations conducted on the leased lands.

Bond coverage for this well is provided by Utah Federal Bond No. 0692 (Principal -B.K. Seeley, Jr., doing business as Seeley Oil Company) via surety consent as provided for in 43 CFR 3104.2.

This office will hold the aforementioned operator and bond liable until the provisions of 43 CFR 3106.7-2 continuing responsibility are met.

# DOLAR OIL PROPERTIES LC



Phone: (801) 561-3121  
Fax: (801) 561-3133

935 East South Union Avenue  
Suite D-202  
Salt Lake City, Utah 84047

July 22, 1999

**FAX MESSAGE:**

To:  
Kristen Riesbeck  
State of Utah Division of Oil & Gas

From:  
Mark S. Dolar

Subject:  
Sale of Cherokee Field  
Township 37 South, Range 23 East, SLM  
Section 14: All  
San Juan County, UT

Kristen:

Please be advised Dolar Oil Properties, L.C. sold the Cherokee #11-14, #22-14, #33-14 and #43-14 wells to Seeley Oil Company. The sale was effective May 1, 1999. Please correct your records to reflect the new ownership.

Thank you for your attention to this matter.

DOLAR OIL PROPERTIES, L.C.

Mark S. Dolar, CPL/ESA



**ENTITY REVIEW**

- DR 1. (r649-8-7) Entity assignments have been reviewed for all wells listed above. Were entity changes made? (yes/no) no. If entity assignments were changed, attach copies of Form 6, Entity Action Form.
- DR 2. Trust Lands, Sovereign Lands, Tax Commission, etc., have been notified through normal procedures of entity changes.

**BOND VERIFICATION - (FEE WELLS ONLY)**

- JA 1. (r649-3-1) The NEW operator of any fee lease well listed above has furnished a proper bond.
- JA 2. A copy of this form has been placed in the new and former operator's bond files.
- JA 3. The FORMER operator has requested a release of liability from their bond (yes/no) \_\_\_\_\_, as of today's date \_\_\_\_\_. If yes, division response was made to this request by letter dated \_\_\_\_\_.

**LEASE INTEREST OWNER NOTIFICATION OF RESPONSIBILITY**

- JA 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.
- JA 2. (r649-2-10) The former operator of any fee lease wells listed above has been contacted and informed by letter dated \_\_\_\_\_ 19 \_\_, of their responsibility to notify all interest owners of this change.

**FILMING**

- VB 1. All attachments to this form have been microfilmed. Today's date: 11.3.99.

**FILING**

- 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**

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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

FORM APPROVED  
OMB No. 1004-0135  
Expires July 31, 1996

5. Lease Serial No. 4-46825

6. If Indian, Allottee or Tribe Name  
—

7. If Unit or CA/Agreement, Name and/or No.  
—

**SUBMIT IN TRIPLICATE - Other instructions on reverse side**

1. Type of Well  
 Oil Well  Gas Well  Other

2. Name of Operator Seeley oil Company

3a. Address P.O. Box 9015, SLC, Ut. 3b. Phone No. (include area code) 801-467-6419

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
SE/NW Sec. 14-T. 37 S-R. 23 E

8. Well Name and No. Cherokee Fed. #22-14

9. API Well No. 43-037-31367

10. Field and Pool, or Exploratory Area  
Cherokee Field

11. County or Parish, State  
Sau Juan Co, Ut.

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	_____
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	_____

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

We desire to change well name to:

Bonnie Federal #22-14

**RECEIVED**

APR 10 2000

DIVISION OF  
OIL, GAS AND MINING

From Cherokee Fed. #22-14

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

Name (Printed/Typed) B.K. Seeley Jr.

Title owner

Signature B.K. Seeley Jr.

Date 3/17/00

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by ACCEPTED

Title Division of Resources

Date MAR 20 2000

Office Moab Field Office

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Form 9-221  
(May 1983)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE\*  
(Other instructions on re-  
verse side)

Form approved.  
Budget Bureau No. 42-B1424.

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 <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input checked="" type="checkbox"/> <u>All oil + gas wells</u>		6. LEASE DESIGNATION AND SERIAL NO.
2. NAME OF OPERATOR <u>Seeley Oil Company, L.L.C.</u>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR <u>P.O. Box 9015, S.L.C., Utah 84109</u>		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) <u>At surface</u>		8. FARM OR LEASE NAME
14. PERMIT NO.		9. WELL NO.
15. ELEVATION (Show whether DF, RT, CM, etc.)		10. FIELD AND POOL, OR WILDCAT
		11. SEC., T., R., E., OR B.C. AND SURVEY OR AREA
		12. COUNTY OR PARISH 13. STATE

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

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDISE

REPAIR WELL

(Other)

FULL OR ALTER CASING

MULTIPLE COMPLETS

ABANDON\*

CHANGE PLANS

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDISING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT\*

(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.)\*

this is to inform you that effective with January 2003 we changed our name from "B.K. Seeley Jr. dba Seeley oil company"

To: Seeley oil Company, L.L.C.

Please change your well records to reflect this change.

RECEIVED

MAR 03 2003

DIV. OF OIL GAS & MINING

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

SIGNED

B.K. Seeley Jr.

TITLE

Member

DATE

3/03/03

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

\*See Instructions on Reverse Side



**Ted Boyer**  
*Executive Director*  
Department of Commerce

**Michael O. Leavitt**  
*Governor*  
State of Utah

**Kathy Berg**  
*Director*  
Division of Corporations  
& Commercial Code

**STATE OF UTAH**  
**DEPARTMENT OF COMMERCE**  
***DIVISION OF CORPORATIONS & COMMERCIAL CODE***  
**CERTIFICATE OF REGISTRATION**

DE BENNEVILLE K SEELEY, JR  
SEELEY OIL COMPANY LLC  
3964 S SUMMERSPRING LANE  
SALT LAKE CITY UT 84124

MAR 03 2003  
DIV. OF OIL, GAS & MINING



State of Utah  
Department of Commerce  
Division of Corporations & Commercial Code

**CERTIFICATE OF REGISTRATION**

**LLC - Domestic**

This certifies that SEELEY OIL COMPANY LLC has been filed and approved on January 09, 2003 and has been issued the registration number 5260313-0160 in the office of the Division and hereby issues this Certification thereof.

KATHY BERG  
Division Director

RECEIVED

MAR 03 2003

DIV. OF OIL, GAS & MINING

well name	section	township	range	api	entity	lease type	status	well_type
STATE 36-13	36	15S	12E	43-007-30084	6430	STATE	S	OW
GRASSY TRAIL 36-2	36	15S	12E	43-007-30103	9577	STATE	S	OW
FEDERAL 35-44	35	15S	12E	43-007-30108	99998	FEDERAL	PA	NA

FEDERAL 1	01	16S	12E	43-015-15604	635	FEDERAL	TA	OW
FEDERAL 2	01	16S	12E	43-015-15607	635	FEDERAL	TA	OW
FEDERAL 1-14	01	16S	12E	43-015-30180	9575	FEDERAL	S	OW
STATE 2-43X	02	16S	12E	43-015-30100	6440	STATE	S	OW
STATE 2-23	02	16S	12E	43-015-30111	99990	STATE	I	WD
FEDERAL 3-23	03	16S	12E	43-015-30127	99998	FEDERAL	PA	D
FEDERAL 4-32	04	16S	12E	43-015-30121	6460	FEDERAL	S	OW
FEDERAL 11-33	11	16S	12E	43-015-30097	6435	FEDERAL	P	OW
FEDERAL 11-41	11	16S	12E	43-015-30118	6450	FEDERAL	S	OW
FEDERAL 11-13	11	16S	12E	43-015-30120	6455	FEDERAL	S	OW
FEDERAL 11-11	11	16S	12E	43-015-30149	6490	FEDERAL	S	OW
FEDERAL 11-42	11	16S	12E	43-015-30167	6495	FEDERAL	P	OW
FEDERAL 11-23	11	16S	12E	43-015-30170	6500	FEDERAL	S	OW
FEDERAL 11-43	11	16S	12E	43-015-30172	6431	FEDERAL	S	OW
FEDERAL 12-13	12	16S	12E	43-015-30142	6485	FEDERAL	S	OW
FEDERAL 12-32	12	16S	12E	43-015-30184	9576	FEDERAL	S	OW
FEDERAL 14-11	14	16S	12E	43-015-30138	6475	FEDERAL	S	OW
FEDERAL 6-14	06	16S	13E	43-015-30187	99998	FEDERAL	LA	OW

BONNIE FEDERAL 11-14	14	37S	23E	43-037-31290	10694	FEDERAL	P	OW
BONNIE FEDERAL 33-14	14	37S	23E	43-037-31316	10757	FEDERAL	PA	GW
BONNIE FEDERAL 43-14	14	37S	23E	43-037-31364	10757	FEDERAL	P	OW
BONNIE FEDERAL 22-14	14	37S	23E	43-037-31367	10694	FEDERAL	P	GW

BLACK BULL FEDERAL 31C	31	38S	25E	43-037-31663	11352	FEDERAL	S	GW
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COWBOY 1	14	39S	22E	43-037-30012	2530	FEDERAL	S	OW
COWBOY 4	14	39S	22E	43-037-30037	2530	FEDERAL	PA	OW
COWBOY 5	14	39S	22E	43-037-30062	2530	FEDERAL	P	OW
COWBOY 7	23	39S	22E	43-037-30325	2530	FEDERAL	P	OW

RECAPTURE PCKT ST 7	02	40S	22E	43-037-30701	2790	STATE	P	OW
RECAPTURE POCKET 1	03	40S	22E	43-037-30625	2780	FEDERAL	S	OW
RECAPTURE POCKET 5	10	40S	22E	43-037-30689	2785	FEDERAL	P	OW
GOVT NORWOOD 1	15	40S	22E	43-037-15611	985	FEDERAL	P	OW
1-25A KGS FEDERAL	25	40S	22E	43-037-30906	10025	FEDERAL	S	OW

**OPERATOR CHANGE WORKSHEET**

**ROUTING**

1. GLH
2. CDW ✓
3. FILE

Change of Operator (Well Sold)

Designation of Agent/Operator

**X Operator Name Change**

Merger

The operator of the well(s) listed below has changed, effective:		<b>1-9-03</b>
<b>FROM: (Old Operator):</b>		<b>TO: (New Operator):</b>
SEELEY OIL COMPANY		SEELEY OIL COMPANY LLC
Address: P O BOX 9015		Address: P O BOX 9015
SALT LAKE CITY, UT 84109		SALT LAKE CITY, UT 84109
Phone: 1-(801)-467-6419		Phone: 1-(801)-467-6419
Account No. N2880		Account No. N2355

**CA No.**

**Unit:**

**WELL(S)**

NAME	SEC TWN RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
FEDERAL 6-14	06-15S-13E	43-015-30187	99998	FEDERAL	OW	LA
BONNIE FEDERAL 11-14	14-37S-23E	43-037-31290	10694	FEDERAL	OW	P
BONNIE FEDERAL 33-14	14-37S-23E	43-037-31316	10757	FEDERAL	GW	PA
BONNIE FEDERAL 43-14	14-37S-23E	43-037-31364	10757	FEDERAL	OW	P
BONNIE FEDERAL 22-14	14-37S-23E	43-037-31367	10694	FEDERAL	GW	P
COWBOY 1	14-39S-22E	43-037-30012	2530	FEDERAL	OW	S
COWBOY 4	14-39S-22E	43-037-30037	2530	FEDERAL	OW	PA
COWBOY 5	14-39S-22E	43-037-30062	2530	FEDERAL	OW	P
COWBOY 7	23-39S-22E	43-037-30325	2530	FEDERAL	OW	P
RECAPTURE POCKET STATE 7	02-40S-22E	43-037-30701	2790	STATE	OW	P
RECAPTURE POCKET 1	03-40S-22E	43-037-30625	2780	FEDERAL	OW	S
RECAPTURE POCKET 5	10-40S-22E	43-037-30689	2785	FEDERAL	OW	P
GOV'T NORWOOD 1	15-40S-22E	43-037-15611	985	FEDERAL	OW	P
1-25A KGS FEDERAL (CA-000232)	25-40S-22E	43-037-30906	10025	FEDERAL	OW	S

**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: 03/03/2003
2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 03/03/2003
3. The new company has been checked through the **Department of Commerce, Division of Corporations Database** on: 03/03/2003
4. Is the new operator registered in the State of Utah: YES Business Number: 5260313-0160
5. If **NO**, the operator was 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: 01/14/2003

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: 03/04/2003

2. Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 03/04/2003

3. Bond information entered in RBDMS on: N/A

4. Fee wells attached to bond in RBDMS on: N/A

**STATE WELL(S) BOND VERIFICATION:**

1. State well(s) covered by Bond Number: 1063820156428

**FEDERAL WELL(S) BOND VERIFICATION:**

1. Federal well(s) covered by Bond Number: UT 0692

**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 N/A

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: N/A

**COMMENTS:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_