

Scout Report sent out

Noted in the NID File

Location map pinned

Approval or Disapproval Letter

Date Completed, P. & A, or operations suspended

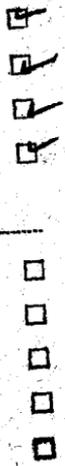
Pin changed on location map

Affidavit and Record of A & P

Water Shut-Off Test

Gas-Oil Ratio Test

Well Log Filed



FILE NOTATIONS

Entered in NID File

Entered on P & A Sheet

Location Map Pinned

Card Indexed

IWR for State or Fee Land

Checked by Chief

Copy NID to Field Office

Approval Letter

Disapproval Letter

COMPLETION DATA:

Date Well Completed: 10-24-58 Location Inspected \_\_\_\_\_

OW  WW \_\_\_\_\_ TA \_\_\_\_\_ Bond released \_\_\_\_\_

GW \_\_\_\_\_ OS \_\_\_\_\_ PA \_\_\_\_\_ State of Fee Land \_\_\_\_\_

LOGS FILED

Driller's Log 13-12-58

Electric Logs (No. ) 2

E \_\_\_\_\_ I \_\_\_\_\_ E-I  GR \_\_\_\_\_ GR-N \_\_\_\_\_ Micro 2

Lat \_\_\_\_\_ Mi-J \_\_\_\_\_ Sonic \_\_\_\_\_ Others Radiation

UTAH OIL AND GAS CONSERVATION COMMISSION

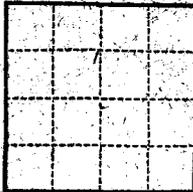
REMARKS: *12-1-83 Operator name change*  
*Approved for Water Injection 6-18-84*

DATE FILED *7-25-58* Nav-14-20-  
 LAND: FEE & PATENTED STATE LEASE NO. PUBLIC LEASE NO. INDIAN *603-353*  
 DRILLING APPROVED: *7-25-58*  
 SPUDDED IN: *10-1-58*  
 COMPLETED: *12-24-58*  
 INITIAL PRODUCTION: *552 1. 1958*  
 GRAVITY A. P. I. *41°*  
 GOR: *6.1*  
 PRODUCING ZONES: *5559-5431* **040759**  
 TOTAL DEPTH: *5779*  
 WELL ELEVATION: *4791*  
 DATE ABANDONED:  
 FIELD OR DISTRICT: ~~Ratherford~~ *Aneth*  
 COUNTY: *San Juan*  
 WELL NO. *DESERT A-14 (Ratherford 18-34)* *API 43-037-15737*  
 LOCATION: *780* FT. FROM (X) (S) LINE, *1860* FT. FROM (E) (X) LINE. SW SE <sup>15</sup> QUARTER - QUARTER SEC. *18*

TWP.	RGE.	SEC.	OPERATOR	TWP.	RGE.	SEC.	OPERATOR
<i>58</i> N 1 S	<i>24</i> E	<i>18</i>	PHILLIPS <i>Oil Co</i> PETROLEUM				

## GEOLOGIC TOPS:

QUATERNARY	Star Point	Sinbad	Brazer
Recent	Wahweap	PERMIAN	Pilot shale
Alluvium	Masuk	Kaibab	Madison
Lake beds	Colorado	Coconino	Leadville
Pleistocene	Mancos	Cutler 2606	Redwall
Lake beds	Upper	Hoskinnini	DEVONIAN
TERTIARY	Middle	DeChelly 2639	Upper
Pliocene	Lower	White Rim	Middle
Humboldt	Emery	Organ Rock 2809	Lower
Salt Lake	Blue Gate	Cedar Mesa	Ouray
Miocene	Ferron	Haljaite tongue	Elbert
Bishop conglomerate	Frontier	Phosphoris	Guilmette
Oligocene	Dakota	Park City	Simonson dolomite
Norwood	Burro Canyon	Rico (Goodridge)	Sevy dolomite
Eocene	Cedar Mountain	Supai	North Point
Duchesne River	Buckhorn	Bird Springs	SILURIAN
Uinta	JURASSIC	CARBONIFEROUS	Laketown dolomite
Bridger	Morrison	Pennsylvanian	ORDOVICIAN
Green River	Salt Wash	Oquirrh	Eureka quartzite
Upper	San Rafael Gr.	Weber	Pogonip limestone
Middle	Summerville	Morgan	CAMBRIAN
Lower	Bluff sandstone	Hermosa 4565	Lynch
Wasatch	Curtis	Upper	Bowman
Colton	Entrade	Lower	Tapeats
Flagstaff	Moab tongue	Molas	Ophir
Almy	Carmel	Paradox 5548	Tintic
Paleocene	Glen Canyon Gr.	A	PRE-CAMBRIAN
Current Creek	Navajo 670	B	
North Horn	Kayento 935	C	
CRETACEOUS	Wingate 1050	Manning Canyon	
Montana	TRIASSIC	Mississippian	
Mesaverde	Chinle 1512	Chainman shale	
Price River	Shinarump 2045	Humbug	
Blackhawk	Moenkapi 3	Joana limestone	



(SUBMIT IN TRIPLICATE)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Indian Agency Navajo

Allottee Trinidad

Lease No. 11-25-42-23

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	<input checked="" type="checkbox"/>	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....		SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL.....		SUBSEQUENT REPORT OF REDRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....		SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....		SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

Cortez, Colorado July 23, 1960

Desert "A"

Well No. 14 is located 700 ft. from S line and 1060 ft. from E line of sec. 10

SW/4 SE/4 Sec. 10

41S

24E

51M

(1/4 Sec. and Sec. No.)

(Twp.)

(Range)

(Meridian)

Rutherford

San Juan

Utah

(Field)

(County or Subdivision)

(State or Territory)

The elevation of the ~~wellhead~~ <sup>ungraded ground</sup> above sea level is 4777 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Drill 17-1/4" hole to approximately 150', set 150' of 13-3/8" conductor pipe and cement to surface. Drill 11" hole to approximately 1500', set 8-5/8" casing and cement to surface. Drill 7-7/8" hole to total depth of approximately 5750', run 5-1/2" casing and cement with approximately 250 sacks. Complete in Paradox formation.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Phillips Petroleum Company

Address Wilson Building

Cortez, Colorado

By [Signature]

Title Division Superintendent

Company..... **PHILLIPS PETROLEUM COMPANY** .....

Lease..... **NAVAJO DESERT 'A'** ..... Well No.....

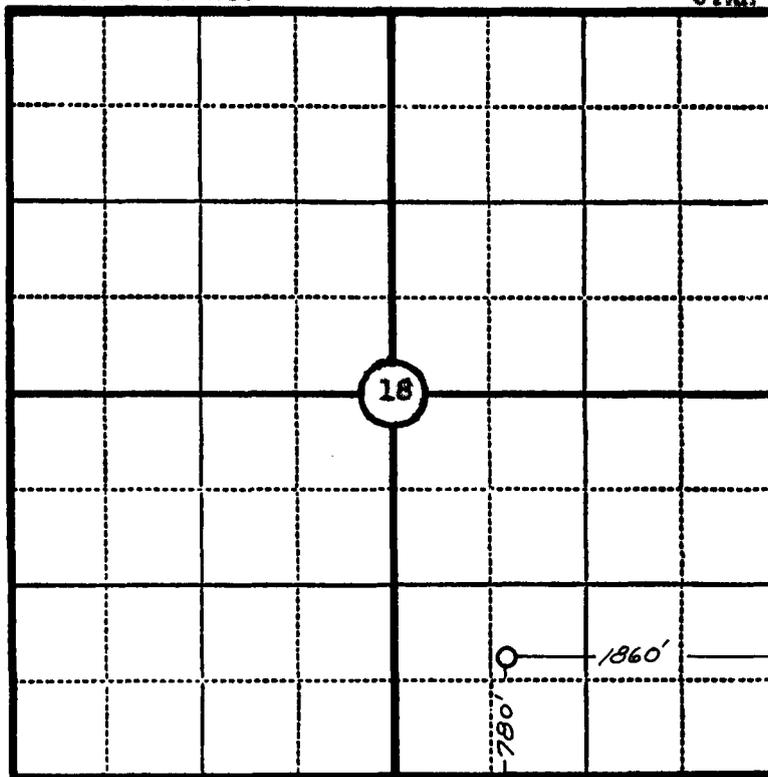
Sec. **18** ....., T. **41 S** ....., R. **24 E.** S. **1. M.** .....

Location. **780' FROM THE SOUTH LINE AND 1860' FROM THE EAST LINE.**

Elevation. **4777.5 UNGRADED GROUND** .....

**SAN JUAN COUNTY**

**UTAH**



Scale—4 inches equal 1 mile.

This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.

Seal:

*James P. Leese*

Registered Land Surveyor.  
**JAMES P. LEESE**  
**UTAH REG. NO. 1472**

Surveyed **8 DECEMBER** ....., 19**57** .....

**SAN JUAN ENGINEERING COMPANY, FARMINGTON, N. M.**

July 25, 1958

Phillips Petroleum Company  
Wilson Building  
Cortez, Colorado

Attention: W. M. Schul, Division Superintendent

Gentlemen:

This is to acknowledge receipt of your notice of intention to drill Well No. Desert A-14, which is to be located 700 feet from the south line and 1860 feet from the east line of Section 18, Township 41 South, Range 24 East, S1EM, San Juan County, Utah.

Please Be advised that insofar as this office is concerned, approval to drill said well is hereby granted.

This approval terminates within 90 days if the above mentioned well is not spudded in within said period.

Yours very truly,

OIL & GAS CONSERVATION COMMISSION

GLENN B. PEIGOFF  
SECRETARY

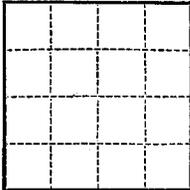
GBF:en

cc: Phil McGrath  
USGS, Farmington,  
New Mexico

5

(SUBMIT IN TRIPPLICATE)

Indian Agency **Navajo**



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Allotted **Tribal**  
Lease No. **14-00-603-353**

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	<input checked="" type="checkbox"/>
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL	SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

**Cortez, Colorado** **November 26**, 19 **58**

**Desert "A"**

Well No. **14** is located **780** ft. from **XXI** line and **1860** ft. from **E** line of sec. **18**

**SW/4 SE/4 Sec. 18** **41S** **24E** **SLM**  
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)  
**Rutherford** **San Juan** **Utah**  
(Field) (County or Subdivision) (State or Territory)

The elevation of the ~~land surface~~ **ungraded ground** above sea level is **4777** ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Spudded 12:45 AM 10/1/58. Drilled 11" hole to 171' and reamed 11" hole to 17-1/4" to 171'. Set and cemented 13-3/8" casing at 171' w/175 sz reg. cement, 2% calcium chloride. Pumped plug to 141' 4:30 PM 10/1/58. Cement circulated. NOC 24 hrs. Tested casing to 500 min for 30 min - tested o.k.  
Drilled 11" hole to 1521'; set and cemented 49 jts 8-5/8" OD 24# J-55 ST&C casing at 1520-64' w/330 sz reg. cement, 126 sz Diacal "D", 620# calcium chloride, 165# floccul, 660# tuff plug, followed w/125 sz neat cement. Pumped plug to 1515 ft at 5:40 PM 10/3/58. Cement circulated. Filled annulus w/10 sz cement. NOC 24 hrs, tested casing 750#, 30 mins - ok.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company **Phillips Petroleum Company**

Address **Box 548**  
**Cortez, Colorado**

By **C. H. Boles**  
Title **District Superintendent**

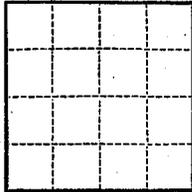
(SUBMIT IN TRIPLICATE)

Indian Agency Navajo

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Allottee Tribal

Lease No. 14-20-603-353



SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL		SUBSEQUENT REPORT OF WATER SHUT-OFF	<input checked="" type="checkbox"/>
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF		SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL		SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

Cortez, Colorado Nov. 26 19 58

Desert "A"

Well No. 14 is located 780 ft. from  line and 1860 ft. from  line of sec. 18

SW/4 SE/4 Sec. 18  
(1/4 Sec. and Sec. No.)

41S  
(Twp.)

24E  
(Range)

13M  
(Meridian)

Rutherford  
(Field)

San Juan  
(County or Subdivision)

Utah  
(State or Territory)

ungraded ground

The elevation of the ~~bottom~~ above sea level is 4777 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Drilled 7-7/8" hole to 5778 ft. Ran Schlumberger Induction and Micro Logs. Set and cemented 177 lbs 5-1/2" OD J-55, 8 rd thd ST&C casing at 5777.37' w/132 sx cement, 100 sx Diacal "D", 496# calcium chloride. Pumped plug to 5742 ft at 11:15 PM 10/19/58. WOC 24 hrs. Tested casing to 750# for 3 mins-o.k.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Phillips Petroleum Co.

Address Box 548

Cortez, Colorado

By C. M. Boles

Title District Superintendent

February 3, 1959

Phillips Petroleum Company  
P. O. Box 548  
Cortez, Colorado

Re: Well No. Desert A-14, SE  
18-41S-24E, SLEM, San Juan  
County, Utah

Gentlemen:

This is to advise you that the well log for the above mentioned well has not as yet been filed with this office as required by our rules and regulations.

Please complete the enclosed Forms OGCC-3, Log of Oil or Gas Well, in duplicate, and forward them to this office as soon as possible.

Yours very truly,

OIL & GAS CONSERVATION COMMISSION

CLEON B. FEIGHT  
EXECUTIVE SECRETARY

CBF:co

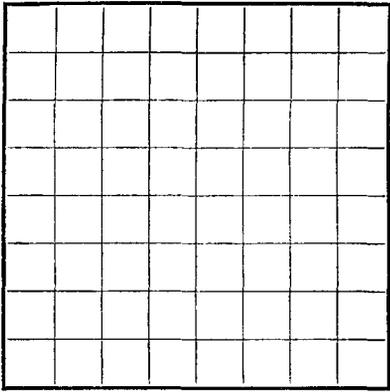
Encls. (Forms 3)

76

15

Form 9-330

U. S. LAND OFFICE **Navajo**  
SERIAL NUMBER **14-20-603-353**  
LEASE OR PERMIT TO PROSPECT **Tribal**



LOCATE WELL CORRECTLY

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

718  
3/10

LOG OF OIL OR GAS WELL

Company Phillips Petroleum Company Address Box 548, Cortez, Colorado  
Lessor or Tract Desert "A" Field Ratherford State Utah  
Well No. 14 Sec. 18 T. 41S R. 24E Meridian S.L.M. County San Juan  
Location 780 ft. N of S Line and 1860 ft. W of E Line of Sec. 14 Elevation 4791  
(Derriek floor relative to sea level)

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records.

Signed [Signature]  
Date February 9, 1959 Title District Superintendent

The summary on this page is for the condition of the well at above date.

Commenced drilling October 1, 1958 Finished drilling October 18, 1958

OIL OR GAS SANDS OR ZONES  
(Denote gas by G)

No. 1, from 5559 to 5731 No. 4, from \_\_\_\_\_ to \_\_\_\_\_  
No. 2, from \_\_\_\_\_ to \_\_\_\_\_ No. 5, from \_\_\_\_\_ to \_\_\_\_\_  
No. 3, from \_\_\_\_\_ to \_\_\_\_\_ No. 6, from \_\_\_\_\_ to \_\_\_\_\_

IMPORTANT WATER SANDS

**Water shows in all sands from Navajo formation through Bechelly member of Cutler Formation. No water flows observed.**  
No. 1, from \_\_\_\_\_ to \_\_\_\_\_ No. 3, from \_\_\_\_\_ to \_\_\_\_\_  
No. 2, from \_\_\_\_\_ to \_\_\_\_\_ No. 4, from \_\_\_\_\_ to \_\_\_\_\_

CASING RECORD

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated		Purpose
							From--	To--	
13-3/8	27.1#	SWSJ	Arcoo	162	Baker		5559	5568	Oil Prod.
8-5/8	26 #	8 rd	J-55	1518	"		5584	5593	" "
5-1/2	19.3#	8 rd	J-55	181	"		5599	5616	" "
5-1/2	14#	8 rd	J-55	5645	"		5637	5647	" "
							5653	5662	" "
							5667	5697	" "
							5722	5731	" "

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
13-3/8	171	175	Circ		
8-5/8	1321	800 cu ft	Circ (10 sq additional sq down annulus)		
5-1/2	5777	590 cu ft	Wallburton		

PLUGS AND ADAPTERS

Heaving plug—Material \_\_\_\_\_ Length \_\_\_\_\_ Depth set \_\_\_\_\_  
Adapters—Material \_\_\_\_\_ Size \_\_\_\_\_

FOLD MARK

MARK FOLD

13-3/8	171	175	Circ
8-5/8	1521	800 cu ft	Circ (10 or additional or down annulus)
5-1/2	5777	550 cu ft	Halliburton

**PLUGS AND ADAPTERS**

Heaving plug—Material ..... Length ..... Depth set .....

Adapters—Material ..... Size .....

**SHOOTING RECORD**

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out

**TOOLS USED**

Rotary tools were used from 0 feet to 5779 feet, and from ..... feet to ..... feet

Cable tools were used from ..... feet to ..... feet, and from ..... feet to ..... feet

**DATES**

~~February 9~~ ..... 19 ~~59~~ Put to producing ~~October 24~~ ..... 19 ~~58~~

The production for the first 24 hours was 552 barrels of fluid of which 100 % was oil; ..... % emulsion; ..... % water; and ..... % sediment. Gravity, °Bé. 41

If gas well, cu. ft. per 24 hours ..... Gallons gasoline per 1,000 cu. ft. of gas .....

Rock pressure, lbs. per sq. in. 365-180

**EMPLOYEES**

~~Moran Bros., Inc.~~ ..... Driller ..... Driller

..... Driller ..... Driller

**FORMATION RECORD**

FROM—	TO—	TOTAL FEET	FORMATION
670	935	265	Navajo
935	1050	115	Kayenta
1050	1512	462	Wingate
1512	2345	833	Chinle
2345	2403	58	Shinarump
2403	2606	203	Moenkopi
2606	2639	33	Outler- Hoskinini Equivalent
2639	2809	170	De Chelly Member (Outler)
2809	4565	1756	Organ Rock Member (Outler)
4565	5548	983	Hermosa - Honaker Trail
5548	5779	231	Paradox
5779	5742	37	PBTD -top cement plug


**HISTORY OF OIL OR GAS WELL**

16-48094-2 U. S. GOVERNMENT PRINTING OFFICE

It is of the greatest importance to have a complete history of the well. Please state in detail the dates of redrilling, together with the reasons for the work and its results. If there were any changes made in the casing, state fully, and if any casing was "sidetracked" or left in the well, give its size and location. If the well has been dynamited, give date, size, position, and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position, and results of pumping or bailing.

Spudded 12:45 AM 10/1/58. Drilled 11" hole to 171' and reamed 11" hole to 17-1/4" to 171'. Set and cemented 13-3/8" casing at 171' w/175 sx regular cement, 2% calcium chloride. Pumped plug to 141' 4:30 PM 10/1/58. Cement circulated. SOC 24 hours. Tested casing to 500% for 30 minutes - tested o.k.

Drilled 11" hole to 1521', set and cemented 49 jts 8-5/8" OD 24.9 J-55 ST&C casing at 1520-64' w/130sx. regular cement, 12% sx Diacel "D", 620% calcium chloride, 16% floccule, 660% buff Plug, followed w/125 sx. neat cement. Pumped plug to 1515' at 5:40 PM 10/3/58. Cement circulated. Filled annulus w/10 sx cement. SOC 24 hours. Tested casing 750% for 30 minutes. Tested o.k.

Drilled 7-7/8" hole to 5778'. Ran Schlumberger Induction and Micro Logs. Set and cemented 177 jts 5-1/2" OD J-55, 8 rd thd ST&C casing at 5777.37' w/132 sx cement, 100 sx Diacel "D", 496% calcium chloride. Pumped plug to 5742' at 11:15 PM 10/19/58. SOC 24 hours. Tested casing to 750% for 30 minutes. Tested o.k.

Ran Gamma Ray Neutron Collar Locator log to 5742'. Perforated 5-1/2" casing using 1/2" bullets (4 shots/ft) from 5559-68, 5584-93, 5599-5616, 5637-47, 5653-61, 5667-97, 5722-31. Total 92 feet - 368 holes. Ran 117 jts 2-7/8" OD 24.9 J-55 tubing and set at 5710.72' -- set packer at 5421.42 and displaced water with 9580, acidized w/8000 gallons 15% regular acid. Maximum pressure 2000%, minimum pressure 0%. Average treating rate 7.4 GPM, average flush rate 7.4 BPH. Flushed with 35 1/2 barrels of oil. Well bled to 0% as soon as pump shut down. Flowed and swabbed 310 barrels fluid (acid and flush) to clean well. 10/24/58 Flowed 92 barrels oil in 4 hours through 1/2" choke. IP 365 to 180%. 24 hour rate - 552 B9, 359 MCFGPD, G/O 650 -- producing from Paradax Line.

WELL LOG SHEET


WELL LOG SHEET

DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**UNITED STATES**  
**DEPARTMENT OF THE INTERIOR**  
**GEOLOGICAL SURVEY**

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

Form approved.  
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.  
**14-20-603-353**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
**Navajo - Tribal**

7. UNIT AGREEMENT NAME  
**SW-1-4192**

8. FARM OR LEASE NAME  
**Rutherford Unit**

9. WELL NO.  
**18-34**

10. FIELD AND POOL, OR WILDCAT  
**Greater Aneth**

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
**Sec. 18-T115-R243**

12. COUNTY OR PARISH  
**San Juan**

13. STATE  
**Utah**

**SUNDRY NOTICES AND REPORTS ON WELLS**

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

1. OIL WELL  GAS WELL  OTHER

2. NAME OF OPERATOR  
**Phillips Petroleum Company**

3. ADDRESS OF OPERATOR  
**P. O. Box 2920, Casper, Wyoming 82602**

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\*  
See also space 17 below.)  
At surface  
**780' NSL & 1860' WSL, SW SE**

14. PERMIT NO. \_\_\_\_\_

15. ELEVATIONS (Show whether DF, RT, GR, etc.)  
**4791' DF**

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) _____	

(Other) **Sqs Out Zone II & III & Acidize Zone I.**

(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.)\*

**It is proposed to acidize current Zone II and III Perfs, 5637-5731' OA, Acidize Zone I Perfs, 5559-5616' OA, with 4000 gals 28% acid in 3 stages, and then return to pumping status.**

**Well has been Start-In as Unconventional since May 5, 1976**

APPROVED BY THE DIVISION OF  
OIL, GAS, AND MINING

DATE: October 12, 1976

BY: P. L. Driscoll (K.O.)  
(original signed by Mr. Driscoll)

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

SIGNED

A. T. Crump  
**A. T. Crump**

TITLE

Area Superintendent

DATE

October 8, 1976

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

- CONDITIONS OF APPROVAL, IF ANY:
- 3 - USGS, Farmington, New Mexico
  - 2 - Utah O&G CC, Salt Lake City, Utah
  - 1 - Superior Oil Co., Conroe, TX
  - 1 - File

\*See Instructions on Reverse Side

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN TRIPPLICATE\*  
(Other instructions on reverse side)

Form approved.  
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

**14-20-603-353**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

**Navajo Tribal**

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

**Rutherford Unit**

9. WELL NO.

**18-34**

10. FIELD AND POOL, OR WILDCAT

**Greater Aneth**

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

**Sec. 18-T11S-R24E**

12. COUNTY OR PARISH 13. STATE

**San Juan**

**Utah**

**SUNDRY NOTICES AND REPORTS ON WELLS**  
(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL  GAS WELL  OTHER

2. NAME OF OPERATOR  
**Phillips Petroleum Company**

3. ADDRESS OF OPERATOR  
**P. O. Box 2920, Casper, Wyoming 82602**

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)  
At surface

**780' FSL & 1860' FSL (SW SE)**

14. PERMIT NO. 15. ELEVATIONS (Show whether DF, RT, GR, etc.)

**4794' RKB**

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF   
FRACTURE TREAT   
SHOOT OR ACIDIZE   
REPAIR WELL   
(Other)

PULL OR ALTER CASING   
MULTIPLE COMPLETE   
ABANDON\*   
CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF   
FRACTURE TREATMENT   
SHOOTING OR ACIDIZING   
(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.)\*

**See attached for details.**

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

Original Signed By

SIGNED

**A. F. Green**

TITLE **Area Superintendent**

DATE **2/9/77**

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

**3-UBOS, Farmington, NM**

**2-Utah O&GCC**

**1-Superior Oil, Coonra, TX**

**1-Fil e**

\*See Instructions on Reverse Side

FINAL REPORT INDIVIDUAL WELL STATUS

Lease Ratherford Unit Well No. 18-34 Authorization No. P-9877  
 Summary of Work Performed:

11/9/76-11/29/76 - Sqzd perms 5559-5731' OA w/250 sx Class "B", reversed 65 sx. Drl'd cmt to 5623', new PTD. Perfd Lower Ismay and Zone I 5511-5616' OA w/2 Omega Jets/ft. Acidized Zone I perms 5558-5616' OA w/4000 gals 28% acid in 3 stages. Acidized Lower Ismay perms 5511-18' w/1000 gals 28% acid. Returned well to production from Zone I and Lower Ismay perms 5511-5616' OA.

AVERAGE DAILY PRODUCTION

	Field and Formation	Oil	Gas	Water
Before Work	Greater Aneth Field-Paradox Zones I, II & III and Lower Ismay		SI since 5/5/76	
After Work	Greater Aneth Field-Paradox Zone I and Lower Ismay	70	NR	96
Before Work				
After Work				
DATE	P.T.D.			

DAILY REPORT OF WORK PERFORMED

1976  
Nov.  
10

RATHERFORD UNIT NO. 18-34 PTD 5742. /INITIAL REPORT/ PREP TO GIH W/SQZ RETAINER. RU R AND R WS UNIT 11/9/76. PLD TBG AND REDA PUMP. SDON. AFE P-9877 ISSUED TO SQZ. CMT ZONES II AND III, PERF LOWER ISMAY, W/BP AND PKR ACIDIZE ZONE I AND LOWER ISMAY. LOCATION - 780 FT NSL AND 1860 FT WEL, SW SE, SEC. 18-T41S-R24E, GREATER ANETH FIELD, SAN JUAN CO., UTAH. ELEV. 4794 FT RKB. SUB AREA CODE 626. WELL HAS BEEN SHUT-IN AS UNECONOMICAL SINCE 5/5/76..

11

RATHERFORD UNIT NO. 18-34 PTD 5742. PREP TO GIH TO DRILL RETAINER. WIH W/TBG, CMT RETAINER AND COLLAR LOCATOR. SET RETAINER AT 5526 FT. LOADED ANNULUS. TSTD TBG TO 4000 PSI. PMP IN TEST, 4 BPM AT 1000 PSI. HOWCO MIXED 250 SX CLASS "B", 10 PERCENT SALT, 1-1/4 PERCENT CFR-2. SQZD 5559-5731 FT OA W/4000 PSI HOLDING PRESS. REVERSED 65 SX. COOH W/TBG AND RETAINER STINGER..

12

RATHERFORD UNIT NO. 18-34 PTD 5742. PREP TO DRILL RETAINER AND CMT. RU REVERSE CIRC EQUIP. WIH W/TBG AND BIT. DRLD RETAINER 3 HRS. SDON..

13-15

RATHERFORD UNIT NO. 18-34 PTD 5742. PREP TO CONT. DRLG CMT. 11/13/76 DRLD RETAINER AND CMT FROM 5526-31 FT. 11/14/76 - DRLD CMT FROM 5531-5607 FT. 11/15/76 - SD FOR SUNDAY..

16

RATHERFORD UNIT NO. 18-34 NEW PTD 5623. PREP TO ACIDIZE. DRLD CMT FROM 5607-5623 FT. COOH W/TBG AND BIT. RU MCCULLOUGH. WL TD 5624 FT. PERFD ZONE I 5609-16, 5599-5603 FT, 5584-92 FT, 5558-66 FT AND LOWER ISMAY 5511-18 FT, 2 OMEGA JETS/FT. GIH W/PKR AND RETRIEVABLE BP..

17

RATHERFORD UNIT NO. 18-34 PTD 5623. COOH W/BP AND PKR. FIN GIH W/PKR AND BP. SET BP AT 5620 FT AND PKR AT 5530 FT. HOWCO ACIDIZED ZONE I PERFS 5558-5616 FT OA W/4000 GALS 28 PERCENT AND 8000 GAL WTR OVERFLUSH IN 3 STAGES. 1ST BLOCK - 300 LB BENZOIC ACID FLAKES, DROPPED RATE FROM 3 BPM AT 3000 PSI TO 1/8 BPM AT 3000 PSI. 2ND BLOCK - 200 PSI BENZOIC ACID FLAKES, PRESS INCR 100 PSI. AIR 3 BPM AT 3000 PSI. ISIP 2200 PSI, 15 MIN 550 PSI. MOVED BP TO 5530 FT AND PKR TO 5480 FT. ACIDIZED LOWER ISMAY PERFS 5511-18 FT W/1000 GAL 28 PERCENT AND 2000 GALS WTR. TOOK 3600 PSI TO BREAK. AIR 6 BPM AT 3100 PSI. ISIP 2000 PSI, 15 MIN 200 PSI. TOTAL LOAD 516 BBLs. SDON..

1-Bville  
1-Denver  
1-R.N. Hughes  
1-File

Original Signed By  
A. T. Crump

Date Prepared

District Approval

DAILY REPORT DETAILED

LEASE Ratherford Unit

WELL NO. 18-34

SHEET NO. 2

1976	DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Nov. 18			RATHERFORD UNIT NO. 18-34 PTD 5623. PREP TO START PMPG. COOH W/TB6. LD. PKR AND BP. WIH W/TBG AND TBG ANCHOR. GIH W/RODS AND PMP. SDON..
19			RATHERFORD UNIT NO. 18-34 PTD 5623. PMPG ON TEST. FIN RNG RODS AND PUMP. STARTED PMPG AT 2:00 PM, 11/18/76. RELEASED R AND R WS UNIT 11/18/76..
20-22			RATHERFORD UNIT NO. 18-34 PTD 5623. PMPG ON TEST. 11/20/76 - PMPD 16 HRS, REC 92 BLW. 13-1/2 X 44 X 1-3/4. FL 3395 FT. 424 BLW TO REC. 11/21/76 - ON TEST. 11/22/76 - PMPD 48 HRS, REC 53 BO, 264 BLW. 160 BLW TO REC..
23			RATHERFORD UNIT NO. 18-34 PTD 5623. PMPG ON TEST. PMPD 24 HRS, REC 68 BO, 104 BLW. 56 BLW TO REC..
24			RATHERFORD UNIT NO. 18-34 PTD 5623. PMPG ON TEST. PMPD 24 HRS, REC 130 BO, 56 BLW, 20 BNW..
25-29			RATHERFORD UNIT NO. 18-34 PTD 5623. 11/25/76 - PMPD 24 HRS, REC 70 BO, 96 BW. 11/26/76 - PMPD 24 HRS, REC 93 BO, 72 BW. 11/27/76 - PMPD 24 HRS, REC 92 BO, 69 BW. 11/28/76 - PMPD 24 HRS, REC 96 BO, 57 BW. /FINAL REPORT SUMMARY/ SQZD PERFS 5559-5731 FT OA W/250 SX CLASS "B", REVERSED 65 SX. DRLD CMT TO 5623 FT, NEW PTD. PERFORATED ZONE I 5609-16 FT, 5599-5603 FT, 5584-92 FT, 5558-66 FT AND LOWER ISMAY 5511-18 FT, 2 OMEGA JETS/FT. ACIDIZED ZONE I PERFS 5558-5616 FT OA W/4000 GALS 28 PERCENT ACID IN 3 STAGES. ACIDIZED LOWER ISMAY PERFS 5511-18 FT W/1000 GALS 28 PERCENT ACID. RETURNED TO A PUMPING OIL WELL FROM ZONE I AND LOWER ISMAY PERFS 5511-5616 FT OA, GREATER ANETH FIELD, SAN JUAN COUNTY, UTAH. /FINAL REPORT/..

STATE OF UTAH  
OIL & GAS CONSERVATION COMMISSION

SUBMIT IN TRIPlicate\*  
(Other instructions on reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. 96-004192 ✓
2. NAME OF OPERATOR Phillips Oil Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME Navajo
3. ADDRESS OF OPERATOR P. O. Box 2920, Casper, WY 82602		7. UNIT AGREEMENT NAME Ratherford Unit ✓
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface See Attached		8. FARM OR LEASE NAME
14. PERMIT NO. See Attached		9. WELL NO.
15. ELEVATIONS (Show whether DF, RT, OR, etc.)		10. FIELD AND POOL, OR WILDCAT N/A
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA See Attached
		12. COUNTY OR PARISH San Juan
		13. STATE Utah

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

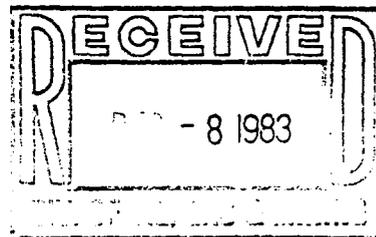
NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	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) <input 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.)\*

To show change of Operator only. Phillips Oil Company assumed operations effective December 1, 1983 from Phillips Petroleum Company. See attached for list of wells.

*18-34  
100*



- |                     |                       |                         |
|---------------------|-----------------------|-------------------------|
| Org. & 3-BLM        | 1-Robert Klabzuba     | 1-Shell Oil Co.         |
| 1-The Navajo Nation | 1-Micheal J. Moncrief | 1-Southland Royalty Co. |
| 1-Mary Wiley Black  | 1-Richard B. Moncrief | 1-Superior Oil Co.      |
| 1-Lawrence E. Brock | 1-Lee W. Moncrief     | 1-Leroy Shave           |
| 1-Cheveron USA      | 1-Mary H. Morgan      | 1-Texaco, Inc.          |
| 1-Ralph Faxel       | 1-W. A. Moncrief      | 1-Wade Wiley, Jr.       |
| 1-Royal Hogan       | 1-W. A. Moncrief, Jr. | 1-Edwin W. Word, Jr.    |
| 1-W. O. Keller      | 1-L. F. Peterson      | 1-File                  |
| 1-Dee Kelly Corp.   |                       |                         |

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

SIGNED *A. E. Stuart* TITLE Area Manager DATE 12/6/83

(This space for Federal or State office use)

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

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side

<u>WELL NO.</u>	<u>WELL LOCATION</u>	<u>API NO.</u>	<u>STATUS</u>
E14-12	SW NW Sec. 14-T41S-R24E	43-037-15998	Act.
E14-13	NW SW Sec. 14-T41S-R24E	43-037-15999	SI
10-44	SE SE Sec. 10-T41S-R24E	43-037-30451	Act.
15-12	SW NW Sec. 15-T41S-R24E	43-037-15715	Act.
15-14	SW SW Sec. 15-T41S-R24E	43-037-15716	SI
15-22	SE NW Sec. 15-T41S-R24E	43-037-30449	Act.
15-32	SW NE Sec. 15-T41S-R24E	43-037-15717	Act.
15-33	NW SE Sec. 15-T41S-R24E	43-037-15718	SI
15-41	NE NE Sec. 15-T41S-R24E	43-037-15719	Act.
15-42	SE NE Sec. 15-T41S-R24E	43-037-3-448	SI
16-12	SW NW Sec. 16-T41S-R24E	43-037-15720	Act.
16-14	SW SW Sec. 16-T41S-R24E	43-037-15721	Act.
16-32	SW NE Sec. 16-T41S-R24E	43-037-15723	Act.
16-34	SW SE Sec. 16-T41S-R24E	43-037-15724	SI
16-41	NE NE Sec. 16-T41S-R24E	43-037-15725	Act.
17-12	SW NW Sec. 17-T41S-R24E	43-037-15726	Act.
17-14	SW SW Sec. 17-T41S-R24E	43-037-15727	Act.
17-23	NE SW Sec. 17-T41S-R24E	43-037-15728	Act.
17-32	SW NE Sec. 17-T41S-R24E	43-037-15729	Act.
17-34	SW SE Sec. 17-T41S-R24E	43-037-15730	Act.
17-41	NE NE Sec. 17-T41S-R24E	43-037-15731	Act.
17-44	SE SE Sec. 17-T41S-R24E	43-037-15732	Act.
18-11	NW NW Sec. 18-T41S-R24E	43-037-15733	SI
18-13	NW SW Sec. 18-T41S-R24E	43-037-15734	Act.
18-14	SW SW Sec. 18-T41S-R24E	43-037-15735	Act.
18-23	NE SW Sec. 18-T41S-R24E	43-037-30244	Act.
18-32	SW NE Sec. 18-T41S-R24E	43-037-15736	Act.
18-34	SW SE Sec. 18-T41S-R24E	43-037-15737	Act.
19-12	SW NW Sec. 19-T41S-R24E	43-037-15739	Act.
19-14	SW SW Sec. 19-T41S-R24E	43-037-15740	SI
19-32	SW NE Sec. 19-T41S-R24E	43-037-15743	Act.
19-34	SW SE Sec. 19-T41S-R24E	43-037-15744	Act.
20-12	SW NW Sec. 20-T41S-R24E	43-037-15746	Act.
20-14	SW SW Sec. 20-T41S-R24E	43-037-15747	Act.
20-32	SW NE Sec. 20-T41S-R24E	43-037-15749	Act.
20-34	SW SE Sec. 20-T41S-R24E	43-037-15750	Act.
21-12	SW NW Sec. 21-T41S-R24E	43-037-15752	Act.
21-14	SW SW Sec. 21-T41S-R24E	43-037-15753	Act.
21-23	NE SW Sec. 21-T41S-R24E	43-037-13754	Act.
21-32	SW NE Sec. 21-T41S-R24E	43-037-15755	Act.
21-33	NW SE Sec. 21-T41S-R24E	43-037-30447	SI
21-34	SW SE Sec. 21-T41S-R24E	43-037-15756	Act.
22-12	SW NW Sec. 22-T41S-R24E	43-037-15757	SI
22-14	SW SW Sec. 22-T41S-R24E	43-037-15758	SI
24-42	SE NE Sec. 24-T41S-R24E	43-037-15863	Act.
28-11	NW NW Sec. 28-T41S-R24E	43-037-30446	Act.
28-12	SW NW Sec. 28-T41S-R24E	43-037-15336	Act.
29-12	SW NW Sec. 29-T41S-R24E	43-037-15337	Act.
29-32	SW NE Sec. 29-T41S-R24E	43-037-15339	Act.

MONTHLY REPORT OF ENHANCED RECOVERY PROJECT - PART 2 Page 3

MONTHLY MONITORING OF INJECTION WELLS

<u>Well Name</u>	<u>Inj. Press.</u>	<u>Inj. Rate</u>	<u>Annulus Press.</u>	<u>Monthly Inj. Vol.</u>
15W2343-037-16412 ✓	1950	49		1372
15W4343-037-16413 ✓	1800	20		562
43-037-15720 16W12 New 2/19/87	1350	380		3804
43-037-15721 16W14 New 2/26/87	2225	110		329
16W21-43-037-11414 ✓	1250	322		9027
16W23 43-037-15722 ✓	1200	178		4971
16W4343-037-16415 ✓	2200	114		3202
17W12 43-037-35721 ✓	2250	82		2303
17W21 43-037-11411 ✓	2300	42		1187
17W23 43-037-15728 ✓	2400	62		1733
17W41 43-037-15731 ✓	2275	60		1693
17W43 43-037-11417 ✓	2375	23		647
43-037-31153 18W12 New 2/13/87	1900	252		4025
18W14 43-037-15735 ✓	2200	14		392
18W21 43-037-16418 ✓	2200	36		1019
18W23 43-037-35721 ✓	2100	92		2586
18W32 43-037-15736 ✓	2300	54		1517
43-037-15737 18W34 New 2/11/87	0	462		8310
18W41 43-037-15738 ✓	2200	41		1155
18W43 43-037-16419 ✓	SI	SI		SI
19W21 43-037-15741 ✓	2300	144		4040
19W23 43-037-15742 ✓	2300	166		4638

UIC CHECKLIST FOR APPLICATION APPROVAL

OPERATOR Phillips WELL NUMBER Ratherford 18-34  
SEC. 18 T. 41S R. 24E COUNTY San Juan  
API # 43-037-15737

NEW WELL \_\_\_\_\_ DISPOSAL WELL \_\_\_\_\_ ENHANCED RECOVERY WELL ✓

- |                                  |                      |             |
|----------------------------------|----------------------|-------------|
| - Plat showing surface ownership | Yes <u>Feb. '86*</u> | No _____    |
| - Application forms complete     | Yes <u>✓</u>         | No _____    |
| - Schematic of well bore         | Yes <u>✓</u>         | No _____    |
| - Adequate geologic information  | Yes <u>Feb. '86</u>  | No _____    |
| - Rate and Pressure information  | Yes <u>Feb. '86</u>  | No _____    |
| - Fluid source                   | Yes <u>Feb. '86</u>  | No _____    |
| - Analysis of formation fluid    | Yes <u>Feb. '86</u>  | No _____    |
| - Analysis of injection fluid    | Yes <u>Feb. '86</u>  | No _____    |
| - USDW information               | Yes <u>Feb. '86</u>  | No _____    |
| - Mechanical integrity test      | Yes _____            | No <u>✓</u> |

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\*info submitted in Feb. 86

Reveiwed by Dorothy Swindel / Dan Jarvis



**PHILLIPS PETROLEUM COMPANY**

CASPER, WYOMING 82602  
BOX 2920

June 9, 1986

EXPLORATION AND PRODUCTION GROUP

RECEIVED  
JUN 12 1986

DIVISION OF  
OIL, GAS & MINING

State of Utah  
Division of Oil, Gas, and Mining  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

Attn: Gil Hunt

RE: Ratherford Unit  
San Juan County  
Class II Injection Well  
Conversions

Dear Mr. Hunt:

Enclosed are applications of conversions for twelve more injection wells in the Ratherford Unit. The well numbers are:

11-W44	13-W24	17-W34
12-W22	13-W42	18-W23
12-W31	17-W12	18-W32
12-W42	17-W23	18-W34

We appreciate the effort put forth in revising and streamlining the UIC program for enhanced recovery wells, the elimination of duplication makes permitting much easier.

The additional information required should not be a burden on the regulated industry. We have listed, on each well bore schematic, the logs on file for that well. We have also enclosed a copy of our letters to mineral lease operators and landowners in the area informing them of these proposed well conversions. The enclosed Attachment 6 is a supplement to the original informational package on the conversion program sent in February 1986. Please contact Renee Taylor at (307) 237-3791 with any questions.

Thank you again for your efforts to make this program more workable for all involved.

Sincerely,

PHILLIPS PETROLEUM COMPANY

*D. C. Gill*  
D. C. Gill  
Area Manager

RCT/fb (23)

Attach

cc: B. J. Murphy - Casper w/o attach  
J. R. Weichbrodt - Cortez w/attach.  
Casper RC

Casing & Cementing Program  
Ratherford Unit

The casing and cementing program at the Ratherford Unit has been designed so that injected fluid or formation water will not be able to enter any fresh water strata. All wells have at least two strings of casing set at approximately 1600' and 5700' (TD). The majority of wells also have a string of casing set at approximately 140'. The following is a summary of the casing and cementing program:

<u>Casing Depth</u>	<u>Range of Casing Sizes</u>	<u>Range of Cement (sx)</u>
140'	20" - 13 5/8"	175 - 125
1600'	13 3/8" - 8 5/8"	800 - 200
5700'	8 5/8" - 5 1/2"	900 - 200



LOCATION: SWSE Sec 18-T41S-R24E  
FIELD: GREATER ANCHUTAH  
RESERVOIR: DESERT CREEK Zone I

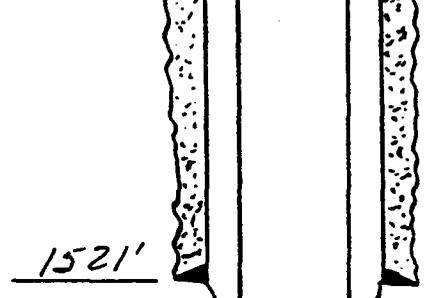
I COMPLETION: proposed  
PRESENT STATUS: injector

RKB 4791  
GL 4777.5'

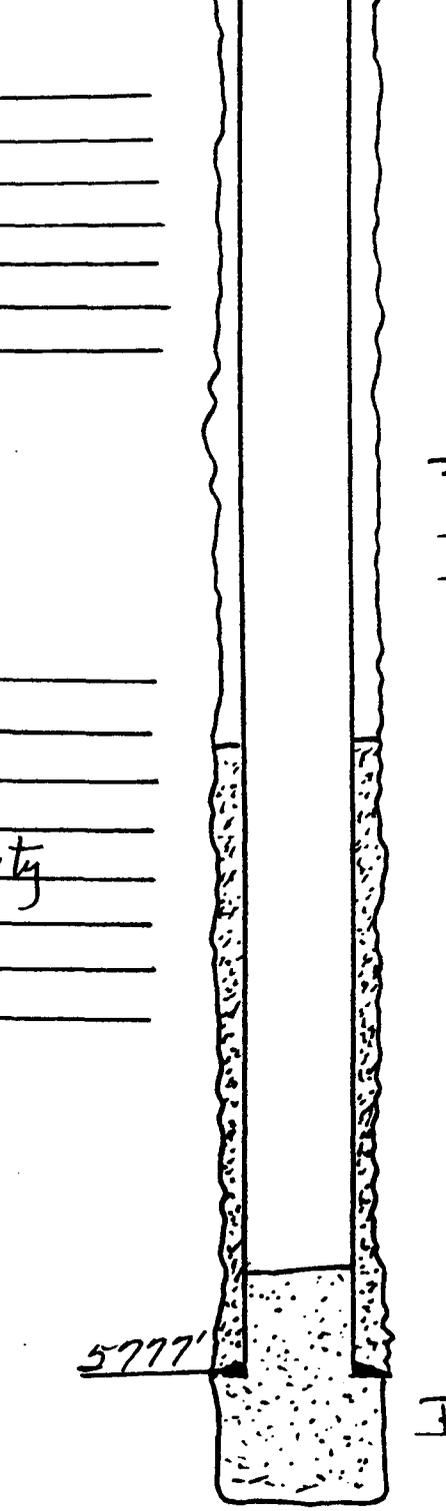


SURFACE CASING: 1 3/8" 27.1#  
Armco

Well # 18W34



INTERMEDIATE CASING: 8 5/8"  
24# J-55



PRODUCTION CASING: 5 1/2"  
14# / 15.5# J-55

PERFORATIONS: \_\_\_\_\_  
5558 - 56  
5584 - 92  
5599 - 5603  
5609 - 16

PACKER: Baker model  
AB Tension Type or similar  
Set @ 5459'

Logs on file: \_\_\_\_\_  
Gamma Ray  
SP  
Neutron Porosity  
Electrical / Resistivity  
Caliper  
Microlog

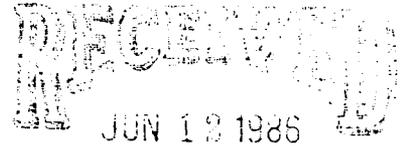
JUN 12 1986  
DIVISION OF  
OIL, GAS & MINING

PBTD: 5623'  
OTD: 5785'

5777'

Phillips Petroleum Company

P.O. Box 2920, Casper, Wyoming 82602



June 10, 1986

DIVISION OF  
OIL, GAS & MINING

Mobile Oil Corp.  
P.O. Box 5444  
Denver, CO 80217  
Attn: Joint Interest Advisor

Re: Ratherford Unit  
Injection Well Conversions

Dear Sirs,

Phillips Petroleum Company has made application to the State of Utah, Division of Oil, Gas and Mining to convert twelve existing producing wells to water injection wells in the Ratherford Unit secondary recovery project. The revised rule 502(b)(12) requires that you are notified of these plans and are provided with a copy of the application for injection well (Form DOGM-UIC-1). Under Rule 503 you are provided with the opportunity to object to the proposed application.

"Applications for Injection Well" are attached for the following existing wells:

11-W44	13-W24	17-W34
12-W22	13-W42	18-W23
12-W31	17-W12	18-W32
12-W42	17-W23	18-W34

Please contact Renee Taylor or Blair Murphy at (307) 237-3791 with any questions.

Sincerely,

D. C. Gill  
Area Manager

RCT/lt (17)

cc: B. J. Murphy-Casper  
J. R. Weichbrodt-Cortez  
Casper-RC  
St. of Utah OG&M/UIC

P.O. Box 2920, Casper, Wyoming 82602

June 10, 1986

Navajo Tribe  
Minerals Department  
P.O. Box 146  
Window Rock, AZ 86515

Re: Ratherford Unit  
Injection Well Conversions

Dear Sirs,

Phillips Petroleum Company has made application to the State of Utah, Division of Oil, Gas and Mining to convert twelve existing producing wells to water injection wells in the Ratherford Unit secondary recovery project. The revised rule 502(b)(12) requires that you are notified of these plans and are provided with a copy of the application for injection well (Form DOGM-UIC-1). Under Rule 503 you are provided with the opportunity to object to the proposed application.

"Applications for Injection Well" are attached for the following existing wells:

11-W44	13-W24	17-W34
12-W22	13-W42	19-W23
12-W31	17-W12	18-W32
12-W42	17-W23	18-W34

Please contact Renee Taylor or Blair Murphy at (307) 237-3791 with any questions.

Sincerely,

D. C. Gill  
Area Manager

RCT/lc (17)

cc: B. J. Murphy-Casper  
J. R. Weichbrodt-Cortez  
Casper-RC  
St. of Utah OG&M/UIC

P.O. Box 2920, Casper, Wyoming 82602

June 10, 1986

Texasco, Inc.  
P.O. Box 3360  
Casper, WY 82602  
Attn: A. J. Sanford

Re: Ratherford Unit  
Injection Well Conversions

Dear Sirs,

Phillips Petroleum Company has made application to the State of Utah, Division of Oil, Gas and Mining to convert twelve existing producing wells to water injection wells in the Ratherford Unit secondary recovery project. The revised rule 502(b)(12) requires that you are notified of these plans and are provided with a copy of the application for injection well (Form DOGM-UIC-1). Under Rule 503 you are provided with the opportunity to object to the proposed application.

"Applications for Injection Well" are attached for the following existing wells:

11-W44	13-W24	17-W34
12-W22	13-W42	18-W23
12-W31	17-W12	18-W32
12-W42	17-W23	18-W34

Please contact Renee Taylor or Blair Murphy at (307) 237-3791 with any questions.

Sincerely,

D. C. Gill  
Area Manager

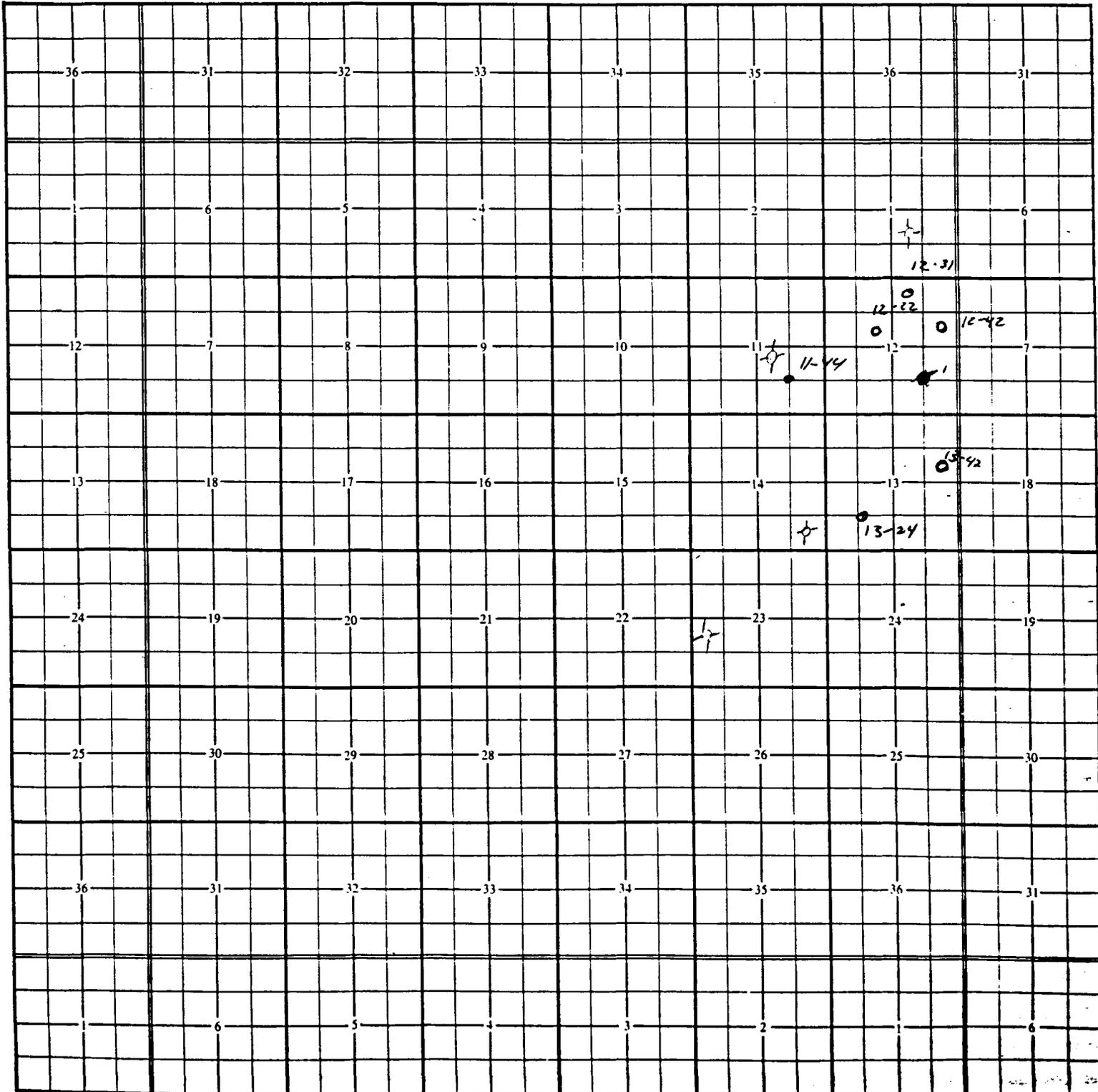
RCT/lt (17)

cc: B. J. Murphy-Casper  
J. R. Weichbrodt-Cortez  
Casper-RC  
St. of Utah OG&M/UIC

# TOWNSHIP PLAT

Owner Phillips Petroleum Date 6/12/86

Township 41S Range 23E County SAN Juan







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

June 23, 1986

Newspaper Agency Corporation  
Legal Advertising  
143 South Main - Mezzanine Floor  
Salt Lake City, Utah 84110

Gentlemen:

RE: Cause No. UIC-083

Enclosed is a Notice of Application of Administrative Approval before the Division of Oil, Gas and Mining, Department of Natural Resources, State of Utah.

It is requested that this notice be published ONCE ONLY, as soon as possible, but no later than the 2nd day of July, 1986. In the event that said notice cannot be published by this date, please notify me immediately by calling 538-5340.

Upon completion of this request, please send proof of publication and statement of cost to the Division of Oil, Gas and Mining, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203.

Sincerely,

A handwritten signature in cursive script that reads "Marjorie L. Anderson".

for  
Marjorie L. Anderson  
Administrative Assistant

mfp

Enclosure



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

June 23, 1986

San Juan Record  
Legal Advertising  
Box 879  
Monticello, Utah 84535

Gentlemen:

RE: Cause No. UIC-083

Enclosed is a Notice of Application of Administrative Approval before the Division of Oil, Gas and Mining, Department of Natural Resources, State of Utah.

It is requested that this notice be published ONCE ONLY, as soon as possible, but no later than the 2nd day of July, 1986. In the event that said notice cannot be published by this date, please notify me immediately by calling 538-5340.

Upon completion of this request, please send proof of publication and statement of cost to the Division of Oil, Gas and Mining, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203.

Sincerely,

A handwritten signature in cursive script that reads "Marjorie L. Anderson".

Marjorie L. Anderson  
Administrative Assistant

mfp

Enclosure

UIC-083

Publication was sent to the following:

Utah State Department of Health  
Water Pollution Control  
Attn: Loren Morton  
4241 State Office Building  
Salt Lake City, Utah 84114

U.S. Environmental Protection Agency  
Suite 1300  
Attn: Mike Streiby  
999 18th Street  
Denver, Colorado 80202-2413

Bureau of Land Management  
Fluid Minerals Caller Service #4104  
Farmington, New Mexico 87499

Phillips Petroleum Company  
PO Box 2920  
Casper Wyoming 82602

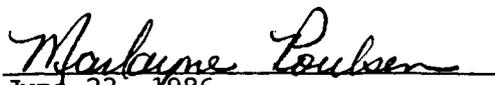
Mobil Oil Corporation  
PO Box 5444  
Denver, Colorado 80217

Navajo Tribe  
Minerals Development  
PO Box 146  
Window Rock, Arizona 86515

Texaco, Incorporated  
PO Box 3360  
Casper, Wyoming 82602

Newspaper Agency Corporation  
Legal Advertising  
143 South Main - Mezzanine Floor  
Salt Lake City, Utah 84110

San Juan Record  
Legal Advertising  
Box 879  
Monticello, Utah 84535

  
June 23, 1986



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

July 18, 1986

Phillips Petroleum Company  
 P.O. Box 2920  
 Casper, Wyoming 82602

072104

Gentlemen:

RE: Injection Well Approval - Cause No. UIC-083

Insofar as this Division is concerned, administrative approval is hereby granted to convert the following wells to Class II enhanced recovery injection wells:

RATHERFORD UNIT - San Juan County, Utah

#11-44, Sec. 11, T41S, R23E	#17-12, Sec. 17, T41S, R24E
#12-22, Sec. 12, T41S, R23E	#17-23, Sec. 17, T41S, R24E
#12-31, Sec. 12, T41S, R23E	#17-34, Sec. 17, T41S, R24E
#12-42, Sec. 12, T41S, R23E	#18-23, Sec. 18, T41S, R24E
#13-24, Sec. 13, T41S, R23E	#18-32, Sec. 18, T41S, R24E
#13-42, Sec. 13, T41S, R23E	#18-34, Sec. 18, T41S, R24E

This approval is conditional upon full compliance with the UIC rules and regulations adopted by the Board of Oil, Gas and Mining, and construction and operation of the wells as outlined in the application submitted.

If you have any questions concerning this matter, please do not hesitate to call or write.

Best regards,

Dianne R. Nielson  
 Director

mfp  
 7627U

# Affidavit of Publication

ADM-35B

STATE OF UTAH,

ss.

County of Salt Lake

Sharon Payne

BEFORE THE DIVISION OF OIL, GAS AND MINING DEPARTMENT OF NATURAL RESOURCES STATE OF UTAH CAUSE NO. UIC-083

IN THE MATTER OF THE APPLICATION OF PHILLIPS PETROLEUM COMPANY, FOR ADMINISTRATIVE APPROVAL TO INJECT FLUID INTO WELLS TO BE CONVERTED TO ENHANCED RECOVERY INJECTION WELLS LOCATED IN SECTIONS 31, 12 AND 13, TOWNSHIP 41 SOUTH, RANGE 23 EAST; AND SECTIONS 17, AND 18, TOWNSHIP 41 SOUTH, RANGE 24 EAST, S.L.M. SAN JUAN COUNTY, UTAH.

THE STATE OF UTAH TO ALL INTERESTED PARTIES IN THE ABOVE ENTITLED MATTER.

Notice is hereby given that Phillips Petroleum Company, P.O. Box 2920, Casper, Wyoming 82602, has requested administrative approval from the Division to convert the following listed wells to enhanced recovery water injection wells:

RATHERFORD UNIT, San Juan County, Utah

- #11-44, Sec. 11, T41S, R23E
- #12-22, Sec. 12, T41S, R23E
- #12-31, Sec. 12, T41S, R23E
- #12-42, Sec. 12, T41S, R23E
- #13-24, Sec. 13, T41S, R23E
- #13-42, Sec. 13, T41S, R23E
- #17-12, Sec. 17, T41S, R24E
- #17-23, Sec. 17, T41S, R24E
- #17-34, Sec. 17, T41S, R24E
- #18-23, Sec. 18, T41S, R24E
- #18-32, Sec. 18, T41S, R24E
- #18-34, Sec. 18, T41S, R24E

Injection Interval: Desert Creek 5317' to 5712'

Maximum Estimated Surface Pressure: 3000 psig

Maximum Estimated Water Injection Rate: 500 BWPD

Approval of this Application will be granted unless objections are filed with the division of Oil, Gas and Mining within fifteen days after publication of this Notice. Objections, if any, should be mailed to the Division of Oil, Gas and Mining, Attention: UIC Program Manager, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203.

DATED this 20th day of June, 1986.

STATE OF UTAH  
DIVISION OF OIL

Being first duly sworn, deposes and says that he/she is legal advertising clerk of THE SALT LAKE TRIBUNE, a daily newspaper printed in the English language with general circulation in Utah, and published in Salt Lake City, Salt Lake County, in the State of Utah, and of the DESERET NEWS, a daily newspaper printed in the English language with general circulation in Utah, and published in Salt Lake City, Salt Lake County, in the State of Utah.

That the legal notice of which a copy is attached hereto

Cause No. UIC-083

was published in said newspaper on

July 2, 1986

*Sharon Payne*

Legal Advertising Clerk

Subscribed and sworn to before me this 10th day of

July A.D. 1986

Notary Public

My Commission Expires

March 01, 1988



# AFFIDAVIT OF PUBLICATIC

## Public notice

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

IN THE MATTER OF THE APPLICA-  
TION OF PHILLIPS PETROLEUM  
COMPANY, FOR ADMINISTRATIVE  
APPROVAL TO INJECT FLUID INTO  
WELLS TO BE CONVERTED TO  
ENHANCED RECOVERY INJEC-  
TION WELLS LOCATED IN SEC-  
TIONS 11, 12 AND 13, TOWNSHIP 41  
SOUTH, RANGE 23 EAST; AND  
SECTIONS 17, AND 18, TOWNSHIP 41  
SOUTH, RANGE 24 EAST, S.L.M. SAN  
JUAN COUNTY, UTAH

CAUSE NO. UIC-083

THE STATE OF UTAH TO ALL  
INTERESTED PARTIES IN THE  
ABOVE ENTITLED MATTER.

Notice is hereby given that Phillips  
Petroleum Company, P.O. Box 2920,  
Casper, Wyoming 82602, has requested  
administrative approval from the  
Division to convert the following listed  
wells to enhanced recovery water  
injection wells:

RATHERFORD UNIT  
SAN JUAN COUNTY, UTAH  
#11-44, Sec. 11, T41S, R23E  
#12-22, Sec. 12, T41S, R23E  
#12-31, Sec. 12, T41S, R23E  
#12-42, Sec. 12, T41S, R23E  
#13-24, Sec. 13, T41S, R23E  
#13-42, Sec. 13, T41S, R23E  
#17-12, Sec. 17, T41S, R24E  
#17-23, Sec. 17, T41S, R24E  
#17-34, Sec. 17, T41S, R24E  
#18-23, Sec. 18, T41S, R24E  
#18-32, Sec. 18, T41S, R24E  
#18-34, Sec. 18, T41S, R24E

INJECTION INTERVAL: Desert  
Creek 5317' to 5712'

MAXIMUM ESTIMATED SURFACE  
PRESSURE: 3000 psig

MAXIMUM ESTIMATED WATER  
INJECTION RATE: 500 BWPD

Approval of this Application will be  
granted unless objections are filed with  
the Division of Oil, Gas and Mining  
withing fifteen days after publication of  
this Notice. Objections, if any, should be  
mailed to the Division of Oil, Gas and  
Mining, Attention: UIC Program Mana-  
ger, 355 West North Temple, 3 Triad  
Center, Suite 350, Salt Lake City, Utah  
84180-1203.

DATED this 20th day of June, 1986.

STATE OF UTAH  
DIVISION OF OIL,  
GAS AND MINING  
s/ Marjorie L. Anderson  
Administrative Assistant

Published in The San Juan Record  
July 2, 1986.

I, Joyce Martin, being duly sworn, depo: and say that I am the publisher of **The San  
Juan Record**, a weekly newspaper of general circulation published at Monticello,  
Utah every Wednesday; that notice of Cause No. UIC-083

a copy of which is hereunto attached, was published in the regular and entire issue  
of each number of said newspaper for a period of one issues, the  
first publication having been made on July 2, 1986. and the  
last publication having been made on \_\_\_\_\_.

Joyce A. Martin  
Publisher

Subscribed and sworn to before me this 2nd day of July,

A.D. 1986

Dyred K Adams  
Notary Public residing at Monticello, Utah

My commission expires December 2, 1987

# AFFIDAVIT OF PUBLICATION

## Public notice

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

IN THE MATTER OF THE APPLICATION OF PHILLIPS PETROLEUM COMPANY, FOR ADMINISTRATIVE APPROVAL TO INJECT FLUID INTO WELLS TO BE CONVERTED TO ENHANCED RECOVERY INJECTION WELLS LOCATED IN SECTIONS 11, 12 AND 13, TOWNSHIP 41 SOUTH, RANGE 23 EAST; AND SECTIONS 17, AND 18, TOWNSHIP 41 SOUTH, RANGE 24 EAST, S.L.M. SAN JUAN COUNTY, UTAH

CAUSE NO. UIC-083

THE STATE OF UTAH TO ALL INTERESTED PARTIES IN THE ABOVE ENTITLED MATTER.

Notice is hereby given that Phillips Petroleum Company, P.O. Box 2920, Casper, Wyoming 82602, has requested administrative approval from the Division to convert the following listed wells to enhanced recovery water injection wells:

### RATHERFORD UNIT

SAN JUAN COUNTY, UTAH

#11-44, Sec. 11, T41S, R23E

#12-22, Sec. 12, T41S, R23E

#12-31, Sec. 12, T41S, R23E

#12-42, Sec. 12, T41S, R23E

#13-24, Sec. 13, T41S, R23E

#13-42, Sec. 13, T41S, R23E

#17-12, Sec. 17, T41S, R24E

#17-23, Sec. 17, T41S, R24E

#17-34, Sec. 17, T41S, R24E

#18-23, Sec. 18, T41S, R24E

#18-32, Sec. 18, T41S, R24E

#18-34, Sec. 18, T41S, R24E

INJECTION INTERVAL: Desert Creek 5317' to 5712'  
MAXIMUM ESTIMATED SURFACE PRESSURE: 3000 psig

MAXIMUM ESTIMATED WATER INJECTION RATE: 500 BWPD

Approval of this Application will be granted unless objections are filed with the Division of Oil, Gas and Mining within fifteen days after publication of this Notice. Objections, if any, should be mailed to the Division of Oil, Gas and Mining, Attention: UIC Program Manager, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203.

DATED this 20th day of June, 1986.

STATE OF UTAH  
DIVISION OF OIL,  
GAS AND MINING

s/ Marjorie L. Anderson

Administrative Assistant

Published in The San Juan Record  
July 2, 1986.

I, Joyce Martin, being duly sworn, depose and say that I am the publisher of **The San Juan Record**, a weekly newspaper of general circulation published at Monticello, Utah every Wednesday; that notice of Cause No. UIC-083

a copy of which is hereunto attached, was published in the regular and entire issue of each number of said newspaper for a period of one issues, the first publication having been made on July 2, 1986. and the last publication having been made on \_\_\_\_\_.

*Joyce A. Martin*  
\_\_\_\_\_  
Publisher

Subscribed and sworn to before me this 2nd day of July

A.D. 1986

*Ingrid K. Adams*  
\_\_\_\_\_  
Notary Public residing at Monticello, Utah

My commission expires December 2, 1987

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

---oo0oo---

IN THE MATTER OF THE APPLICATION : CAUSE NO. UIC-083  
OF PHILLIPS PETROLEUM COMPANY, :  
FOR ADMINISTRATIVE APPROVAL TO :  
INJECT FLUID INTO WELLS TO BE :  
CONVERTED TO ENHANCED RECOVERY :  
INJECTION WELLS LOCATED IN SEC- :  
TIONS 11, 12 AND 13, TOWNSHIP 41 :  
SOUTH, RANGE 23 EAST; AND SECTIONS :  
17, AND 18, TOWNSHIP 41 SOUTH, :  
RANGE 24 EAST, S.L.M. SAN JUAN :  
COUNTY, UTAH :

---oo0oo---

THE STATE OF UTAH TO ALL INTERESTED PARTIES IN THE ABOVE ENTITLED  
MATTER.

Notice is hereby given that Phillips Petroleum Company, P.O. Box  
2920, Casper, Wyoming 82602, has requested administrative approval from  
the Division to convert the following listed wells to enhanced  
recovery water injection wells:

RATHERFORD UNIT - San Juan County, Utah

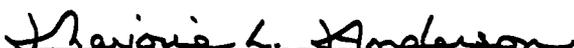
#11-44, Sec. 11, T41S, R23E	#17-12, Sec. 17, T41S, R24E
#12-22, Sec. 12, T41S, R23E	#17-23, Sec. 17, T41S, R24E
#12-31, Sec. 12, T41S, R23E	#17-34, Sec. 17, T41S, R24E
#12-42, Sec. 12, T41S, R23E	#18-23, Sec. 18, T41S, R24E
#13-24, Sec. 13, T41S, R23E	#18-32, Sec. 18, T41S, R24E
#13-42, Sec. 13, T41S, R23E	#18-34, Sec. 18, T41S, R24E

INJECTION INTERVAL: Desert Creek 5317' to 5712'  
MAXIMUM ESTIMATED SURFACE PRESSURE: 3000 psig  
MAXIMUM ESTIMATED WATER INJECTION RATE: 500 BWPD

Approval of this Application will be granted unless objections are  
filed with the Division of Oil, Gas and Mining within fifteen days  
after publication of this Notice. Objections, if any, should be  
mailed to the Division of Oil, Gas and Mining, Attention: UIC Program  
Manager, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake  
City, Utah 84180-1203.

DATED this 20th day of June, 1986.

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING

  
MARJORIE L. ANDERSON  
Administrative Assistant

BUREAU OF LAND MANAGEMENT

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.)

14-20-603-353 *12/1/86 mp*

NAME OF OPERATOR, ALIENATION OR LEASE NAME

Navajo 122424

1. WELL IDENTIFICATION NAME

SW-I-4192

2. NAME OF LEASE NAME

Ratherford Unit

3. WELL NO.

18-34

10. FIELD AND POOL, OR WELDCAT

Greater Anath

11. SEC. T. R. E. OR B.L. AND SURVEY OR AREA

Sec. 18-T41S-R24E

12. COUNTY OR PARTIAL

San Juan

13. STATE

Utah

1. OIL WELL  GAS WELL  OTHER

2. NAME OF OPERATOR  
Phillips Petroleum Company

3. ADDRESS OF OPERATOR  
P. O. Box 2920, Casper, WY 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)  
At surface  
780' FSL, 1860' FEL (SW SE)

14. PERMIT NO.  
43-037-15737

15. ELEVATIONS (Show whether sv. st. or. etc.)  
4793' RKB

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF   
FRACTURE TREAT   
SHOOT OR ACIDIZE   
REPAIR WELL

PULL OR ALTER CASING   
MULTIPLE COMPLETE   
ABANDON\*   
CHANGE PLANE

(Other) Convert to Water Injection

SUBSEQUENT REPORT OF:

WATER SHUT-OFF   
FRACTURE TREATMENT   
SHOOTING OR ACIDIZING

REPAIRING WELL   
ALTERING CASING   
ABANDONMENT\*

(Other)

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

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

It is proposed to convert Ratherford Unit #18-34 from an Ismay and Zone I producing well to a Zone I water injection well. Upon conversion, the well will be acidized with approximately 3900 gallons of 28% HCl acid and placed on injection.

A 10' x 8' x 6' fenced pit will be constructed on location in a previously disturbed area. Upon completion of the workover the pit will be dried and recovered.

- 5-BLM, Farmington, NM
- 2-Utah O&G CC, Salt Lake City, Utah
- 1-P. J. Adamson
- 1-M. Williams, 302 TRW
- 1-J. R. Reno
- 1-B. J. Murphy
- 1-File RC

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

DATE: 12/1/86  
BY: [Signature]  
*Approval letter 7/18/86*

RECEIVED  
NOV 21 1986

DIVISION OF  
OIL, GAS & MINING

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

SIGNED [Signature]  
D. C. Gill

TITLE Area Manager

DATE November 17, 1986

(This space for Federal or State office use)

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

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

\*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 as to any matter within its jurisdiction.

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

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

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.)

<p>1. <input type="checkbox"/> OIL WELL    <input type="checkbox"/> GAS WELL    <input type="checkbox"/> OTHER <u>Water Injector</u></p> <p>2. NAME OF OPERATOR <u>Phillips Petroleum Company</u></p> <p>3. ADDRESS OF OPERATOR <u>P.O. Box 2920, Casper, WY 82602</u></p> <p>4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) <u>At surface</u>  <u>780' FSL, 1860' FEL SW SE</u> <u>API# 43-037-15737</u></p> <p>14. PERMIT NO. _____</p>	<p>5. LEASE DESIGNATION AND SERIAL NO. <u>14-20-603-353</u></p> <p>6. IF INDIAN, ALLOTTEE OR TRIBE NAME <u>NAVAJO</u></p> <p>7. UNIT ASSIGNMENT NAME <u>SW-I-4192</u></p> <p>8. FARM OR LEASE NAME <u>Rutherford Unit</u></p> <p>9. WELL NO. <u>18W34</u></p> <p>10. FIELD AND POOL, OR WILDCAT <u>Greater Aneth</u></p> <p>11. SEC., T., R., E., OR S.E.K. AND SURVEY OR AREA <u>Sec. 18-T41S-R24E</u></p> <p>12. COUNTY OR PARISH    13. STATE <u>San Juan</u>                  <u>Utah</u></p>
<p>15. ELEVATIONS (Show whether SF, ST, OR, etc.) <u>4793' RKB</u></p>	

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"/>	PLUG 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>Convert to water injection</u> <input checked="" type="checkbox"/>	
(Other) _____		(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)	

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

Jan. 28, 1987 through Feb. 10, 1987

MI & RU 1/28/87. Pull tbg. CO hole to 4665'. Set cmt retainer at 5626'. Sqzd w/100 sx Class B cmt. GIH w/bit and scraper. Sqzd the Ismay. Drld thru the Ismay and tested sqz, OK. Acidized Zone I w/4000 gal 28% HCL. Swabbed back load. GIH w/Duoline 2-3/8" tbg and wtr inj pkr. Set pkr at 5468'. RD 2/10/87. HU to injection 2/11/87.

Production Before      20 BOPD    0 BWPD  
Injection After        462 BWPD @ 725 psi

**RECEIVED**  
AUG 4 1987

DIVISION OF OIL

- |                        |                |
|------------------------|----------------|
| 4-BLM, Farmington, NM  | 1-Chieftain    |
| 2-Utah O&G CC, SLC, UT | 1-Mobil Oil    |
| 1-M. Williams, B'Ville | 1-Texaco, Inc. |
| 1-J. Landrum, Denver   | 1-Chevron USA  |
| 1-J. Reno, Cortez      | 1-File RC      |

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

SIGNED D. C. Gill                                  TITLE Area Manager                                  DATE 7/27/87

(This space for Federal or State office use)

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

CONDITIONS OF APPROVAL, IF ANY:

\*See instructions on Reverse Side

# DOWNHOLE SCHEMATIC

Date: 8/6/87

RATHERFORD Unit # 18W34

Location SW SE Sec. 18

RKB Elev. 4794'

T415-R24E

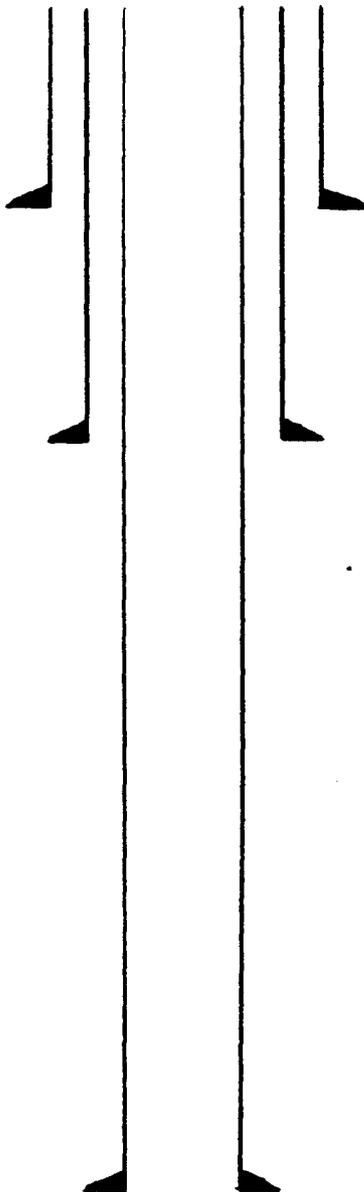
GL Elev. 4782'

Well Drld 10/18/58

RKB Above GL' 12'

Well converted  
to injector 2/10/87

42 181 50 SHEETS 1 SQUARE  
 42 182 100 SHEETS 1 SQUARE  
 42 183 200 SHEETS 1 SQUARE



CONDUCTOR Csg. 13<sup>3</sup>/<sub>8</sub>" @ 171'

SURFACE Csg. 8<sup>5</sup>/<sub>8</sub>" @ 1521'

TOC 4196' CALC.

Tubing 2<sup>3</sup>/<sub>8</sub>" @ 5468' Duoline HT2

PACKER OTIS Inter-lock PKR.

NICKEL COATED @ 5468'

PERFS	<u>5558 - 66</u>	<u>          -</u>	<u>          -</u>
	<u>5584 - 92</u>	<u>          -</u>	<u>          -</u>
	<u>5599 - 5603</u>	<u>          -</u>	<u>          -</u>
	<u>5609 - 18</u>	<u>          -</u>	<u>          -</u>

PBTD 5,628'

PRODUCTION Csg. 5<sup>1</sup>/<sub>2</sub>" @ 5777'  
J-55, 14#, 15.5#

All PERFS ZONE I UNLESS NOTED

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

**SUBMIT IN TRIPPLICATE\***  
(Other instructions on reverse side)

BUCKET NUMBER NO. 1004-0100  
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.)

<p>1. <input type="checkbox"/> OIL WELL    <input type="checkbox"/> GAS WELL    <input type="checkbox"/> OTHER    WATER INJECTION &amp; WATER SUPPLY WELLS</p> <p>2. NAME OF OPERATOR PHILLIPS PETROLEUM COMPANY</p> <p>3. ADDRESS OF OPERATOR 152 N. DURBIN, 2ND FLOOR, CASPER, WYOMING 82601</p> <p>4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface  <u>SEE ATTACHED</u></p> <p>14. PERMIT NO.</p>	<p>5. LEASE DESIGNATION AND SERIAL NO.</p> <p>6. IF INDIAN, ALLOTTEE OR TRIBE NAME  SW-I-4192</p> <p>7. UNIT AGREEMENT NAME RATHERFORD UNIT #7960041920</p> <p>8. FARM OR LEASE NAME</p> <p>9. WELL NO. VARIOUS (see attached)</p> <p>10. FIELD AND POOL, OR WILDCAT GREATER ANETH</p> <p>11. SEC., T., R., N., OR BLK. AND SURVEY OR AREA Sections 1 thru 30 T41S - R23E &amp; 24E</p> <p>12. COUNTY OR PARISH    13. STATE San Juan                      Utah</p>
<p>15. ELEVATIONS (Show whether OF, BT, OR, etc.) Oil, Gas &amp; Mining</p>	

RECEIVED  
MAR 20 1989  
BUREAU OF LAND MANAGEMENT

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) CHANGE OF OWNERSHIP <input checked="" type="checkbox"/>	
(Other) <input 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.)\*

This is to advise all Water Injection and Water Supply Wells on the Ratherford Unit, listed on the attached sheet, were sold to Phillips Petroleum Company, effective August 1, 1985.  
  
(former Operator - Phillips Oil Company)

3 - BLM, Farmington, NM  
2 - Utah O&G CC, SLC, UT  
1 - File

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

SIGNED S. H. Oden                      TITLE District Superintendent                      DATE March 17, 1989

(This space for Federal or State office use)

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

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN REVERSE SIDE  
DATE

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

5. LEASE DESIGNATION AND SERIAL NO

14-20-603-353

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

Navajo

7. UNIT AGREEMENT NAME

SW-I-4192

8. FARM OR LEASE NAME

Ratherford Unit

9. WELL NO.

#18W34

10. FIELD AND POOL, OR WILDCAT

Greater Aneth

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

Sec. 18-T41S-R24E

12. COUNTY OR PARISH 13. STATE

San Juan

Utah

SUNDRY NOTICES AND REPORTS ON WELLS

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

1.

OIL WELL  GAS WELL  OTHER  **Water Injections**

2. NAME OF OPERATOR

Phillips Petroleum Company

3. ADDRESS OF OPERATOR

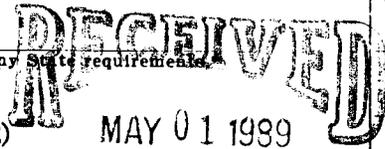
P. O. Box 1150, Cortez, CO 81321

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)  
At surface

780' NSL & 1860' WEL

(SW SE)

MAY 01 1989



14. PERMIT NO.

43-037-15737

15. ELEVATIONS (Show whether DF, RT, etc.)

4791' RKB

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON\*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(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.)

January 23, 1989 thru February 3, 1989

MI, RU Well Service Unit 1/23/89. Released packer, POOH. Clean out w/bit to 5626' (PBSD). POOH. Run casing log. RIH w/packer, set at 5578'. Spotted 30 sx class B cement. Tagged cement at 5584'. Reset packer at 5578', tested cement squeeze to 1000 psi for 15 min. tested OK. POOH, drill out to 5586'. POOH. Set packer at 5553'. Acidize w/1000 gal. 28% HCl acid. Swabbed/flowed back load. POOH. RIH w/injection packer & coated tubing, set packer at 5536'. Performed UIC test to 1000 psi for 20 min. OK. Return well to injection. Release rig 2/3/89.

- 5-BLM, Farmington, NM
- 2-Utah O&G, CC
- 1-M. Williams, Bartlesville
- 1-S. H. Oden, Casper
- 1-Chieftain
- 1-Mobil Oil
- 1-Texaco, Inc.
- 1-Chevron, USA
- 1-Cortez Office - RC

Injection Before: 289 BWPD @ 2100 psi  
Injection After: 49 BWPD @ 2450 psi

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

SIGNED M. L. Mungin

TITLE DIST. SUPT.

DATE 4/27/89

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side

MONTHLY OIL AND GAS PRODUCTION REPORT

OPERATOR NAME AND ADDRESS:

RECEIVED

ACCOUNT NUMBER: N0772

P J KONKEL  
PHILLIPS PETROLEUM COMPANY  
5525 HWY 64 NBU 3004  
FARMINGTON NM 87401

AUG 16 1993

REPORT PERIOD (MONTH/YEAR):

6 / 93

DIVISION OF  
OIL, GAS & MINING

AMENDED REPORT  (Highlight Changes)

Well Name			Producing Zone	Well Status	Days Oper	Production Volumes		
API Number	Entity	Location				OIL(BBL)	GAS(MCF)	WATER(BBL)
#21-23								
4303713754	06280	41S 24E 21	DSCR	POW	29	1374	883	58
#3-44								
4303715031	06280	41S 24E 3	DSCR	POW	30	111	94	2905
#3-14								
4303715124	06280	41S 24E 3	DSCR	POW	30	67	23	302
#9-12								
4303715126	06280	41S 24E 9	DSCR	POW	30	112	654	17363
#9-14								
4303715127	06280	41S 24E 9	DSCR	POW	30	201	315	423
#28-12								
4303715336	06280	41S 24E 28	PRDX	POW	29	112	47	2428
#29-12								
4303715337	06280	41S 24E 29	PRDX	POW	29	56	0	672
#29-32								
4303715339	06280	41S 24E 29	DSCR	POW	29	1402	287	2224
#29-34								
4303715340	06280	41S 24E 29	DSCR	POW	29	757	48	0
#30-32								
4303715342	06280	41S 24E 30	DSCR	POW	29	588	1049	3744
#3-12								
4303715620	06280	41S 24E 3	DSCR	POW	30	268	11	363
#9-34								
4303715711	06280	41S 24E 9	DSCR	POW	30	45	46	9800
#10-12								
4303715712	06280	41S 24E 10	DSCR	POW	30	45	23	1088
TOTALS						5138	3480	41370

COMMENTS: Effective July 1, 1993, Phillips Petroleum Company has sold its interest in the Ratherford Unit to Mobil Exploration and Producing U.S., Incorporated, P. O. Box 633, Midland, Texas 79702. Mobil assumed operations on July 1, 1993.

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

Date: 8/11/93

Name and Signature: PAT KONKEL

*Pat Konkell*

Telephone Number: 505 599-3452

MONTHLY OIL AND GAS DISPOSITION REPORT

OPERATOR NAME AND ADDRESS:

*L.B. Sheffield*  
~~BRIAN BERRY~~  
~~MEPNA MOBIL~~  
~~POB 219031 1807A RENTWY~~ *P.O. DRAWER 6*  
~~DALLAS TX 75221-9031~~ *CORTEZ, Co. 81321*

UTAH ACCOUNT NUMBER: N7370

REPORT PERIOD (MONTH/YEAR): 7 / 93

AMENDED REPORT  (Highlight Changes)

*\*931006 updated.  
 See*

ENTITY NUMBER	PRODUCT	GRAVITY BTU	BEGINNING INVENTORY	VOLUME PRODUCED	DISPOSITIONS				ENDING INVENTORY
					TRANSPORTED	USED ON SITE	FLARED/VENTED	OTHER	
05980	OIL			177609	177609	0			
	GAS			72101	66216	5885			
11174	OIL								
	GAS								
	OIL								
	GAS								
	OIL								
	GAS								
	OIL								
	GAS								
	OIL								
	GAS								
TOTALS				249710	243825	5885			

**RECEIVED**

SEP 13 1993

DIVISION OF OIL, GAS & MINING

COMMENTS: *PLEASE NOTE ADDRESS change. Mobil ~~also~~ PRODUCTION REPORTS will be compiled and sent from the Cortez, Co. office IN THE FUTURE.*

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

Date: 9/5/93

Name and Signature: *L. B. Sheffield*

Telephone Number: *303.565.2212*  
*244.658.2578*

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION & SERIAL NO.

**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.)

6. IF INDIAN ALLOTTEE OR TRIBE NAME

NAVAJO TRIBAL

7. UNIT AGREEMENT NAME

RATHERFORD UNIT

8. FARM OR LEASE NAME

9. WELL NO.

10. FIELD AND POOL, OR WILDCAT  
GREATER ANETH

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

1. OIL WELL  GAS WELL  OTHER

2. NAME OF OPERATOR

MOBIL OIL CORPORATION

3. ADDRESS OF OPERATOR

P. O. BOX 633 MIDLAND, TX 79702

SEP 15 1993

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)

At surface

At proposed prod. zone

DIVISION OF OIL, GAS & MINING

14. API NO.

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

12. COUNTY

SAN JUAN

13. STATE

UTAH

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

FULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other) CHANGE OF OPERATOR

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

REPAIRING WELL

ALTERING CASING

ABANDONMENT\*

APPROX. DATE WORK WILL START \_\_\_\_\_

DATE OF COMPLETION \_\_\_\_\_

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.)

\* Must be accompanied by a cement verification report.

AS OF JULY 1, 1993, MOBIL OIL CORPORATION IS THE OPERATOR OF THE RATHERFORD UNIT. ATTACHED ARE THE INDIVIDUAL WELLS.

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

SIGNED

*Shirley J. Joad*

TITLE

ENV. & REG TECHNICIAN

DATE

9-8-93

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

See Instructions On Reverse Side

✓ 12W-44	43-037-16405	14-20-603-246A	SEC. 12, T41S, R23E	SE/SE 660 FSL; 660 FEL
✓ 12W-44A	43-037-31543	14-20-603-246A	SEC. 12, T41S, R23E	SE/SE 807 FEL; 772 FSL
✓ 13-11W	43-037-31152	14-20-603-247A	SEC. 13, T41S, R23E	NW/NW 500 FNL; 660 FWL
✓ 13-12	43-037-31127	14-20-603-247A	SEC. 13, T41S, R23E	SW/NW 1705 FNL; 640 FWL
✓ 13W-13	43-037-15851	14-20-603-247A	SEC. 13, T41S, R23E	NW/SW 1980 FSL; 4620 FEL
✓ 13-14	43-037-31589	14-20-603-247A	SEC. 13, T41S, R23E	660 FSL; 660 FWL
✓ 13-21	43-037-31128	14-20-603-247A	SEC. 13, T41S, R23E	NE/NW 660 FNL; 1920 FWL
✓ 13W-22	43-037-15852	14-20-603-247A	SEC. 13, T41S, R23E	SE/NW 1988 FNL; 3300 FEL
✓ 13-23	43-037-31129	14-20-603-247A	SEC. 13, T41S, R23E	NE/SW 1980 FSL; 1930 FWL
<del>13W-44</del>	<del>43-037-15853</del>	<del>14-20-603-247</del>	<del>SEC. 13, T41S, R23E</del>	<del>600 FSL; 3300 FEL</del>
✓ 13W-32	43-037-16406	14-20-603-247A	SEC. 13, T41S, R23E	1881 FNL; 1979 FEL
✓ 13W-33	43-037-15855	14-20-603-247A	SEC. 13, T41S, R23E	NW/SE 1970 FSL; 1979 FEL
✓ 13W-34	43-037-31130	14-20-603-247A	SEC. 13, T41S, R23E	SW/SE 660 FSL; 1980 FEL
✓ 13-41	43-037-15856	14-20-603-247A	SEC. 13, T41S, R23E	NE/NE 660 FNL; 660 FEL
✓ 13W-42	43-037-15857	14-20-603-247A	SEC. 13, T41S, R23E	SE/NE 2139; 585 FEL
✓ 13-43	43-037-31131	14-20-603-247A	SEC. 13, T41S, R23E	NE/SE 1700 FSL; 960 FEL
✓ 13W-44	43-037-16407	14-20-603-247A	SEC. 13, T41S, R23E	SE/SE 635 FSL; 659 FEL
<del>14-03</del>	<del>NA</del>	<del>14-20-603-4037</del>	<del>SEC. 11, T41S, R23E</del>	<del>SW/SW 660 FSL; 660 FEL</del>
✓ 14-32	43-037-15858	14-20-603-247A	SEC. 14, T41S, R23E	2130 FNL; 1830 FEL
✓ 14-41	43-037-31623	14-20-603-247A	SEC. 14, T41S, R23E	NE/NE 521 FEL; 810 FNL
✓ 14W-42	43-037-15860	14-20-603-247A	SEC. 14, T41S, R23E	SE/NE 1976 FNL; 653 FEL
✓ 14W-43	43-037-16410	14-20-603-247A	SEC. 14, T41S, R23E	3300 FSL; 4770 FEL
✓ 14-33	43-037-15859	14-20-603-247	SEC. 14, T41S, R23E	2130 FSL; 1830 FEL
✓ 15-12	43-037-15715	14-20-603-355	SEC. 15, T41S, R24E	1820 FNL; 500 FWL
✓ 15W-21	43-037-16411	14-20-603-355	SEC. 15, T41S, R24E	660 FNL; 1820 FWL
✓ 15-22	43-037-30449	14-20-603-355	SEC. 15, T41S, R24E	SE/NW, 1980 FNL; 2050 FWL
✓ 15-32	43-037-15717	14-20-603-355A	SEC. 15, T41S, R24E	1980 FNL; 1980 FEL
✓ 15-33	43-037-15718	14-20-603-355	SEC. 15, T41S, R24E	NW/SE 1650 FSL; 1980 FEL
✓ 15-41	43-037-15719	14-20-603-355	SEC. 15, T41S, R24E	660 FNL; 660' FEL
✓ 15-42	43-037-30448	14-20-603-355	SEC. 15, T41S, R24E	SE/NE 2020 FNL; 820 FEL
✓ 16W-12	43-037-15720	14-20-603-355	SEC. 16, T41S, R24E	SW/NW 1880 FNL; 660 FWL
✓ 16-13	43-037-31168	14-20-603-355	SEC. 16, T41S, R24E	1980 FSL; 660 FWL
✓ 16W-14	43-037-15721	14-20-603-355	SEC. 16, T41S, R24E	SW/SW 660 FSL; 660 FWL
✓ 16W-21	43-037-16414	14-20-603-355	SEC. 16, T41S, R24E	NE/NW 660 FNL; 1880 FWL
✓ 16W-23	43-037-15722	14-20-603-355	SEC. 16, T41S, R24E	NE/SW 1980 FSL; 1980 FWL
✓ 16-32	43-037-15723	14-20-603-355	SEC. 16, T41S, R24E	1980 FNL; 1980' FEL
✓ 16-34	43-037-15724	14-20-603-355	SEC. 16, T41S, R24E	660 FNL; 1980' FEL
✓ 16-41	43-037-15725	14-20-603-355	SEC. 16, T41S, R24E	660 FNL; 660 FEL
✓ 16W-43	43-037-16415	14-20-603-355	SEC. 16, T41S, R24E	NE/SE 2140 FSL; 820 FEL
✓ 17-11	43-037-31169	14-20-603-353	SEC. 17, T41S, R24E	NW/NW 1075' FNL; 800' FWL
✓ 17W-12	43-037-15726	14-20-603-353	SEC. 17, T41S, R24E	SW/NW 1980' FNL; 510' FWL
✓ 17-13	43-037-31133	14-20-603-353	SEC. 17, T41S, R24E	NW/SW 2100' FSL; 660' FWL
✓ 17W-14	43-037-15727	14-20-603-353	SEC. 17, T41S, R24E	SW/SW 660' FSL; 660' FWL
✓ 17W-21	43-037-16416	14-20-603-353	SEC. 17, T41S, R24E	510' FNL; 1830' FWL
✓ 17-22	43-037-31170	14-20-603-353	SEC. 17, T41S, R24E	1980' FNL; 1980' FWL
✓ 17W-23	43-037-15728	14-20-603-353	SEC. 17, T41S, R24E	NE/SW 1980' FWL; 1880' FSL
✓ 17-31	43-037-31178	14-20-603-353	SEC. 17, T41S, R24E	NW/NE 500' FNL; 1980' FEL
✓ 17-32W	43-037-15729	14-20-603-353	SEC. 17, T41S, R24E	SW/NE 1830' FNL; 2030' FEL
✓ 17-33	43-037-31134	14-20-603-353	SEC. 17, T41S, R24E	NW/SE 1980' FSL; 1845' FEL
✓ 17-34W	43-037-15730	14-20-603-353	SEC. 17, T41S, R24E	SW/SE 560' FSL; 1880' FEL
✓ 17W-41	43-037-15731	14-20-603-353	SEC. 17, T41S, R24E	610' FNL; 510' FEL
✓ 17-42	43-037-31177	14-20-603-353	SEC. 17, T41S, R24E	SE/NE 1980; FNL, 660' FEL
✓ 17-44	43-037-15732	14-20-603-353	SEC. 17, T41S, R24E	660 FSL; 660' FEL
✓ 17W-43	43-037-16417	14-20-603-353	SEC. 17, T41S, R24E	NE/SE 1980' FSL; 660' FEL
✓ 18-11	43-037-15733	14-20-603-353	SEC. 18, T41S, R24E	NW/NW 720' FNL; 730' FWL
✓ 18-12W	43-037-31153	14-20-603-353	SEC. 18, T41S, R24E	SW/NW 1980' FNL; 560' FWL
✓ 18W-21	43-037-16418	14-20-603-353	SEC. 18, T41S, R24E	NE/NW 660' FNL; 1882' FWL
✓ 18-22	43-037-31236	14-20-603-353	SEC. 18, T41S, R24E	SW/NW 2200' FNL; 2210' FWL
✓ 18W-23	43-037-30244	14-20-603-353	SEC. 18, T41S, R24E	NE/SW 2385' FSL; 2040' FWL
✓ 18W-14	43-037-15735	14-20-603-353	SEC. 18, T41S, R24E	SW/SW 810' FSL; 600' FWL
✓ 18-24	43-037-31079	14-20-603-353	SEC. 18, T41S, R24E	SE/SW 760' FSL; 1980' FWL
✓ 18-31	43-037-31181	14-20-603-353	SEC. 18, T41S, R24E	NW/NE 795' FNL; 2090; FEL
<del>18W-32</del>	<del>43-037-15796</del>	<del>14-20-603-353</del>	<del>SEC. 18, T41S, R24E</del>	<del>SW/NE 2140' FNL; 1830' FEL</del>
✓ 18-33	43-037-31135	14-20-603-353	SEC. 18, T41S, R24E	NW/SE 1870' FSL; 1980' FEL
* 18-34W	43-037-15737	14-20-603-353	SEC. 18, T41S, R24E	SW/SE 780' FSL; 1860 FEL
✓ 18W-41	43-037-15738	14-20-603-353	SEC. 18, T41S, R24E	NE/NE 660' FNL; 660' FEL
✓ 18-42	43-037-31182	14-20-603-353	SEC. 18, T41S, R24E	SE/NE 2120' FNL; 745' FEL
✓ 18W-43	43-037-16419	14-20-603-353	SEC. 18, T41S, R24E	NE/SE 1980' FSL; 660' FEL
✓ 18-44	43-037-31045	14-20-603-353	SEC. 18, T41S, R24E	SE/SE 660' FSL; 660' FEL
✓ 19-11	43-037-31080	14-20-603-353	SEC. 19, T41S, R24E	NW/NW 660' FNL; 660' FWL
✓ 19-12	43-037-15739	14-20-603-353	SEC. 19, T41S, R24E	600' FWL; 1980' FNL
✓ 19-14	43-037-15740	14-20-603-353	SEC. 19, T41S, R24E	600' FSL; 660' FEL

PA'd

PA'd

Sept 29, 1993

TO: Lisha Cordova - Utah Mining  
Oil & Gas

FROM: Janice Easley  
BLM Farmington, NM  
505 599-6355

Here is copy of Rutherford Unit  
Successor Operator.

4 pages including this one.

*Re: Ratherford Unit (GC)*

RECEIVED  
BLM

JUL 27 AM 11:44

Navajo Area Office  
P. O. Box 1060  
Gallup, New Mexico 87305-1060

070 FARMINGTON, NM

ARES/543

JUL 23 1993

Mr. G. D. Cox  
Mobil Exploration and  
Producing North America, Inc.  
P. O. Box 633  
Midland, Texas 79702

MINERALS	_____
RECEIVED	_____
DATE	_____
BY	_____
FILE	_____
ALL SUPP.	_____
FILE	_____

*gaw*

Dear Mr. Cox:

Enclosed for your information and use is the approved Designation of Operator between the Phillips Petroleum Company and Mobil Exploration and Producing North America, Inc. for the Ratherford Unit.

Please note that all other concerned parties will be furnished their copy of the approved document.

Sincerely,

*[Handwritten Signature]*

ACTING Area Director

Enclosure

cc: Bureau of Land Management, Farmington District Office w/enc.  
TNN, Director, Minerals Department w/enc.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF INDIAN AFFAIRS

RECEIVED  
BLM

DESIGNATION OF OPERATOR

Phillips Petroleum Company is, on the records of the Bureau of Indian Affairs, operator of the Rutherford Unit,

JUN 27 11:44

AREA OFFICE: Window Rock, Arizona  
LEASE NO: Attached hereto as Exhibit "A"

070 FARMINGTON, NM

and, pursuant to the terms of the Rutherford Unit Agreement, is resigning as Unit Operator effective July 1, 1993, and hereby designates

NAME: Mobil Exploration and Producing North America Inc., duly elected pursuant to the terms of the Rutherford Unit Agreement,

ADDRESS: P. O. Box 633, Midland, Texas 79702  
Attn: G. D. Cox

as Operator and local agent, with full authority to act on behalf of the Rutherford Unit lessees in complying with the terms of all leases and regulations applicable thereto and on whom the authorized officer may serve written or oral instructions in securing compliance with the Operating Regulations (43 CFR 3160 and 25 CFR 211 and 212) with respect to (described acreage to which this designation is applicable):

Attached hereto as Exhibit "A"

Bond coverage under 25 CFR 211, 212 or 225 for lease activities conducted by the above named designated operator is under Bond Number 05202782 (attach copy). Evidence of bonding is required prior to the commencement of operations.

It is understood that this designation of operator does not relieve any lessee of responsibility for compliance with the terms of the leases and the Operating Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the leases.

In case of default on the part of the designated operator, the lessees will make full and prompt compliance with all regulations, lease terms, stipulations, or orders of the Secretary of the Interior or his representative.

Attached is the appropriate documentation relevant to this document.

The designated operator agrees to promptly notify the authorized officer of any change in the operatorship of said Rutherford Unit.

Phillips Petroleum Company

June 17, 1993

By: M. B. [Signature]  
Attorney-in-Fact

Mobil Exploration and Producing  
North America Inc.

June 11, 1993

By: B. D. [Signature]  
Attorney-in-Fact B.D. MARTINY

[Signature] ACTING AREA DIRECTOR  
APPROVED BY TITLE DATE  
7/9/93

APPROVED PURSUANT, TO SECRETARIAL REDELEGATION ORDER 209 DM 8 AND 230 DM 3.

This form does not constitute an information collection as defined by 44 U.S.C. 3502 and therefore does not require OMB approval.

EXHIBIT "A"

ATTACHED TO AND MADE A PART OF DESIGNATION OF SUCCESSOR OPERATOR, RATHERFORD UNIT

EXHIBIT "C"

Revised as of September 29, 1992  
SCHEDULE OF TRACT PERCENTAGE PARTICIPATION

<u>Tract Number</u>	<u>Description of Land</u>	<u>Serial Number and Effective Date of Lease</u>	<u>Tract Percentage Participation</u>
1	S/2 Sec. 1, E/2 SE/4 Sec. 2, E/4 Sec. 11, and all of Sec. 12, T-41-S, R-23-E, S.L.M. San Juan County, Utah	14-20-603-246-A Oct. 5, 1953	11.0652565
2	SE/4 and W/2 SW/4 Sec. 5, the irregular SW/4 Sec. 6, and all of Sec. 7 and 8, T-41-S, R-24-E, San Juan County, Utah	14-20-603-368 Oct. 26, 1953	14.4159942
3	SW/4 of Sec. 4, T-41-S, R-24-E, San Juan County, Utah	14-20-603-5446 Sept. 1, 1959	.5763826
4	SE/4 Sec. 4, and NE/4 Sec. 9, T-41-S, R-24-E, San Juan County, Utah	14-20-603-4035 March 3, 1958	1.2587779
5	SW/4 of Sec. 3, T-41-S, R-24-E, S.L.M., San Juan County, Utah	14-20-603-5445 Sept. 3, 1959	.4667669
6	NW/4 of Sec. 9, T-41-S, R-24-E, S.L.M., San Juan County, Utah	14-20-603-5045 Feb. 4, 1959	1.0187043
7	NW/4, W/2 NE/4, and SW/4 Sec. 10, SE/4 Sec. 9, T-41-S, R-24-E, San Juan County, Utah	14-20-603-4043 Feb. 18, 1958	3.5097575
8	SW/4 Sec. 9, T-41-S, R-24-E, S.L.M. San Juan County, Utah	14-20-603-5046 Feb. 4, 1959	1.1141679
9	SE/4 Sec. 10 and S/2 SW/4 Sec. 11 T-41-S, R-24-E, San Juan County, Utah	14-20-603-4037 Feb. 14, 1958	2.6186804
10	All of Sec. 13, E/2 Sec. 14, and E/2 SE/4 and N/2 Sec. 24, T-41-S, R-23-E, S.L.M., San Juan County, Utah	14-20-603-247-A Oct. 5, 1953	10.3108861
11	Sections 17, 18, 19 and 20, T-41-S, R-24-E, San Juan County Utah	14-20-603-353 Oct. 27, 1953	27.3389265
12	Sections 15, 16, 21, and NW/4, and W/2 SW/4 Sec. 22, T-41-S, R-24-E, San Juan County, Utah	14-20-603-355 Oct. 27, 1953	14.2819339
13	W/2 Section 14, T-41-S, R-24-E, San Juan County, Utah	14-20-603-370 Oct. 26, 1953	1.8500847
14	N/2 and SE/4, and E/2 SW/4 Sec. 29, NE/4 and E/2 SE/4 and E/2 W/2 irregular Sec. 30, and E/2 NE/4 Sec. 32, T-41-S, R-24-E, San Juan County, Utah	14-20-603-407 Dec. 10, 1953	6.9924969
15	NW/4 Sec. 28, T-41-S, R24-E San Juan County, Utah	14-20-603-409 Dec. 10, 1953	.9416393
16	SE/4 Sec. 3, T-41-S, R-24-E San Juan County, Utah	14-20-0603-6504 July 11, 1961	.5750254
17	NE/4 Sec. 3, T-41-S, R-24-E San Juan County, Utah	14-20-0603-6505 July 11, 1961	.5449292
18	NW/4 Sec. 3, T-41-S, R-24-E San Juan County, Utah	14-20-0603-6506 July 11, 1961	.5482788
19	NE/4 Sec. 4, T-41-S, R24-E San Juan County, Utah	14-20-0603-7171 June 11, 1962	.4720628
20	E/2 NW/4 Sec. 4, T-41-S, R-24-E San Juan County, Utah	14-20-0603-7172 June 11, 1962	.0992482
100%	Indian Lands	TOTAL 12,909.74	100.0000000

Division of Oil, Gas and Mining  
**PHONE CONVERSATION DOCUMENTATION FORM**

Route original/copy to:

Well File \_\_\_\_\_  Suspense  
(Location) Sec \_\_\_ Twp \_\_\_ Rng \_\_\_ (Return Date) \_\_\_\_\_  Other  
(API No.) \_\_\_\_\_ (To - Initials) \_\_\_\_\_ OPERATOR CHANGE

1. Date of Phone Call: 10-6-93 = Time: 9:30

2. DOGM Employee (name) L. CORDOVA (Initiated Call   
Talked to:

Name GLEN COX (Initiated Call  - Phone No. (915) 688-2114

of (Company/Organization) MOBIL

3. Topic of Conversation: OPERATOR CHANGE FROM PHILLIPS TO MOBIL "RATHERFORD UNIT".  
(NEED TO CONFIRM HOW OPERATOR WANTS THE WELLS SET UP - MEPNA AS PER BIA APPROVAL  
OR MOBIL OIL CORPORATION AS PER SUNDRY DATED 9-8-93?)

4. Highlights of Conversation: \_\_\_\_\_

MR. COX CONFIRMED THAT THE WELLS SHOULD BE SET UNDER ACCOUNT N7370/MEPNA AS  
PER BIA APPROVAL, ALSO CONFIRMED THAT PRODUCTION & DISPOSITION REPORTS WILL NOW  
BE HANDLED OUT OF THEIR CORTEZ OFFICE RATHER THAN DALLAS.

MEPNA-

PO DRAWER G

CORTEZ, CO 81321

(303)565-2212

\*ADDRESS CHANGE AFFECTS ALL WELLS CURRENTLY OPERATED BY MEPNA, CURRENTLY  
REPORTED OUT OF DALLAS (MCELMO CREEK).

OCT 28 1993

TRANSFER OF AUTHORITY TO INJECT - UIC FORM 5

Well name and number: \_\_\_\_\_  
Field or Unit name: RATHERFORD UNIT API no. \_\_\_\_\_  
Well location: QQ \_\_\_\_\_ section \_\_\_\_\_ township \_\_\_\_\_ range \_\_\_\_\_ county \_\_\_\_\_  
Effective Date of Transfer: July 1, 1993

CURRENT OPERATOR

Transfer approved by:

Name Ed Hasely Company Phillips Petroleum Company  
Signature Ed Hasely Address 5525 HWY. 64  
Title Environmental Engineer Farmington, NM 87401  
Date October 22, 1993 Phone ( 505 ) 599-3460

Comments:

NEW OPERATOR

Transfer approved by:

Name Shirley Todd Company Mobil Exploration & Producing North America  
Signature Shirley Todd Address P O Box 633  
Title Env. & Reg. Technician Midland, TX 79702  
Date October 7, 1993 Phone ( 915 ) 688-2585

Comments:

(State use only)  
Transfer approved by [Signature] Title Area Manager  
Approval Date 10-27-93

BEFORE THE OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF UTAH

APPLICATION OF PHILLIPS PETROLEUM )  
 COMPANY FOR THE APPROVAL OF THE )  
 UNIT OPERATIONS AND PRESSURE MAIN- ) CAUSE NO. 63  
 TENANCE PROGRAM FOR THE RATHERFORD )  
 UNIT IN THE GREATER ANETH AREA, )  
 SAN JUAN COUNTY, UTAH )

ORDER

This Cause came on for hearing before the Oil and Gas Conservation Commission of the State of Utah at 10 o'clock a. m. on Wednesday, September 13, 1961, in the Crystal Room, Hotel Newhouse, Fourth South at Main Street, Salt Lake City, Utah, pursuant to notice duly and regularly given. The entire Commission, except Walter G. Mann, was present, Edward W. Clyde presiding. Appearances were made as follows: Cecil C. Hamilton, attorney, on behalf of Phillips Petroleum Company; Clair M. Senior, attorney, on behalf of Texaco, Inc.; Gordon Mayberry, attorney, on behalf of Continental Oil Company; R. R. Robison on behalf of Shell Oil Company. Others present included Carl Trawick, on behalf of United States Geological Survey; and J. R. White, on behalf of Texaco, Inc.

Evidence in support of the application was introduced by Phillips Petroleum Company, the applicant and Unit Operator of the Ratherford Unit, which embraces as the unit area the following described land in San Juan County, State of Utah, to wit:

TOWNSHIP 41 SOUTH, RANGE 23 EAST, SLRM

Section 1:	All	Sections 12 and 13:	All
Section 2:	E/2	Section 14:	E/2
Section 11:	E/2	Section 24:	All

TOWNSHIP 41 SOUTH, RANGE 24 EAST, SLRM

Section 3:	SW/4	Sections 15	
Section 4:	S/2	through 21:	All
Sections 5 through 9:	All	Section 22:	NE/4 and
Section 10:	S/2 and NE/4		E/2 of the
	and W/2 of NE/4		SW/4
Section 11:	S/2 of SW/4	Section 23:	NE/4 and
			E/2 of NE/4
Section 14:	E/2		and W/2 of SW/4
		Section 29 and 30:	All
		Section 31:	E/2
		Section 32:	E/2

R. R. Robison on behalf of Shell Oil Company stated that (as contemplated by paragraph No. 5 of the Commission's order of February 24, 1959, in Cause No. 17 authorizing the drilling of certain test wells) Shell would submit to the Commission, as arbiter, the question as between Shell and Superior Oil Company

of the monetary value, if any, to be attributed to three test wells drilled within the Rutherford Unit area pursuant to said order of February 24, 1959.

No objection to the granting of the application was filed or expressed. The Shell Oil Company, Texaco, Inc. and Continental Oil Company expressed their support of the application of Phillips Petroleum Company.

#### FINDINGS OF FACT

The Commission finds that:

1. The unitized operation of the Rutherford Unit Area will enable pressure maintenance operations to be initiated and permit such Area to be operated in a manner which will prevent waste, protect correlative rights and result in greater ultimate recovery of oil and gas.
2. The Rutherford Unit Agreement has been approved by the various signatory parties as fair, reasonable and acceptable.
3. The water injection pressure maintenance program proposed by the applicant appears to be proper and designed to result in the greatest economic recovery of oil and gas to the end that all concerned, including the general public, may realize and enjoy the greatest good from the oil and gas resources of the unitized lands.

#### ORDER

THEREFORE, IT IS ORDERED BY THE COMMISSION, and subject to its continuing jurisdiction, that:

1. Unit operation of the Rutherford Unit Area under the Rutherford Unit Agreement is approved.
2. The plan and program of water injection pressure maintenance operations proposed by applicant in its application filed herein should be and the same is hereby approved and the unit operator is authorized to proceed with and under such plan and program as soon as the Rutherford Unit Agreement becomes effective and operative.
3. If, at any time or from time to time, it appears necessary or desirable to the unit operator to alter or modify the hereby approved plan of pressure maintenance, any such alteration or modification shall be submitted for

and shall be subject to approval by the Commission or its delegated representative, which approval may be given without notice or hearing, unless otherwise ordered or directed by the Commission.

Dated this 13th day of September, 1961.

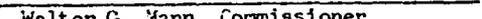
THE OIL AND GAS CONSERVATION  
COMMISSION OF THE STATE OF UTAH

  
Edward W. Clyde, Commissioner presiding

  
C. R. Henderson, Chairman

  
H. V. Hatch, Commissioner

  
C. S. Thomson, Commissioner

  
Walter G. Mann, Commissioner

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

Routing:	
1-VLC/417-93	<input checked="" type="checkbox"/>
2-DTS/58-8148	<input checked="" type="checkbox"/>
3-VLC	<input checked="" type="checkbox"/>
4-RJF	<input checked="" type="checkbox"/>
5-IEE	<input checked="" type="checkbox"/>
6-PL	<input checked="" type="checkbox"/>

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

The operator of the well(s) listed below has changed (EFFECTIVE DATE: 7-1-93)

TO (new operator)	<u>M E P N A</u>	FROM (former operator)	<u>PHILLIPS PETROLEUM COMPANY</u>
(address)	<u>PO DRAWER G</u>	(address)	<u>5525 HWY 64 NBU 3004</u>
	<u>CORTEZ, CO 81321</u>		<u>FARMINGTON, NM 87401</u>
	<u>GLEN COX (915)688-2114</u>		<u>PAT KONKEL</u>
phone	<u>(303) 565-2212</u>	phone	<u>(505) 599-3452</u>
account no.	<u>N7370</u>	account no.	<u>N0772(A)</u>

Well(s) (attach additional page if needed):                      **\*RATHERFORD UNIT (NAVAJO)**

Name: <b>**SEE ATTACHED**</b>	API: <u>43037-15737</u>	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____
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**

- Sec 1. (Rule R615-8-10) Sundry or other legal documentation has been received from former operator (Attach to this form). (Reg. 8-20-93) (6/93 Prod. Rpt. 8-16-93)
- Sec 2. (Rule R615-8-10) Sundry or other legal documentation has been received from new operator (Attach to this form). (Reg. 8-31-93) (Rec'd 9-14-93)
- 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: \_\_\_\_\_.
- Sec 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.
- Sec 5. Changes have been entered in the Oil and Gas Information System (Wang/IBM) for each well listed above. (O&G wells 10-6-93) (wiw's 10-26-93)
- Sec 6. Cardex file has been updated for each well listed above. (O&G wells 10-6-93) (wiw's 10-26-93)
- Sec 7. Well file labels have been updated for each well listed above. (O&G wells 10-6-93) (wiw's 10-26-93)
- Sec 8. Changes have been included on the monthly "Operator, Address, and Account Changes" memo for distribution to State Lands and the Tax Commission. (10-6-93)
- Sec 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) 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) 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: 11-17 1993.

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

931006 BIA/B/m Approved 7-9-93.

Division of Oil, Gas and Mining  
**PHONE CONVERSATION DOCUMENTATION FORM**

Route original/copy to:

**Well File** \_\_\_\_\_  
\_\_\_\_\_  
(Location) Sec. Twp. Rng \_\_\_\_\_  
(API No.) \_\_\_\_\_

**Suspense**  
(Return Date) \_\_\_\_\_  
(To - Initials) \_\_\_\_\_

**Other**  
**OPER NM CHG** \_\_\_\_\_  
\_\_\_\_\_

1. Date of Phone Call: 8-3-95 Time: \_\_\_\_\_

2. DOGM Employee (name) L. CORDOVA (Initiated Call )  
Talked to:

Name R. J. FIRTH (Initiated Call ) - Phone No. ( ) \_\_\_\_\_  
of (Company/Organization) \_\_\_\_\_

3. Topic of Conversation: M E P N A / N7370

4. Highlights of Conversation: \_\_\_\_\_

OPERATOR NAME IS BEING CHANGED FROM M E P N A (MOBIL EXPLORATION AND PRODUCING NORTH AMERICA INC) TO MOBIL EXPLOR & PROD. THE NAME CHANGE IS BEING DONE AT THIS TIME TO ALLEVIATE CONFUSION, BOTH IN HOUSE AND AMONGST THE GENERAL PUBLIC.  
\*SUPERIOR OIL COMPANY MERGED INTO M E P N A 4-24-86 (SEE ATTACHED).

# Mobil Oil Corporation

P.O. BOX 5444  
DENVER, COLORADO 80217-5444

May 14, 1986

Utah Board of Oil, Gas and Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

RECEIVED  
MAY 16 1986

DIVISION OF  
OIL, GAS & MINING

Attn: R. J. Firth  
Associate Director

## SUPERIOR OIL COMPANY MERGER

Dear Mr. Firth:

On September 20, 1984, The Superior Oil Company (Superior) became a wholly owned subsidiary of Mobil Corporation. Since January 1, 1985, Mobil Oil Corporation (MOC), another wholly owned subsidiary of Mobil Corporation, has acted as agent for Superior and has operated the Superior-owned properties.

On April 24, 1986, Superior was merged with Mobil Exploration and Producing North America Inc. (MEPNA), which is also a wholly owned subsidiary of Mobil Corporation. MEPNA is the surviving company of the merger.

This letter is to advise you that all properties held in the name of Superior will now be held in the name of MEPNA; and that these properties will continue to be operated by MOC as agent for MEPNA.

Attached is a listing of all wells and a separate listing of injection-disposal wells, Designation of Agent and an organization chart illustrating the relationships of the various companies. If you have any questions or require additional documentation of this merger, please feel free to contact me at the above address or (303) 298-2577.

Very truly yours,



R. D. Baker  
Environmental Regulatory Manager

CNE/rd  
CNE8661

STATE OF UTAH  
INVENTORY OF INJECTION WELLS

OPERATOR	API NO.	WELL	TNS	RGE	SE	WELLTYPE	INDIAN COUNT
*****	*****	*****	***	***	**	*****	*****
✓MEPNA (MOBIL	43-037-15722	16W23	41S	24E	16	INJW	Y
✓MEPNA (MOBIL	43-037-16414	16W21	41S	24E	16	INJW	Y
✓MEPNA (MOBIL	43-037-16416	17W21	41S	24E	17	INJW	Y
✓MEPNA (MOBIL	43-037-15726	17W12	41S	24E	17	INJW	Y
✓MEPNA (MOBIL	43-037-15731	17W41	41S	24E	17	INJW	Y
✓MEPNA (MOBIL	43-037-16417	17W43	41S	24E	17	INJW	Y
✓MEPNA (MOBIL	43-037-15728	17W23	41S	24E	17	INJW	Y
✓MEPNA (MOBIL	43-037-15730	17W34	41S	24E	17	INJW	Y
✓MEPNA (MOBIL	43-037-15729	17W32	41S	24E	17	INJW	Y
✓MEPNA (MOBIL	43-037-15727	17W14	41S	24E	17	INJW	Y
✓MEPNA (MOBIL	43-037-31153	18W12	41S	24E	18	INJW	Y
✓MEPNA (MOBIL	43-037-15737	18W34	41S	24E	18	INJW	Y
✓MEPNA (MOBIL	43-037-15736	18W32	41S	24E	18	INJW	Y
✓MEPNA (MOBIL	43-037-30244	18W23	41S	24E	18	INJW	Y
✓MEPNA (MOBIL	43-037-15735	18W14	41S	24E	18	INJW	Y
✓MEPNA (MOBIL	43-037-16418	18W21	41S	24E	18	INJW	Y
✓MEPNA (MOBIL	43-037-15738	18W41	41S	24E	18	INJW	Y
✓MEPNA (MOBIL	43-037-15741	19W21	41S	24E	19	INJW	Y
✓MEPNA (MOBIL	43-037-15742	19W23	41S	24E	19	INJW	Y
✓MEPNA (MOBIL	43-037-15745	19W41	41S	24E	19	INJW	Y
✓MEPNA (MOBIL	43-037-16420	19W43	41S	24E	19	INJW	Y
✓MEPNA (MOBIL	43-037-15748	20W23	41S	24E	20	INJW	Y
✓MEPNA (MOBIL	43-037-15751	20W41	41S	24E	20	INJW	Y
✓MEPNA (MOBIL	43-037-16423	20W21	41S	24E	20	INJW	Y
✓MEPNA (MOBIL	43-037-16424	20W43	41S	24E	20	INJW	Y
✓MEPNA (MOBIL	43-037-16427	21W43	41S	24E	21	INJW	Y
✓MEPNA (MOBIL	43-037-16425	21W21	41S	24E	21	INJW	Y
✓MEPNA (MOBIL	43-037-16431	28W21	41S	24E	28	INJI	Y
✓MEPNA (MOBIL	43-037-16433	29W41	41S	24E	29	INJW	Y
✓MEPNA (MOBIL	43-037-16432	29W21	41S	24E	29	INJW	Y
✓MEPNA (MOBIL	43-037-15338	29W23	41S	24E	29	INJI	Y
✓MEPNA (MOBIL	43-037-16434	29W43	41S	24E	29	INJW	Y
✓MEPNA (MOBIL	43-037-15343	30-41	41S	24E	30	INJW	Y
✓MEPNA (MOBIL	43-037-16435	30W21	41S	24E	30	INJI	--

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

Routing:	
1-LEC	7-PL ✓
2-LWP	8-SJV ✓
3-DEP	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

The operator of the well(s) listed below has changed (EFFECTIVE DATE: 8-2-95)

TO (new operator) MOBIL EXPLOR & PROD  
 (address) C/O MOBIL OIL CORP  
PO DRAWER G  
CORTEZ CO 81321  
 phone (303 ) 564-5212  
 account no. N7370

FROM (former operator) M E P N A  
 (address) C/O MOBIL OIL CORP  
PO DRAWER G  
CORTEZ CO 81321  
 phone (303 ) 564-5212  
 account no. N7370

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

Name: <b>** SEE ATTACHED **</b>	API: <u>037-15737</u>	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____
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**

- N/A 1. (Rule R615-8-10) Sundry or other legal documentation has been received from former operator (Attach to this form).
- N/A 2. (Rule R615-8-10) Sundry or other legal documentation has been received from new operator (Attach to this form).
- 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: \_\_\_\_\_.
- N/A 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. (8-3-95)
- Yes 6. Cardex file has been updated for each well listed above. 8-31-95
- Yes 7. Well file labels have been updated for each well listed above. 9-28-95
- Yes 8. Changes have been included on the monthly "Operator, Address, and Account Changes" memo for distribution to State Lands and the Tax Commission. (8-3-95)
- 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**

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

**BOND VERIFICATION (Fee wells only)**

*\* No Fee Lease Wells at this time!*

- N/A/See* 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**

- N/A* 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.
- UTS 8/5/95*
- N/A* 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: October 4 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**

*950803 LIC F5/Not necessary!*

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.

14-20-603-353

6. If Indian, Allottee or Tribe Name

NAVAJO TRIBAL

7. If Unit or CA, Agreement Designation

RATHERFORD UNIT

8. Well Name and No.

RATHERFORD 18 W 34

9. API Well No.

43-037-15737

10. Field and Pool, or exploratory Area

GREATER ANETH

11. County or Parish, State

SAN JUAN UT

SUBMIT IN TRIPLICATE

1. Type of Well

Oil Well  Gas Well  Other INJECTOR

2. Name of Operator MOBIL PRODUCING TX & NM INC.\*

\*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM

3. Address and Telephone No.

P.O. Box 633, Midland TX 79702 (915) 688-2585

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

780 FSL AND 1860 FEL (SW/SE)  
SEC. 18, T41S, R24E

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

TYPE OF SUBMISSION	TYPE OF ACTION
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment
<input 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 INJECTOR/SIDETRACK
	<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

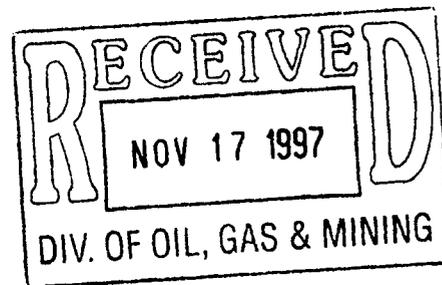
(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

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.)\*

BHL: LATERAL #1, 1131' SOUTH & 1131' EAST F/SURFACE SPOT (ZONE 1a).

SEE ATTACHED

346 345  
181.1 FEL 257.4 FML } See 19  
594 FEL 844 FML }



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

Signed Shirley Houchins for Title SHIRLEY HOUCHINS/ENV & REG TECH

Date 11-11-97

(This space for Federal or State office use)

Approved by John R. Bays Title Associate Director

Date 11/25/97

Conditions of approval, if any:

Utah DOGM

## **Ratherford Unit Well #18-34 Horizontal Drilling Procedure**

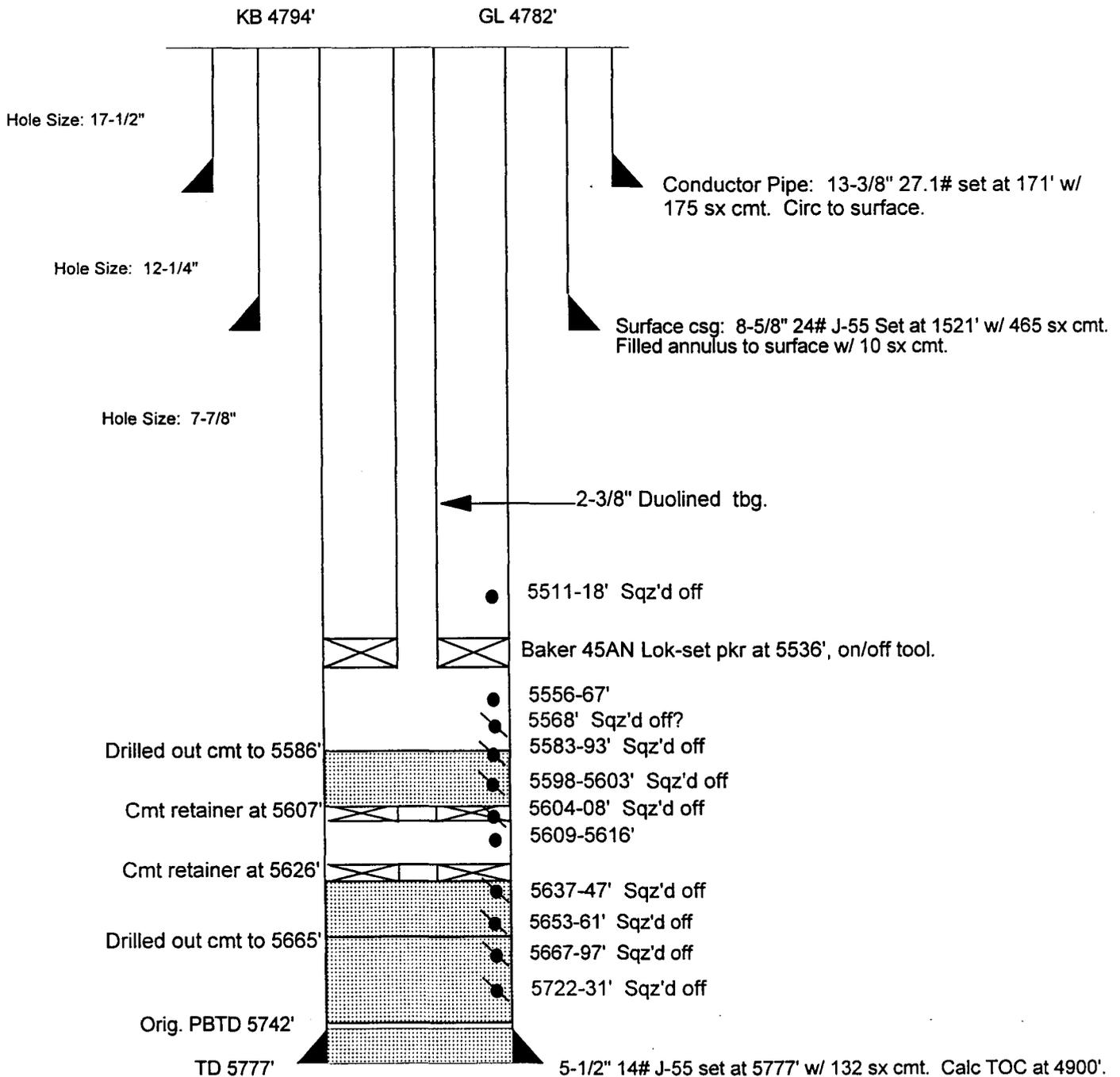
The objective of this procedure is to prepare this wellbore for sidetracking, sidetrack the subject well and drill a single short radius horizontal lateral (1600 feet).

1. Prepare location and dig working pit.
2. MIRU WSU, reverse unit, and H2S equipment. Bullhead kill weight fluid down tubing.
3. ND wellhead and NU BOP's. Pressure test BOP's to working pressure.
4. Continue to POH with related equipment (tubing and rods for producers or tubing and packer for injectors).
5. RU wireline to run any logs desired and run gage ring for casing size and weight.
6. Set cement retainer on wireline and pressure test casing to 1000 psi. Squeeze existing perforations.
7. RDMO WSU.
8. MIRU 24 hr. WSU. NU BOP's and pressure test with chart.
9. PU tubing, drilling collars, and drill pipe in derrick and run in hole. Then POH and stand back.
10. PU bottomtrip whipstock and drillpipe with UBHO sub in string. Survey the hole every 200' and orient the whipstock before setting on the cement retainer. POH w/gyro and drill string.
11. Shear starter mill bolt and make starter cut.
12. POH w/ starter mill and pick up window mill and watermelon mill and continue to mill window. Drill 1-2 ft of formation
13. POH w/ mills and PU curve building assembly and drill string with UBHO sub in string and RIH.
14. RU gyro to assist in time drilling and starting out of the casing window. POH w/ gyro when inclination dictates it must be pulled.
15. Finish drilling the curve using the MWD.
16. POH once curve is finished and PU lateral motor to drill the lateral using MWD.
17. Once lateral TD is reached, POH w/ directional equipment.
18. Set retrievable bridge plug until well can be completed.

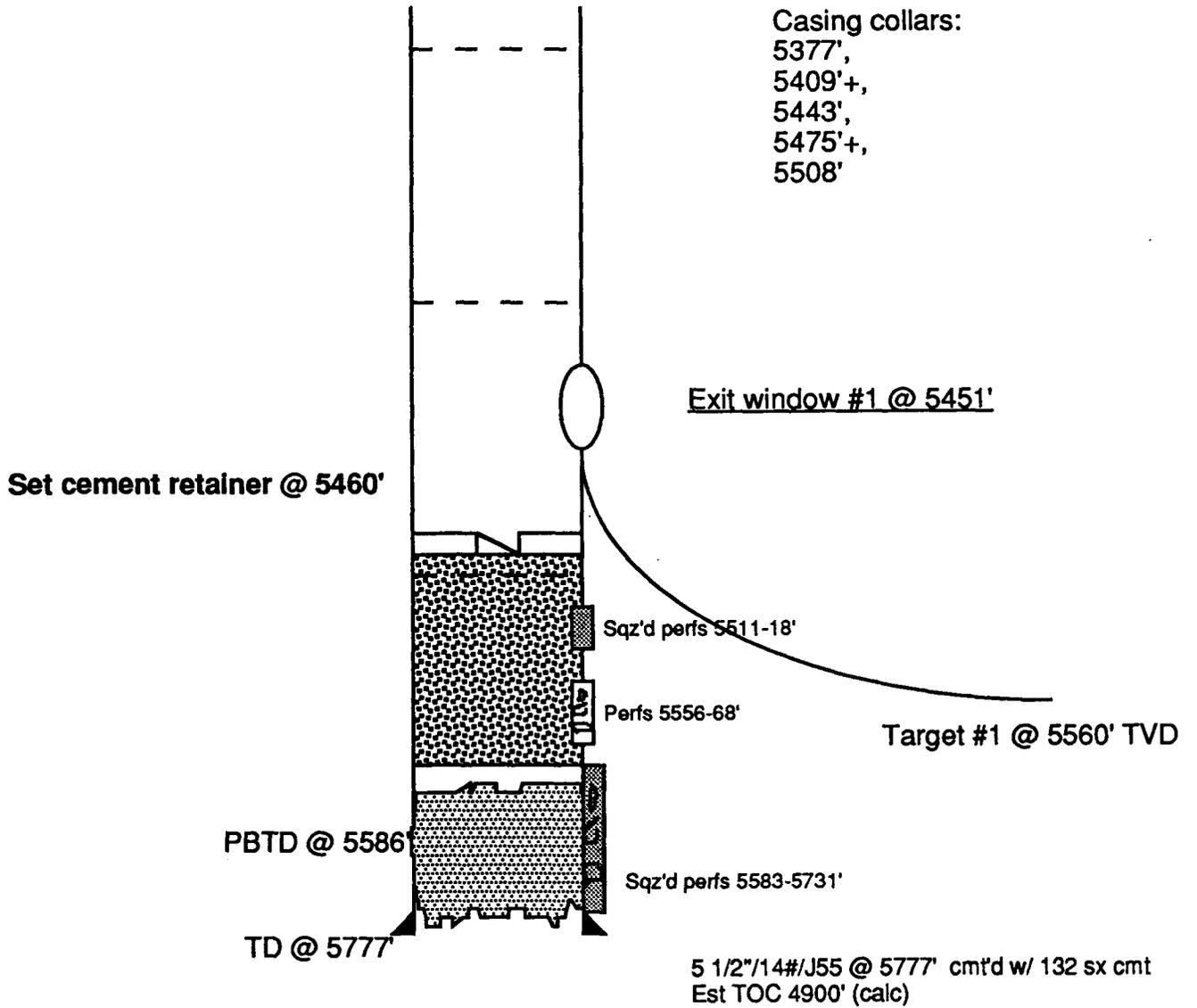
**RATHERFORD UNIT # 18W-34**  
**GREATER ANETH FIELD**  
**780' FSL & 1860' FEL**  
**SEC 18-T41S-R24E**  
**SAN JUAN COUNTY, UTAH**  
**API 43-037-15737**  
**PRISM 0043071**

**INJECTOR**

Capacities:	bb/ft	gal/ft	cuf/ft
2-7/8" 6.5#	.00579	.2431	.0325
5-1/2" 14#	.0244	1.0249	.1370
5-1/2" 15.5#	.0238	.9997	.1336
2-7/8x5.5"14#	.0164	.6877	
.0919			
2-7/8x5.5"15.5#	.0158	.6625	
.0886			



# Whipstock plan for Ratherford #18-34



<u>Window</u>	<u>Btm-Top of window</u>	<u>Extension length</u>	<u>Curve radius</u>	<u>Bearing</u>	<u>Horiz Displ</u>
1	5451-45	-	109	135	1600

WORKSHEET  
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 11/17/97

API NO. ASSIGNED: 43-037-15737

WELL NAME: RATHERFORD 18-34 (MULTI-LEG)  
 OPERATOR: MOBIL EXPL & PROD (N7370)

PROPOSED LOCATION:  
 SWSE 18 - T41S - R24E (*Surface*)  
 SURFACE: 0780-FSL-1860-FEL  
 BOTTOM: ~~0844-FNL-0594-FEL~~ (*Multi-lateral*)  
 SAN JUAN COUNTY  
 GREATER ANETH FIELD (365)

INSPECT LOCATION BY: / /		
TECH REVIEW	Initials	Date
Engineering		
Geology		
Surface		

LEASE TYPE: IND  
 LEASE NUMBER: 14-20-603-353

PROPOSED PRODUCING FORMATION: DSCR

RECEIVED AND/OR REVIEWED:

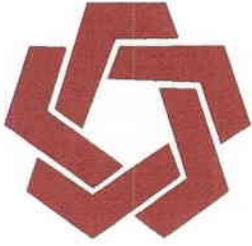
Plat  
 Bond: Federal  State  Fee   
 (Number ALREADY BONDED)  
 Potash (Y/N)  
 Oil shale (Y/N)  
 Water permit  
 (Number NAVAJO ALLOCATION)  
 RDCC Review (Y/N)  
 (Date: \_\_\_\_\_)

LOCATION AND SITING:

R649-2-3. Unit: RATHERFORD UNIT  
 R649-3-2. General.  
 R649-3-3. Exception.  
 Drilling Unit.  
 Board Cause no: \_\_\_\_\_  
 Date: \_\_\_\_\_

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

STIPULATIONS: 1. Directional drilling



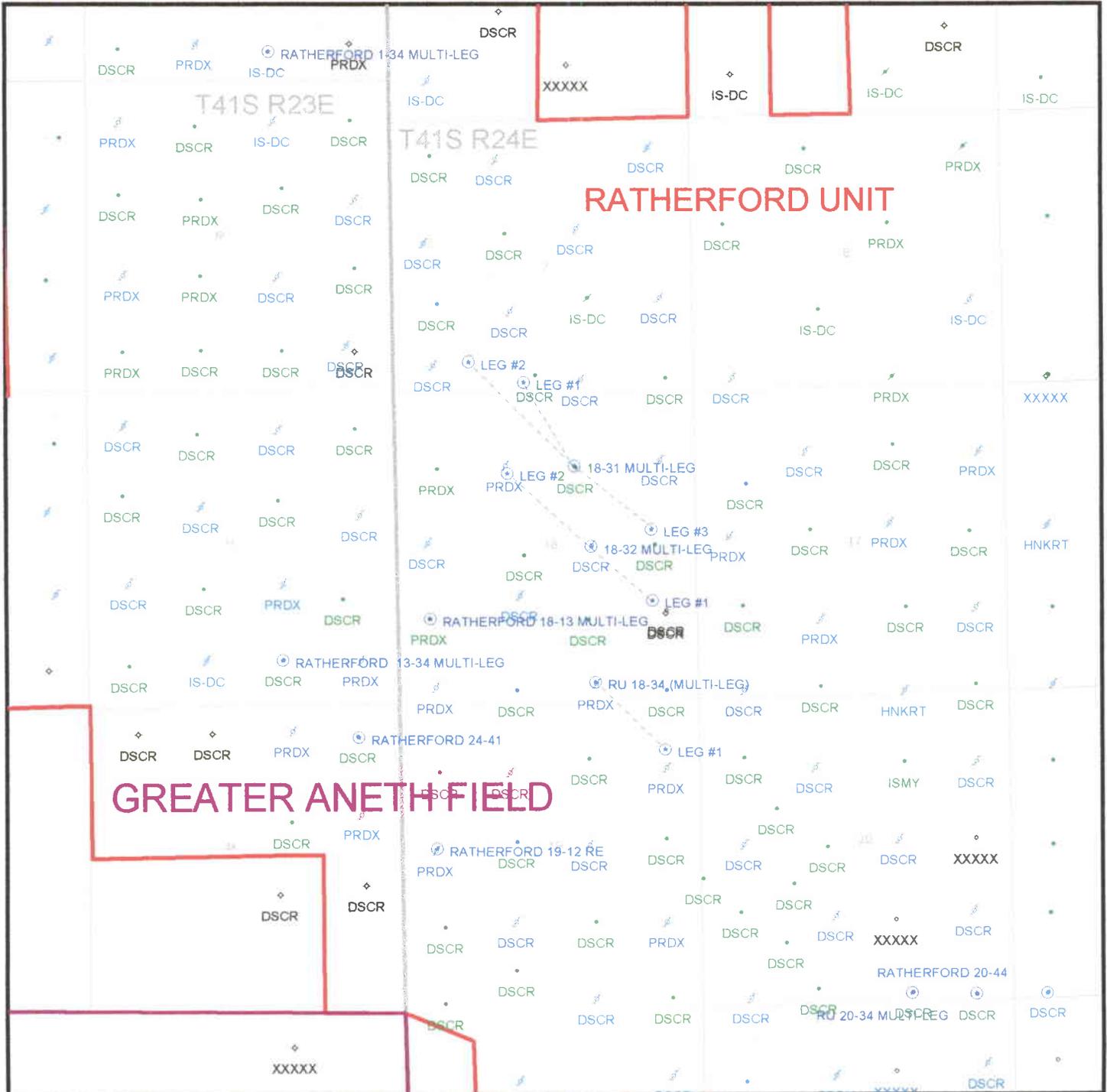
DIVISION OF OIL, GAS & MINING

OPERATOR: MOBIL EXPL & PROD (N7370)

FIELD: GREATER ANETH (365)

SEC. TWP. RNG.: SEC. 18, T41S, R24E

COUNTY: SAN JUAN UAC: R649-2-3 RATHERFORD UNIT



DATE PREPARED:  
20-NOV-1997



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor  
Ted Stewart  
Executive Director  
James W. Carter  
Division Director

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

November 25, 1997

Mobil Exploration & Producing U.S., Inc.  
P.O. Box 633  
Midland, Texas 79702

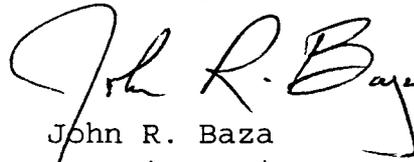
Re: Ratherford 18-W-34 Well (Re-entry), 780' FSL, 1860' FEL,  
SW SE, Sec. 18, T. 41 S., R. 24 E., San Juan County, Utah

Gentlemen:

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

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-037-15737.

Sincerely,

  
John R. Baza  
Associate Director

lwp

Enclosures

cc: San Juan County Assessor  
Bureau of Land Management, Moab District Office

Operator: Mobil Exploration & Producing U.S., Inc.  
Well Name & Number: Ratherford 18-W-34 (Re-entry)  
API Number: 43-037-15737  
Lease: 14-20-603-353  
Location: SW SE Sec. 18 T. 41 S. R. 24 E.

### Conditions of Approval

1. General

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

2. Notification Requirements

Notify the Division within 24 hours following spudding the well or commencing drilling operations. Contact Jim Thompson at (801)538-5336.

Notify the Division prior to commencing operations to plug and abandon the well. Contact John R. Baza (801)538-5334.

3. Reporting Requirements

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

4. In accordance with Utah Admin. R. 649-3-11, Directional Drilling, submittal of a complete angular deviation and directional survey report is required.

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: MOBIL E & P

Well Name: RATHERFORD UNIT 18-W-34 (SDTRK)

Api No. 43-037-15737

Section 18 Township 41S Range 24E County SAN JUAN

Drilling Contractor BIG 'A'

Rig # 25

SPUDDED:

Date 1/4/98

Time \_\_\_\_\_

How ROTARY

Drilling will commence \_\_\_\_\_

Reported by SIMON

Telephone # \_\_\_\_\_

Date: 1/5/98 Signed: JLT

✓



# ROCKY MOUNTAIN GEO-ENGINEERING

Well Logging • Consulting Geology • Coal Bed Methane Services • Computerized Logging Equipment & Software

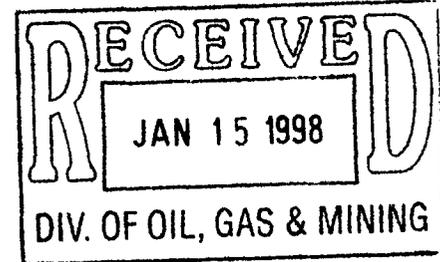
**ROCKY MOUNTAIN GEO-ENGINEERING CORP.**

2450 INDUSTRIAL BLVD. • GRAND JUNCTION, CO 81505

(970) 243-3044 • (FAX) 241-1085

Monday, January 12, 1998

Division of Oil & Gas Mining  
State of Utah  
1594 West North Temple  
3 Triad Center, Ste. 1210  
Salt Lake City, UT 84116



Re: Ratherford Unit #18-34 Leg 1 **43 037 15737**  
Sec. 18, T41S, R24E **DRL**  
San Juan County, Utah

Dear Sirs:

Enclosed are the final computer colored logs and geology reports for the above referenced well.  
**IN LOG FILE**

We appreciate the opportunity to be of service to you and look forward to working with you again in the near future.

If you have any questions regarding the enclosed data, please contact us.

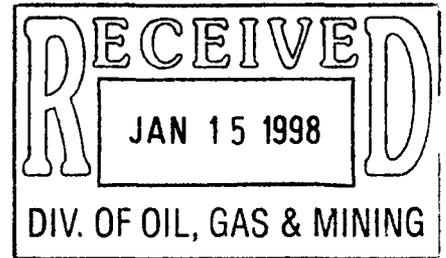
Sincerely,

Bill Nagel  
Senior Geologist

BN/dn

Enc. 1 Final Computer Colored Log & 1 Geology Report

cc Letter Only; Dana Larson; Mobil E & P U.S., Inc.; Midland, TX

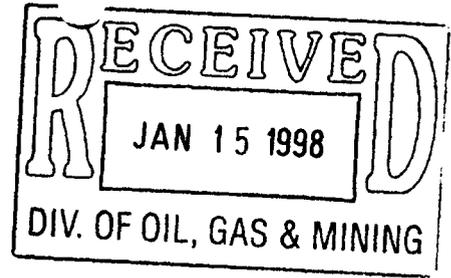


**MOBIL**

**RATHERFORD UNIT #18-34  
SE HORIZONTAL LATERAL LEG #1  
1-A POROSITY BENCH  
DESERT CREEK MEMBER  
PARADOX FORMATION  
SECTION 18, T41S, R24E  
SAN JUAN, UTAH**

**GEOLOGY REPORT  
by  
DAVE MEADE / MARVIN ROANHORSE  
ROCKY MOUNTAIN GEO-ENGINEERING CORP.  
GRAND JUNCTION, COLORADO  
(970) 243-3044**

**MICROFICHE**



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**WELL SUMMARY**

**OPERATOR:** MOBIL EXPLORATION & PRODUCTION U.S. INC.

**NAME:** RATHERFORD UNIT #18-34 SE HORIZONTAL LATERAL  
LEG #1 IN 1-A POROSITY BENCH, DESERT CREEK

**LOCATION:** SECTION 18, T41S, R24E

**COUNTY/STATE:** SAN JUAN, UTAH

**ELEVATION:** KB: 4794' GL: 4782'

**SPUD DATE:** 01/02/98

**COMPLETION DATE:** 01/07/98

**DRILLING ENGINEER:** SIMMON BERRARA

**WELLSITE GEOLOGY:** DAVE MEADE / MARVIN ROANHORSE

**MUDLOGGING  
ENGINEERS:** DAVE MEADE / MARVIN ROANHORSE

**CONTRACTOR:** BIG "A" RIG 25  
**TOOLPUSHER:** J. DEES / M. SMITH

**HOLE SIZE:** 4 3/4"

**CASING RECORD:** KICK OFF POINT IN WINDOW AT 5451' MEASURED DEPTH

**DRILLING MUD:** M-I  
**ENGINEER:** RON WESTENBURG  
**MUD TYPE:** FRESH WATER & BRINE WATER W/ POLYMER SWEEPS

**DIRECTIONAL  
DRILLING CO:** SPERRY-SUN

**ELECTICAL LOGGING:** NA

**TOTAL DEPTH:** 7160' MEASURED DEPTH; 5563.66' TVD

**STATUS:** TOH & LAYING DOWN LATERAL ASSEMBLY - PREPARE TO  
MOVE RIG TO 18-33 LOCATION

**DRILLING CHRONOLOGY**  
**RATHERFORD UNIT #18-34**  
**1-A SE HORIZONTAL LATERAL LEG #1**

<b>DATE</b>	<b>DEPTH</b>	<b>DAILY</b>	<b>ACTIVITY</b>
01/01/98	0'	0'	MOVE RIG & RIG UP
01/02/98	5460'	3'	RIG UP-P.U. WHIPSTOCK & STARTER MILL-TIH-RUN GYRO & ORIENT WHIPSTOCK-PULL & RIG DOWN GYRO-MILL W/ STARTER MILL FROM 5444'-5446'-TOH-P.U. WINDOW & WATERMELON MILLS-TIH-MILL FROM 5446'-5447'
01/03/98	5447'	58'	MILL FROM 5447'-5451'-TOH-L.D. MILLS-P.U. CURVE ASSEMBLY & BIT #1(RR),ORIENT-TIH-RIG UP GYRO DATA-TIME DRLG 5451' TO 5453'-DIR DRLG & SURVEYS-PULL GYRO-DIR DRLG & SURVEYS
01/04/98	5505'	325'	DIR DRLG & SURVEYS-CIR SPLS & PUMP SWEEP @ 5635'-TOH LAYING DOWN 51 JNTS AOH D.P.-REPAIR HYD. TONG HOSE - TOH & L.D. CURVE ASSEMBLY-P.U. LATERAL ASSEMBLY & TEST MWD-P.U. PH-6 OFF RACK & TIH- BREAK CIR & SURVEY-DIR DRLG & SURVEYS
01/05/98	5830'	427'	DIR DRLG & SURVEYS
01/06/98	6257'	600'	DIR DRLG & SURVEYS
01/07/98	6897'	263'	DIR DRLG & SURVEYS-PUMP SWEEP & CIR OUT SPLS @ TD OF 7160'-PUMP 10# BRINE WATER-L. D. PIPE & TOH-L. D. LATERAL ASSEMBLY-L. D. TUBING-RIG DOWN & PREPARE TO MOVE RIG TO 18-33 LOCATION
01/08/98	7160'	TD	

## DAILY ACTIVITY

**Operator: MOBIL**

**Well Name: RATHERFORD UNIT #18-34 SE 1-A HORIZONTAL LATERAL LEG #1**

DATE	DEPTH	DAILY	DATE	DEPTH	DAILY
01/02/98	5460'	3'			
01/03/98	5447'	58'			
01/04/98	5505'	325'			
01/05/98	5830'	427'			
01/06/98	6257'	600'			
01/07/98	6897'	263'			
	7160'	TD			

### BIT RECORD

**OPERATOR: MOBIL**

**WELL NAME: RATHERFORD UNIT #18-34 SE 1-A HORIZONTAL LATERAL LEG #1**

RUN	SIZE	MAKE	TYPE	IN/OUT	FTG	HRS	FT/HR
#1 (RR)	4 3/4"	HTC	STR-20	5451'/ 5635'	184'	16	11.5
#2	4 3/4"	HTC	STR-20	5635'/ 7160'	1525'	57.5	26.5

SPERRY-SUN DRILLING SERVICES  
SURVEY DATA

Customer ... : Mobil (Utah)  
Platform ... : RATHERFORD UNIT  
Slot/Well .. : BA25/18-34, 1A1

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
5432.00	0.62	147.48	5431.31	43.52 N	25.38 W	-48.72	0.00
5444.00	0.62	147.48	5443.31	43.41 N	25.31 W	-48.59	0.00
5451.00	4.90	135.00	5450.30	43.17 N	25.08 W	-48.26	61.38
5461.00	9.60	134.10	5460.22	42.29 N	24.18 W	-47.00	47.01
5471.00	14.90	133.70	5469.99	40.82 N	22.65 W	-44.88	53.01
5481.00	20.30	133.60	5479.51	38.73 N	20.46 W	-41.85	54.00
5491.00	25.20	138.10	5488.73	35.95 N	17.78 W	-37.99	51.97
5501.00	29.40	141.80	5497.62	32.43 N	14.84 W	-33.43	45.28
5511.00	33.30	146.30	5506.16	28.22 N	11.80 W	-28.29	45.46
5521.00	37.50	143.50	5514.31	23.48 N	8.46 W	-22.59	45.01
5531.00	42.20	139.30	5521.98	18.49 N	4.46 W	-16.23	54.14
5541.00	46.90	136.70	5529.11	13.28 N	0.24 E	-9.22	50.41
5551.00	51.20	136.00	5535.66	7.82 N	5.45 E	-1.67	43.32
5561.00	56.60	136.30	5541.55	1.99 N	11.05 E	6.40	54.05
5571.00	62.00	137.00	5546.66	4.26 S	16.95 E	14.99	54.33
5581.00	66.90	136.90	5550.97	10.85 S	23.10 E	24.01	49.01
5591.00	71.60	135.60	5554.51	17.60 S	29.57 E	33.35	48.55
5601.00	76.20	135.10	5557.28	24.43 S	36.32 E	42.96	46.25
5611.00	80.40	134.50	5559.31	31.33 S	43.27 E	52.75	42.41
5635.00	92.30	136.10	5560.83	48.33 S	60.08 E	76.66	50.03
5659.00	93.80	135.10	5559.56	65.45 S	76.85 E	100.62	7.51
5690.00	92.40	136.10	5557.88	87.57 S	98.50 E	131.57	5.55
5722.00	89.60	134.90	5557.32	110.38 S	120.93 E	163.56	9.52
5754.00	88.90	135.10	5557.74	133.01 S	143.55 E	195.56	2.28
5786.00	88.10	132.60	5558.58	155.17 S	166.62 E	227.54	8.20
5818.00	88.30	133.90	5559.58	177.08 S	189.92 E	259.51	4.11
5849.00	87.90	133.70	5560.61	198.53 S	212.28 E	290.48	1.44
5881.00	88.80	134.00	5561.53	220.69 S	235.35 E	322.46	2.96
5913.00	90.00	134.20	5561.87	242.95 S	258.32 E	354.46	3.80
5945.00	91.10	135.30	5561.56	265.48 S	281.05 E	386.45	4.86
5976.00	91.90	134.70	5560.75	287.39 S	302.96 E	417.44	3.23
6008.00	92.60	133.90	5559.49	309.72 S	325.84 E	449.42	3.32
6039.00	92.50	134.00	5558.11	331.22 S	348.14 E	480.38	0.46
6071.00	90.60	133.50	5557.25	353.34 S	371.25 E	512.36	6.14
6102.00	91.30	134.40	5556.74	374.85 S	393.56 E	543.35	3.68
6134.00	91.70	134.90	5555.90	397.33 S	416.32 E	575.34	2.00
6166.00	90.80	135.10	5555.20	419.95 S	438.94 E	607.33	2.88
6198.00	90.00	135.80	5554.98	442.76 S	461.39 E	639.33	3.32

SPERRY-SUN DRILLING SERVICES  
SURVEY DATA

Customer ... : Mobil (Utah)  
Platform ... : RATHERFORD UNIT  
Slot/Well .. : BA25/18-34, 1A1

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
6230.00	89.90	136.80	5555.00	465.89 S	483.50 E	671.32	3.14
6261.00	90.10	137.70	5555.00	488.65 S	504.54 E	702.29	2.97
6293.00	88.70	137.50	5555.34	512.28 S	526.12 E	734.26	4.42
6325.00	86.70	138.40	5556.62	536.02 S	547.53 E	766.19	6.85
6356.00	85.80	139.30	5558.65	559.32 S	567.89 E	797.05	4.10
6388.00	85.30	137.70	5561.13	583.21 S	589.02 E	828.89	5.22
6420.00	87.00	136.10	5563.28	606.52 S	610.84 E	860.80	7.29
6452.00	87.50	136.10	5564.82	629.55 S	633.00 E	892.76	1.56
6484.00	90.30	136.10	5565.43	652.60 S	655.18 E	924.74	8.75
6515.00	91.70	135.40	5564.89	674.80 S	676.81 E	955.74	5.05
6547.00	89.60	135.30	5564.53	697.57 S	699.30 E	987.73	6.57
6579.00	86.90	133.70	5565.51	719.98 S	722.11 E	1019.71	9.81
6611.00	88.10	133.30	5566.90	741.99 S	745.30 E	1051.67	3.95
6643.00	89.10	131.40	5567.68	763.54 S	768.94 E	1083.62	6.71
6674.00	89.60	131.60	5568.03	784.08 S	792.15 E	1114.56	1.74
6706.00	88.90	131.90	5568.45	805.38 S	816.03 E	1146.51	2.38
6738.00	91.00	133.00	5568.48	826.98 S	839.64 E	1178.48	7.41
6769.00	92.20	133.70	5567.62	848.25 S	862.17 E	1209.45	4.48
6801.00	92.60	134.00	5566.28	870.40 S	885.23 E	1241.42	1.56
6833.00	93.20	135.30	5564.66	892.86 S	907.96 E	1273.37	4.47
6864.00	94.10	135.10	5562.68	914.81 S	929.76 E	1304.31	2.97
6895.00	88.20	136.30	5562.06	936.98 S	951.40 E	1335.29	19.42
6927.00	86.80	135.10	5563.46	959.86 S	973.72 E	1367.25	5.76
6959.00	89.00	134.20	5564.63	982.34 S	996.47 E	1399.23	7.43
6991.00	89.80	133.70	5564.96	1004.54 S	1019.51 E	1431.22	2.95
7023.00	90.40	133.70	5564.91	1026.65 S	1042.64 E	1463.21	1.87
7055.00	90.70	132.60	5564.60	1048.53 S	1065.99 E	1495.19	3.56
7086.00	90.30	132.10	5564.33	1069.42 S	1088.90 E	1526.16	2.07
7126.00	90.60	131.60	5564.02	1096.10 S	1118.69 E	1566.10	1.46
7160.00	90.60	131.60	5563.66	1118.68 S	1144.12 E	1600.04	0.00

THE DOGLEG SEVERITY IS IN DEGREES PER 100.00 FEET.  
N/E COORDINATE VALUES GIVEN RELATIVE TO WELL HEAD.  
TVD COORDINATE VALUES GIVEN RELATIVE TO WELL HEAD.  
THE VERTICAL SECTION ORIGIN IS WELL HEAD.  
THE VERTICAL SECTION WAS COMPUTED ALONG 135.00 (TRUE).  
CALCULATION METHOD: MINIMUM CURVATURE.

5451-5471 INTERPOLATED AZIMUTHS  
5481-5611 AZIMUTH INTERFERENCE  
7160 EXTRAPOLATED TO THE BIT

# MUD REPORT

**OPERATOR: MOBIL**

**WELL NAME: RATHERFORD UNIT #18-34 SE 1-A HORIZONTAL LATERAL LEG #1**

DATE	DEPTH	WT	VIS	FLS	YLD	GEL	pH	WL	CK	CHL	CA	SD	OIL	WTR
01/02/98	5460'	8.3+	26	--	--	0/0	9.0	N/C	--	8000	320	--	0%	100%
01/03/98	5451'	8.4	26	--	--	0/0	9.0	N/C	--	9000	320	--	0%	100%
01/04/98	5599'	8.4	26	--	--	0/0	12.0	N/C	--	8000	100	--	0%	100%
01/05/98	5997'	8.4	27	1	1	0/0	12.0	N/C	--	8000	160	--	9%	91%
01/06/98	6316'	8.4	27	1	1	0/0	11.6	N/C	--	10000	160	--	9%	91%

## SAMPLE DESCRIPTIONS

**OPERATOR: MOBIL**

**WELL NAME: RATHERFORD UNIT #18-34 NW 1-A HORIZONTAL LATERAL LEG #2**

DEPTH	LITHOLOGY
5451.00 5460.00	"LS tan-ltgybrn,ltgy,occ brn,crpxl-micxl,sl chky-anhy/tr xln ANHY incl,scat m-dkbrn CHT frag,sl dol,NFSOC/tr scat DOL,brn,crpxl,sl shy ip,NFSOC"
5460.00 5470.00	"LS m-ltgybrn,dkbrn,occ tan,ltgy,mot/blk sl calc-dol carb SH,occ grdg to lmy SH,chky-sl anhy,scat blk-dkbrn CHT frag,NFSOC"
5470.00 5480.00	"LS ltgybrn-tan-wh,occ brn,dkbrngy,chky-sl anhy,mrly-occ grdg to MRLST,tr scat brn CHT,sl dol/tr scat DOL frag & SH AA,tt,NFSOC"
5480.00 5490.00	"LS AA,crpxl-micxl,chky-sl anhy/rr xl ANHY incl,mrly-occ grdg to MRLST,occ rthy-slty ip,tr brn CHT,sl dol,scat-intbd SH AA,tt,NFSOC"
5490.00 5500.00	"LS brn-ltgybrn-tan,occ dkbrngy,ltgy,crpxl-micxl,dns,sl slty,chky-sl anhy/rr xl ANHY incl,v sl dol,tr CHT AA,rr MRLST frag,NFSOC,scat SH blk-dkbrnblk,plty,carb,calc-dol ip,occ grdg to shy DOL"
5500.00 5510.00	"LS brn-ltbrngy-tan,crm-wh-ltgy,occ dkbrngy,crpxl-micxl,chky-sl anhy,mrly ip,v sl dol,NFSOC,tr CHT/incr scat DOL AA,NFSOC,tr scat SH AA,rr calc SLTST frag-occ strk intbd/LS"
5510.00 5530.00	"LS crm-wh-tan,ltgybrn-ltgy,crpxl,occ micxl,pred dns,chky-sl mrly,anhy/xln ANHY incl,tt-rr frac POR,tr scat spty mod bri-bri yel FLOR,n vis-vrr blk pp STN,fr slow dif/tr v fnt res ring CUT"
5530.00 5540.00	"LS AA,bcmg v arg-sl dol,mrly ip,occ grdg to v lmy SH,dns,tt,NFSOC,w/DOL brn-mbrn,occ gybrn,micxl,crpxl ip,lmy,rthy,arg,grdg to dol MRLST,tt,NFSOC & SH blk dkgybrn-dkgy,sbblky,carb-sooty"
5540.00 5558.00	"SH blk-dkgy-dkgybrn,sbblky-sbplty,sft-mfrm,rthy ip,sl slty,occ mica,calc-sl dol,carb-sooty,w/thn scat crm-wh-tan crpxl dns LS NFSOC & brn-mbrn micxl-crpxl mrly arg dns DOL NFSOC frag w/LS & DOL incr w/depth"
5560.00 5570.00	"LS crm-wh-ltgy-brn,crm-micxl,occ rthy-chk,v sl slty,mrly ip,pred dns,tt,anhy-rr ANHY xl-incl,NFSOC,& thn brn-dkbrn crpxl,occ micxl,dns-sl arg,tt DOL w/rr ANHY xl,& thn blk carb SH lams"
5570.00 5580.00	"LS crm-tan,occ wh-brn,crpxl,rr micxl,slty ip,chk-cln,anhy ip,v sl dol,v sl alg-sl slty,tt-v rr pp vug POR,v rr spty dull yel FLOR,n-v rr spty ltbrn STN,v rr slow stmg CUT,v rr blk carb SH incl & rr ltbrn crpxl-micxl,arg-lmy DOL frag,NFSOC"
5580.00 5600.00	"LS tan-ltbrn,occ brn,rr crm-wh,crpxl-vfxl,gran-micsuc,occ dns-sl plty,pred ooc-oom GRNST,rr-tr intbd dns crpxl anhy sl ool PKST,rr ANHY xl-incl,v rr trnsl CHT frag & thn dns brn-mbrn crpxl DOL incl,fr-g intxl-tr ool POR,tr dull-bri "
5600.00 5620.00	"LS AA,incr brn-dkbrn vfxl-gran ip,occ suc,sl incr crpxl chk-cln occ plty v sl ool PKST,rr ANHY incl-xl-occ POR fl,occ DOL rich cmt,fr-g intxl-fr ool POR,fr dull-bri yel FLOR,tr-fr lt-dkbrn STN,rr-tr blk dd o STN,fr-g slow-mod fast stmg CUT,yel FLOR,tr ltbrn-brn STN-v rr blk dd o STN,tr-fr slow-mod fast stmg mlky CUT"

DEPTH	LITHOLOGY
5620.00 5635.00	"LS lt-dkbrn,occ tan-crm,crpxl-vfxl,gran-suc ip,occ cln-dns,intbd ooc-oom GRNST & v sl ool,anhy,occ chk PKST,v rr trnsl-clr CHT frag,occ DOL rich cmt,v rr ANHY xl-incl,tt-g intxl-tr ool POR,fr dull-bri yel FLOR,tr-fr ltbrn-rr blk STN,fr mod fast-fast CUT"
5635.00 5650.00	"LS AA,intbd ooc-oom GRNST & v sl ool,anhy,occ chk PKST,v rr CHT AA,occ DOL rich cmt,v rr ANHY xl-incl,POR AA,fr scat dull-bri yel FLOR,STN AA,fr mod fast-fast CUT/scat blk SH cvgs"
5650.00 5670.00	"LS ltbrn-tan-ltgybrn,occ brn,ltgy-wh,vfxl-micxl,gran-crpxl,pred ooc-oom GRNST/scat-occ intbd dns ool PCKST,chkyl/tr plty frag-prtgs,sl anhy/tr xl ANHY incl-POR fl,tr DOL rich cmt,tr tan-ltbrn CHT frag,g oom-ool/tr intxl POR,fr-g scat mod bri-bri yel FLOR,g-fr ltbrn/scat brn & blk dd o STN,g mod fast stmg mlky CUT"
5680.00 5700.00	"LS tan-brn/occ crm-ltgy-wh incl,occ dkbrn,wh,ltgybrn,vfxl-micxl-gran,occ crpxl,pred ooc-oom GRNST/PCKST AA,sl chkyl/tr plty frag-prtgs,sl anhy/tr xl ANHY incl,sl dol/tr DOL cmt,rr CHT incl AA,POR AA,fr-g even dull-mod bri/scat spty bri yel FLOR,g ltbrn-brn/incr scat blk dd o STN,g mod fast-slow stmg mlky CUT"
5700.00 5720.00	"LS ltbrn-tan/tr crm-wh incl,occ brn-dkbrn,ltgybrn,rr wh,vfxl-gran-micxl,sl micsuc-occ crpxl,pred oom-ool GRNST/tr scat dns occ ool-sl chkyl PCKST,sl anhy/tr xl ANHY incl & POR fl,vrr CHT incl,sl dol/rr DOL cmt strk,g ooc-oom/tr intxl POR,FLOR-STN-CUT AA "
5720.00 5740.00	"LS AA,vfxl-gran-micxl,occ micsuc-crpxl,pred oom-ool GRNST,tr scat dns occ ool-sl chkyl PCKST,sl anhy/tr xl ANHY & POR fl,vrr tan-wh CHT-sil incl,sl dol/incr DOL rich cmt,POR-FLOR AA,g-fr ltbrn-brn/scat dkbrn-blk dd o STN,g slow-mod fast stmg mlky CUT "
5740.00 5760.00	"LS AA,oom-ool GRNST/tr scat dns occ ool-rr chkyl plty PCKST,sl anhy/rr xl ANHY incl,sl dol/tr DOL cmt strk,g ooc-oom-tr intxl POR/tr POR fl,g-fr even mod bri-dull/scat bri yel FLOR,g ltbrn-brn/scat dkbrn & blk dd o STN,g slow-mod fast stmg mlky CUT"
5760.00 5790.00	"LS ltbrn-tan-brn/tr crm-rr wh incl,occ dkbrn,rr ltgy-wh,vfxl-gran-micxl,sl micsuc,oom-oom GRNST/rr scat crpxl dns-vrr chkyl plty PCKST,sl anhy-chkyl/tr POR fl,vrr crm-tan CHT incl,tr DOL rich cmt,g oom-ool-tr intxl POR,g even mod bri-bri yel FLOR,g ltbrn-brn/sl incr dkbrn & blk dd o STN,g fast stmg mlky CUT"
5790.00 5820.00	"LS AA,vfxl-gran-micxl,sl micsuc,occ crpxl,pred ooc-oom GRNST/rr-tr scat-intbd crpxl dns sl ool-rr chkyl plty PCKST,sl anhy/tr POR fl,vrr crm CHT incl,tr DOL rich cmt,g-fr oom-ool-tr intxl POR,g even mod bri-scat bri yel FLOR,g ltbrn-brn/ tr scat dkbrn & blk dd o STN,g mod fast-fast stmg mlky CUT"
5820.00 5840.00	"LS tan-crm-ltbrn,occ wh,brn,vfxl-micxl-gran,incr crpxl,occ sl micsuc,pred ooc-oom GRNST,incr scat chkyl dns sl ool-ool plty PCKST frag,sl anhy/tr xln ANHY incl,sl incr POR fl,sl dol/tr DOL cmt,g-fr ooc-oom/tr intxl POR,g even mod bri-dull/scat bri yel FLOR,fr-g ltbrn/decr scat brn & tr dkbrn-blk dd o STN,g-fr dif/tr slow stmg CUT"
5840.00 5870.00	"LS AA,vfxl-micxl-gran,incr crpxl,occ sl micsuc,oom-oom GRNST/scat chkyl dns sl ool-ool plty PCKST frag,sl anhy/tr xln ANHY incl & POR fl,sl dol/tr DOL cmt,rr tan-wh CHT-sil incl,g-fr ooc-oom/tr intxl POR,g even mod bri-dull/scat bri yel FLOR,g-fr ltbrn/scat brn-tr dkbrn & blk dd o STN,fr-g dif/tr slow-mod fast stmg mlky CUT"

DEPTH	LITHOLOGY
5870.00 5900.00	"LS AA,vfxl-micxl-gran,incr crpxl,occ sl micsuc,oooc-oom GRNST/scat chky dns sl ool-occ plty PCKST frag,sl anhy/tr xln ANHY incl & POR fl,sl dol/tr DOL cmt,rr tan-wh CHT-sil incl,g-fr ooc-oom/tr intxl POR,g even mod bri-dull/scat bri yel FLOR,fr-g ltbrn/sl incr brn STN,tr scat blk dd o STN,fr-g dif/tr mod fast stmg mlky CUT"
5900.00 5910.00	"LS tan-crm-wh,crpxl-occ micxl,pred dns sl ool crpxl-thn chky plty PCKST,tr-rr ooc-oom GRNST frag,sl anhy/rr xln ANHY incl,rr tan CHT frag,tt-tr ool-intxl POR,fr-g even mod bri/tr scat bri yel FLOR,n-rr ltbrn/vrr brn & pp blk STN,fr dif/rr slow stmg CUT"
5910.00 5930.00	"LS AA,pred dns-plty PKST AA,w/thn stks ooc-oom GRNST,scat trnsf-bf CHT frag,occ DOL rich cmt,GRNST-tr fr intxl-rr ool POR,rr dull-bri yel FLOR,rr-tr ltbrn-brn STN,rr spty blk dd o STN,rr fr slow-mod fast stmg CUT"
5930.00 5950.00	"LS AA,pred PKST & sl incr GRNST AA,incr trnsf-bf CHT frag,rr scat ANHY xl-incl,incr FLOR AA,POR-STN-CUT AA"
5950.00 5970.00	"LS tan-crm-wh,crpxl-occ micxl,pred dns sl ool crpxl-thn chky plty PCKST,thn ooc-oom GRNST incr w/depth,sl anhy-rr ANHY xl-incl,rr tan-trnsf CHT frag,sl dol,tt-tr ool-intxl POR,fr dull-bri yel FLOR,rr ltbrn-brn-v rr spty blk STN,rr slow-mod fast stmg CUT"
5970.00 5990.00	"LS pred tan-crm,occ wh-rr brn,crpxl-micxl,occ vfxl-gran-micsuc,pred sl ooc-oom GRNST,w/intbd plty-chk v sl ool anhy PKST,occ DOL cmt,v rr ANHY xl-trnsf CHT frag,tt-fr intxl-rr ool POR,fr dull-bri yel FLOR,rr-tr ltbrn-rr spty blk STN,rr mod fast-slow CUT"
5990.00 6010.00	"LS tan-crm-wh,crpxl-occ micxl,pred dns sl ool crpxl-thn chky plty PCKST,thn intbd sl ooc-oom GRNST,sl anhy-rr ANHY xl-incl,rr tan-trnsf CHT frag,sl dol,tt-fr intxl-rr ool POR,rr-tr dull-bri yel FLOR,rr ltbrn-brn-rr spty blk STN,rr slow-mod fast stmg CUT"
6010.00 6020.00	"LS AA,w/thn stks sl ooc-occ oom GRNST,tt-tr stky intxl-rr ool POR,rr-tr dull-bri yel FLOR,rr ltbrn-brn STN,rr blk dd o STN,rr fr slow-rr mod fast stmg CUT"
6020.00 6040.00	"LS tan-crm-wh,crpxl-occ micxl,pred dns sl ool crpxl-thn chky plty PCKST,thn.intbd sl ooc-oom GRNST,sl anhy-rr ANHY xl-incl,rr tan-trnsf CHT frag,sl dol,tt-fr intxl-rr ool POR,rr-tr dull-bri yel FLOR,rr ltbrn-brn-rr spty blk STN,rr slow-mod fast stmg CUT"
6040.00 6060.00	"LS AA,occ sl incr ooc-oom GRNST,rr-abnt ANHY fl POR,rr-tr intxl-rr ool POR,mfr dull-bri yel FLOR,rr brn-mbrn STN,rr spty blk dd o STN,rr fr slow-tr mod fast stmg CUT"
6060.00 6070.00	"LS pred ltbrn-tan,rr wh-crm,PKST AA,incr ooc-oom GRNST w/tr-occ abnt ANHY fl POR,scat trnsf-bf CHT frag,tt-fr intxl-ool POR,rr dull-bri yel FLOR,rr ltbrn-brn STN,rr-tr blk dd o STN,rr-tr mod fast-tr fast stmg mlky CUT"
6070.00 6090.00	"LS tan-ltbrn,rr crm-wh,crpxl-vfxl,gran-micsuc ip,pred sl ooc-oom GRNST,w/thn scat sl ool anhy-sl dol dns PKST,incr ANHY xl-POR fl,rr bf CHT frag,sl dol cmt,rr intxl-tr ool POR,rr-g dull-bri yel FLOR,rr ltbrn-rr blk STN,rr fr slow-mod fast-tr fast stmg CUT"
6090.00 6120.00	"LS ltbrn-brn,occ tan-crm,crpxl-vfxl,gran-micsuc,pred ooc-oom GRNST,scat thn intbd dns sl ool PKST,rr-tr ANHY xl-POR fl,rr DOL-CALC cmt,rr bf CHT frag,rr-g intxl-ool POR,rr dull-bri yel FLOR,rr-g ltbrn-brn STN-rr blk dd o STN,rr-g mod fast-fast stmg CUT "

DEPTH	LITHOLOGY
6120.00	6140.00 "LS AA,pred ooc-oom GRNST,w/incr wh-crm-ltbrn-brn anhy dns ooc plty-chk sl ool PKST,incr ANHY fl POR,fr intxl-tr-fr ool POR,fr-g dull-bri yel FLOR,fr ltbrn-brn-tr blk STN,tr-g mod fast stmg CUT"
6140.00	6160.00 "LS tan-ltbrn,occ crm,crpxl-micxl,occ vfxl,pred dns sl ool crpxl-thn chky plty PCKST,thn intbd sl ooc-oom GRNST,sl anhy-rr ANHY xl-incl,tr tan-trnsl CHT frag,sl dol,tt-fr intxl-rr ool POR,fr dull-bri yel FLOR,tr brn-spty blk STN,tr slow-mod fast stmg CUT"
6160.00	6170.00 "LS AA,pred dns sl ool occ chk-plty PKST,w/v rr thn ooc-oom GRNST stks,scat ANHY fl POR,tt-tr intxl-ool POR,tr-mfr dull-bri yel FLOR,rr-tr ltbrn-brn STN,v rr-rr blk dd o STN,rr-tr fr slow-mod fast stmg CUT"
6170.00	6190.00 "LS tan-ltbrn,crm,ltgy-wh/blk strks,occ brn,crpxl-micxl,vfxl-occ gran,pred dns sl ool crpxl PCKST/abnt thn chky-arg frag,tr GRNST AA,tr brn CHT frag,sl dol,tt-fr intxl/tr ooc-oom POR,fr-g even dull-mod bri/rr bri yel FLOR,STN AA,fr dif/tr slow stmg CUT"
6190.00	6210.00 "LS tan-ltbrngy-crm,occ brn,crpxl-micxl,vfxl-gran,pred dns sl ool crpxl-thn chky plty PCKST,tr ooc-oom GRNST,tr trnsl CHT,sl anhy/tr POR fl,sl dol/tr DOL cmt,tt-fr intxl-tr ooc-oom POR,tr scat dull-mod bri/rr bri yel FLOR,fr-g ltbrn/tr brn/vrr blk pp dd o STN,fr dif/tr slow stmg CUT"
6210.00	6230.00 "LS brn,crm-ltgybrn,occ tan,crpxl,micxl-occ vfxl,pred chky dns v sl ool-thn plty PCKST,rr GRNST AA,sl anhy/POR fl-tr xln ANHY frag,vrr trnsl CHT incl,n-v sl dol ip,tt-tr intxl-rr ooc-oom POR,vrr scat mod bri yel FLOR,g brn-lt brn STN,v fnt res ring CUT"
6230.00	6250.00 "LS AA,pred chky dns v sl ool-thn plty PCKST,rr-tr oom-oc GRNST,sl anhy/POR fl & rr xln ANHY incl,rr trnsl CHT-sil incl,v sl dol ip,tt-tr intxl-rr ooc-oom POR,n-vrr mod bri FLOR,STN & CUT AA"
6250.00	6270.00 "LS brn-mbrn-tan,occ ltgy,crpxl-micxl,occ vfxl,pred chky dns-thn plty PCKST,vrr oom-oc GRNST,sl anhy/POR fl-tr xln ANHY frag,rr tan CHT-trnsl sil incl,n-v sl dol ip,tt-tr intxl-vrr ool POR,n-vrr scat mod bri yel FLOR,STN AA,v fnt res ring CUT"
6270.00	6290.00 "LS tan-ltbrn,occ brn,crm ip,crpxl-micxl,occ vfxl-gran,rr micsuc,pred dns sl anhy v sl ool tt PKST,w/thn intbd occ ooc-oom GRNST,rr ANHY xl-POR fl,v sl DOL cmt,tt-tr intxl-ool POR,tr spty dull-bri yel FLOR,tr ltbrn-brn-rr spty blk STN,tr slow-mod fast CUT"
6290.00	6310.00 "LS PKST AA,rr plty-chk frag,w/incr ooc-oom vfxl-gran-micsuc GRNST intbds,some ANHY-CALC POR fl,rr scat trnsl-bf CHT frag,tt-fr intxl-tr ool POR,fr dull-bri yel FLOR,fr ltbrn-brn STN,rr spty blk dd o STN,fr slow-fast stmg mlky CUT"
6310.00	6320.00 "LS AA,pred tan-ltbrn,occ brn intbd sl ool dns tt PKST & sl ooc-oom GRNST,scat ANHY-DOL occ CALC cmt in POR,mfr dull-bri yel FLOR,tt-fr intxl-tr ool POR,fr ltbrn STN,rr spty blk dd o STN,fr slow-mod fast CUT"
6320.00	6330.00 "LS AA,bcmg intbd dns tt sl ool rr chk-plty-sl arg PKST & ooc-oom GRNST,tt-fr intxl-tr ool POR,mfr dull-bri yel FLOR,fr ltbrn-brn-rr spty blk STN,fr mod fast-fast stmg CUT"
6330.00	6340.00 "LS AA,rr scat lt-mbrn CHT frag,sl incr intxl-ool POR,FLOR-STN-CUT AA"
6340.00	6360.00 "LS tan-lt-dkbrn,occ wh-crm,crpxl-vfxl,occ gran-micsuc,pred intbd dns-sl chk-sl plty sl ool PKST & ooc-oom GRNST,tr trnsl-brn CHT frag,tr ANHY xl-incl-POR fl,sl dol cmt,tt-fr intxl-ool POR,mfr dull-bri yel FLOR,rr scat ltbrn-brn-rr blk STN,fr mod fast CUT"

DEPTH	LITHOLOGY
6360.00 6380.00	"LS AA,pred intbd sl ooc-oom occ anhy GRNST & dns occ chk-pty sl ool PKST,sl anhy-tr ANHY xl-incl-occ POR fl,scat trnsf-bf-brn CHT frag,tr-fr intxl-tr ool POR,mfr dull-bri yel FLOR,fr ltbrn-brn STN,rr spty blk dd o STN,tr-fr g mod fast-fast stmg mlky CUT"
6380.00 6400.00	"LS tan-brn-mbrn,occ crm-wh,crpxl-vfxl,occ gran-micsuc,pred sl ooc-oom GRNS,tr thn dns occ pty-chk sl ool PKST,scat CHT & ANHY AA,incr fr-g intxl-fr ool POR,mfr-fr dull-bri yel FLOR,fr ltbrn-brn-tr spty blk dd o STN,fr g mod fast-fast stmg mlky CUT"
6400.00 6410.00	"LS AA,pred ooc-oom GRNST,w/thn scat PKST AA,fr-g intxl-tr-fr ool POR,FLOR-STN-CUT AA"
6410.00 6420.00 6409.62 0	"LS AA,incr PKST AA w/depth,sl decr intxl-ool POR,tr-fr dull-bri yel FLOR,tr-mfr lt-dkbrn STN,rr blk dd o STN,fr g mod fast-fast stmg mlky CUT"
6420.00 6440.00	"LS tan-brn,rr crm-wh,crpxl-vfxl,occ gran-micsuc,pred sl ooc-oom GRNS,scat dns occ pty-chk sl ool PKST,scat bf-trnsf CHT frag,ANHY AA,sl dol,fr-g intxl-tr ool POR,fr-g dull-bri yel FLOR,fr ltbrn-brn-rr spty blk dd o STN,fr-g mod fast-fast stmg mlky CUT"
6440.00 6460.00	"LS tan-crm,occ ltbrn-rr wh,pred ooc-oom GRNST AA,w/thn sl ool dns PKST AA,fr-g POR-FLOR-STN-CUT AA"
6460.00 6490.00	"LS crm-tan-brn,rr wh,crpxl-vfxl,occ gran-micsuc,pred sl ooc-oom GRNS,rr dns occ pty-chk sl ool PKST,rr bf-trnsf CHT frag,rr ANHY xl,sl dol,fr-g intxl-fr ool POR,fr-g dull-bri yel FLOR,fr ltbrn-rr spty blk dd o STN,fr-g mod fast-fast stmg mlky CUT"
6490.00 6510.00	"LS tan-crm-brn,occ ltbrngy,crpxl-vfxl,gran-sl micsuc,pred GRNST AA,tr dns sl ool-vrr pty PCKST,tr CHT incl AA,chky/tr POR fl & rr ANHY xl,sl dol,POR AA,g even mod bri-bri yel FLOR,fr ltbrn-tr brn/rr spty blk dd o STN,fr dif/tr slow stmg mlky CUT"
6510.00 6530.00	"LS AA,pred ooc-oom GRNST/tr scat dns sl ool-vrr chky pty PCKST,chky-sl anhy/tr xln ANHY & POR fl,tr tan-crm CHT incl,occ dol ip/rr DOL cmt,g-fr intxl-oom-ool POR,g even mod bri-bri yel FLOR,g-fr ltbrn/tr brn-rr blk dd o STN,g dif/tr slow stmg mlky CUT"
6530.00 6550.00	"LS AA,pred GRNST AA/tr scat dns sl ool-vrr chky pty PCKST,chky-sl anhy/tr POR fl-rr xln ANHY,tr CHT AA,occ dol ip/tr DOL cmt,g-fr intxl-oom-ool POR,g even mod bri-dull/scat bri yel FLOR,fr-g ltbrn/tr brn-rr blk pp dd o STN,g dif/tr slow stmg mlky CUT"
6550.00 6570.00	"LS tan-crm,occ ltbrn,brn,rr wh,vfxl-gran,occ sl micsuc-crpxl,pred ooc-oom GRNST,tr dns sl ool-vrr pty PCKST,tr trnsf-tan CHT incl,chky/tr POR fl-rr ANHY xl,dol/DOL cmt strk,g-fr oom-ool/tr intxl POR,FLOR-STN AA,fr dif/tr slow stmg mlky CUT"
6570.00 6580.00	"LS AA,pred ooc-oom GRNST,tr scat PCKST AA,chky-sl anhy/tr POR fl-rr xln ANHY frag,dol/tr DOL cmt,tr CHT AA,POR-FLOR-STN,fr dif-slow stmg mlky CUT"
6580.00 6600.00	"LS AA,pred ooc-oom GRNST,tr dns sl ool-vrr chky pty PCKST,chky-sl anhy/tr xln ANHY & POR fl,tr tan-crm CHT incl,sl dol ip/tr DOL cmt,g oom-ool-intxl POR,g even bri-mod bri yel FLOR,g-fr ltbrn/tr brn-rr blk pp dd o STN,g mod fast-slow stmg mlky CUT"

DEPTH	LITHOLOGY
6600.00 6620.00	"LS crm-tan,occ ltbrn,tr brn,rr wh,vfxl-gran-micxl,occ crpxl-sl micsuc,oooc-oom GRNST/tr dns v sl ool-vrr plty PCKST,chky-sl anhy,tr scat xln ANHY & POR fl,tr CHT AA,sl dol/tr DOL cmt,g ooc-oom-intxl POR,FLOR AA,fr-g ltbrn/rr brn & blk pp dd o STN,CUT AA"
6620.00 6640.00	"LS AA,pred ooc-oom GRNST/tr scat dns sl ool-vrr plty PCKST frag,chky/tr POR fl-xln ANHY frag,sl dol/tr DOL cmt,POR-FLOR-STN-CUT AA"
6640.00 6660.00	"LS AA,pred ooc-oom GRNST,tr scat dns sl ool-vrr plty PCKST,chky-sl anhy/tr POR fl & tr xln ANHY frag,sl dol/rr DOL cmt strk,tr tan-crm CHT incl,g ool-intxl POR,g even mod bri-bri yel FLOR,fr-g ltbrn/tr brnSTN,vrr blk pp dd o STN,g slow-fast stmg mlky CUT"
6660.00 6680.00	"LS tan-crm,occ ltbrn,tr brn,rr wh,vfxl-gran,micxl-sl micsuc,occ crpxl,pred GRNST AA/tr scat PCKST AA,chky-sl anhy/tr POR fl-rr xln ANHY incl-frag,tr CHT AA,v sl dol,fr-g ooc-oom-intxl POR,FLOR AA,fr-g ltbrn/tr brn-rr blk dd o STN,fr-g slow stmg mlky CUT"
6680.00 6700.00	"LS ltbrn-tan/tr crm incl,occ brn,vfxl-gran,sl micsuc-occ crpxl,oooc-oom GRNST,rr dns sl ool PCKST frag,chky-sl anhy/tr xln ANHY incl & POR fl,sl dol/tr DOL rich cmt,rr crm-tan CHT incl,g even mod bri/scat bri yel FLOR,g ltbrn-tr brn & scat blk STN,CUT AA"
6700.00 6720.00	"LS AA,pred ooc-oom GRNST/tr scat dns sl ool-vrr plty PCKST frag,POR-FLOR-STN AA,g-fr slow dif/tr slow stmg mlky CUT"
6720.00 6740.00	"LS AA/tr crm-occ wh incl,occ brn,vfxl-gran-sl micsuc,occ crpxl,pred ooc-oom GRNST,tr PCKST frag AA,chky-sl anhy/tr xln ANHY incl & POR fl,sl dol-tr DOL rich cmt strk,rr crm-tan CHT incl,g oom-oooc/inxl POR,g even dull-mod bri/scat bri yel FLOR,STN-CUT AA"
6740.00 6760.00	"LS ltbrn-tan/tr incl AA,occ brn,vfxl-gran,sl micsuc-occ crpxl,pred GRNST AA,rr dns sl ool PCKST frag,chky-sl anhy AA,sl incr dol/DOL rich cmt,rr crm-trnsl CHT incl,POR-FLOR AA,g ltbrn-tr brn & blk dd o STN,g slow dif-stmg mlky CUT"
6760.00 6780.00	"LS AA/tr incl,occ brn,vfxl-gran-sl micsuc,occ crpxl,pred GRNST AA,rr PCKST AA,chky-sl anhy/tr POR fl-xln ANHY AA,sl dol-tr DOL rich cmt,rr CHT AA,g oom-oooc/inxl POR,g even mod bri/scat bri yel FLOR,g ltbrn-tr brn & blk dd o STN,g slow stmg mlky CUT"
6780.00 6800.00	"LS tan-crm-ltbrn,occ brn,vfxl-gran,occ sl micsuc-crpxl,pred ooc-oom GRNST,w/tr scat dns sl ool PCKST,chky-sl anhy/tr ANHY xl-POR fl,sl DOL cmt,g oom-oooc-intxl POR,g even mod bri-tr scat bri yel FLOR,g-fr ltbrn/tr brn-rr blk STN,CUT AA"
6800.00 6820.00	"LS AA,vfxl-gran,occ sl micsuc-crpxl,pred GRNST AA,w/tr scat dns sl ool PCKST,chky-sl anhy/tr ANHY xl-POR fl,tr DOL cmt,g oom-oooc-intxl POR,g even mod bri-dull/tr scat bri yel FLOR,g-fr ltbrn/tr brn-rr blk pp dd o STN,g slow-fast stmg mlky CUT"
6820.00 6840.00	6823.92 0 "LS AA,pred ooc-oom GRNST/tr scat dns sl ool PCKST frag,chky-sl anhy/tr POR fl-rr xln ANHY incl,g oom-oooc/tr intxl POR,FLOR-STN-CUT AA"
6840.00 6860.00	"LS ltbrn-tan-crm,occ brn,vfxl-gran,sl micsuc-occ crpxl,pred GRNST AA,rr dns sl ool PCKST frag,chky-sl anhy AA,sl dol/tr DOL rich cmt,rr crm CHT incl,POR AA,g even dull-mod bri/tr scat bri yel FLOR,g ltbrn-tr brn & blk dd o STN,g slow dif-stmg mlky CUT"

DEPTH	LITHOLOGY
6860.00 6880.00	"LS AA,pred ooc-oom GRNST/tr scat dns sl ool-vrr plty PCKST frag,POR-FLOR-STN-CUT AA"
6880.00 6900.00	"LS tan-crm-ltbrn,occ brn,vfxl-gran,occ sl micsuc-crpxl,pred ooc-oom GRNST,w/tr scat dns sl ool PCKST,chky-sl anhy/tr ANHY xl-POR fl,sl DOL cmt,g oom-oom-intxl POR,g even mod bri-tr scat bri yel FLOR,g-fr ltbrn/tr brn-rr blk STN,CUT AA"
6900.00 6920.00	"LS tan-crm-ltbrn,occ brn,vfxl-gran,occ sl micsuc-crpxl,pred GRNST AA,rr scat dns sl ool PCKST,chky-sl anhy/tr POR fl-rr xl ANHY,rr crm CHT incl,tr DOL cmt,POR AA,g even mod bri/scat bri yel FLOR,g-fr ltbrn/tr brn & blk STN,g fast-sl blooming mlky CUT"
6920.00 6940.00	"LS AA,pred oom-oom GRNST,tr scat dns sl ool PCKST,bcmg sl incr chky,sl anhy/tr ANHY xl-POR fl,tr DOL cmt,rr tan-trnsl CHT incl,g oom-oom-intxl POR,g even mod bri-bri yel FLOR,g-fr ltbrn/tr brn-rr blk pp dd o STN,g fast stmg-sl blooming mlky CUT"
6940.00 6960.00	"LS AA,oom-oom GRNST/sl incr scat-occ intbd dns sl ool PCKST frag,sl chky-anhy/tr POR fl & rr xln ANHY,sl dol/tr DOL cmt,g ooc-oom-intxl POR,g even mod bri-spty bri yel FLOR,fr-g ltbrn/tr brn STN,sl incr blk pp dd o STN,g slow dif-stmg mlky CUT"
6960.00 6970.00	"LS AA,pred ooc-oom GRNST/tr PCKST AA,POR-FLOR-STN-CUT AA"
6970.00 7000.00	"LS tan-crm-ltbrn,occ brn,vfxl-gran,occ sl micsuc-crpxl,pred GRNST AA,tr scat PCKST AA,chky-sl anhy/tr POR fl-rr xl ANHY,incr crm CHT incl,tr DOL cmt,POR AA,g even mod bri-dull/scat bri yel FLOR,g-fr ltbrn/tr brn & blk STN,g mod fast stmg mlky CUT"
7000.00 7020.00	"LS AA,oom-oom GRNST/sl incr scat-occ intbd dns sl ool PCKST frag,sl chky-anhy/tr POR fl & rr xln ANHY,sl dol/tr DOL cmt,g ooc-oom-intxl POR,g even mod bri-spty bri yel FLOR,fr-g ltbrn/tr brn STN,sl incr blk pp dd o STN,g mod fast stmg mlky CUT"
7020.00 7040.00	"LS tan-crm-ltbrn,occ brn,vfxl-gran,occ sl micsuc-crpxl,pred GRNST AA,rr scat PCKST AA,chky-sl anhy/tr POR fl-rr xl ANHY,scat crm CHT frag-incl,tr DOL cmt,POR AA,g even mod bri-dull/scat bri yel FLOR,g-fr ltbrn/tr brn & blk STN,g mod fast stmg mlky CUT"
7040.00 7050.00	"LS AA,pred ooc-oom GRNST/tr PCKST & CHT AA,POR-FLOR-STN-CUT AA"
7050.00 7080.00	"LS tan-crm-ltbrn,occ brn,vfxl-gran,occ sl micsuc-crpxl,pred GRNST AA/sl incr scat dns sl ool-rr plty PCKST,chky-sl anhy/tr POR fl-xl ANHY,tr crm CHT frag-incl,tr DOL cmt,POR AA,g even mod bri-scat bri yel FLOR,g-fr ltbrn/tr brn & blk STN,CUT AA"
7080.00 7100.00	"LS AA,oom-oom GRNST/sl incr scat-occ intbd dns sl ool PCKST frag,sl chky-anhy/tr POR fl & rr xln ANHY,sl dol/tr DOL cmt,g ooc-oom-intxl POR,g even mod bri-spty bri yel FLOR,fr-g ltbrn/tr brn STN,sl incr blk pp dd o STN,g mod fast stmg mlky CUT"
7100.00 7120.00	"LS tan-crm-ltbrn,occ brn,vfxl-gran,occ sl micsuc-crpxl,pred GRNST AA,tr scat dns sl ool PCKST,chky-sl anhy/tr POR fl-xl ANHY,tr CHT AA,dol/tr DOL cmt,POR AA,g even mod bri-dull/scat bri yel FLOR,g-fr ltbrn/tr brn & blk STN,g mod slow stmg mlky CUT"
7120.00 7140.00	"LS AA,vfxl-gran,occ sl micsuc-crpxl,pred GRNST AA,tr dns sl ool-rr plty PCKST,chky-sl anhy/tr POR fl,rr xl ANHY,tr crm CHT frag-incl,tr DOL cmt,POR AA,g even mod bri-dull/scat bri yel FLOR,g-fr ltbrn/tr brn & blk pp dd o STN,g slow-mod fast stmg mlky CUT"

DEPTH	LITHOLOGY
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7140.00 7160.00 "LS tan-crm-ltbrn,occ brn,vfxl-gran,occ sl micsuc-crpxl,pred GRNST AA/scat dns sl ool-tr chky  
plty PCKST,sl anhy/tr POR fl-xl ANHY,tr CHT AA,dol/tr DOL cmt,g oom-occ-intxl POR,FLOR AA,g-fr ltbrn/tr  
brn & blk pp dd o STN,g slow-mod fast stmg mlky CUT"

### FORMATION TOPS

**OPERATOR: MOBIL**

**WELL NAME: RATHERFORD UNIT #18-34 SE 1-A HORIZONTAL LATERAL LEG #1**

<b>FORMATION NAME</b>		<b>SAMPLES MEASURED DEPTH</b>	<b>SAMPLES TRUE VERTICAL DEPTH</b>	<b>DATUM KB:4794'</b>
LOWER ISMAY		5507'	5503'	-709'
GOTHIC SHALE		5538'	5528'	-734'
DESERT CREEK		5565'	5543'	-749'
DC 1-A ZONE		5583'	5551.5'	-757.5'

## GEOLOGICAL SUMMARY

### AND

## ZONES OF INTEREST

The Mobil Exploration and Production U.S. Inc., Ratherford Unit #18-34 Northwest Horizontal Lateral Leg #1 was a re-entry of the Mobil Ratherford Unit #18-34 located in Section 18, T41S, R24E. Milling of the southwest Lateral Leg #1 was begun on January 2, 1998. The curve section was completed on January 4, 1998, at a measured depth of 5635', 5861' true vertical depth, 9.5 feet into the 1-A porosity and the lateral section was begun in the 1-A porosity zone also on January 4, 1998. The lateral reached a measured depth of 7160', true vertical depth of 5563.7', with a horizontal displacement of 1600' and an azimuth of 134 degrees, on January 7, 1998 in the upper Desert Creek 1-A zone. The no significant problems were encountered while drilling this lateral, with a minor water flow encountered at a horizontal displacement of 800' while drilling the 1-A porosity zone. This lateral used fresh water with polymer sweeps as the drilling fluid, with very minor amounts of oil added to the drilling fluid to facilitate the rotating and sliding of the drill pipe. The background gases noted on the accompanying mud log were moderately high and erratic through out the lateral section and decreased after 800' of horizontal displacement. The cuttings samples had moderately fair to occasionally good oil shows through out the 1-A zone drilled.

The primary objective of the Ratherford Unit #18-34 Leg 1 horizontal lateral was the effective porosity, staining and reservoir properties in the 1-A zone of the Desert Creek Member of the Upper Paradox Formation. The majority of the Upper Ismay, the entire Lower Ismay, Gothic Shale and the transition zone at the top of the Desert Creek were penetrated while drilling the curve section. The curve was landed 10 feet into the 1-A porosity horizon and at the base of the best porosity of the 1-A zone. Kick off point for this lateral was at a measured depth of 5551', 5551' true vertical depth, in the upper portion of the Upper Ismay member of the Paradox Formation.

The Upper Ismay seen in the curve section of this well was predominately light gray to tan to light graybrown to dark brown, occasionally cream to white to brown, cryptocrystalline to microcrystalline, chalky to clean and slightly argillaceous to occasionally dolomitic, with scattered dark brown, very marly streaks, and had scattered anhydrite crystals and occasional fracture filling. Through out the Upper Ismay were thin interbedded brown, cryptocrystalline, very slightly limy, occasionally argillaceous to clean dolomites and streaks of dark brown, limy to dolomitic marlstone. Tan to some dark brown to smoky gray chert fragments and thin laminations of dark gray to black, slightly carbonaceous shale was also noted in Upper Ismay. No significant gas increases and only mineral fluorescence, with no visible staining were noted in the limestones and very thin dolomites. The Hovenweep marker at the base of the Upper Ismay was very poorly developed in this lateral and was seen as a very dark brown to dark graybrown, marly limestone with interbedded black carbonaceous shale.

The top of the Lower Ismay was picked at 5507' measured depth, 5503' true vertical depth, and was based primarily on the slight change in lithology as well as comparison to the well log for the original well bore. The Lower Ismay was predominately a limestone, which was cream to white to tan, some brown dark brown, and occasionally dark gray brown, cryptocrystalline to microcrystalline, dense to clean, occasionally to slightly chalky, slightly fossiliferous, some marly and slightly silty. Scattered through out the Lower Isamy were brown to translucent chert and thin black carbonaceous shale partings. No shows were noted in these limestones. In the limestones of the Lower Ismay, cream

to light gray, slightly sandy, very limy siltstones were noted as very thin interbeds and laminations. These siltstones had very limestone rich cement and graded to a very silty to very slightly sandy limestone but displayed no shows. The basal 6' of the Lower Ismay to the top of the Gothic Shale, had limestones which were became increasingly shaley and graded to a medium brown to medium gray, dense, slightly anhydritic, increasingly shaley, dark brown to gray brown, cryptocrystalline, very argillaceous to clean, dense dolomite and very limy to dolomitic shale. In the limestones and very thin dolomites from 5513' to 5517', a streak of fair porosity, with a gas increase from 15 units to 118 units was noted. The limestone and rare dolomite had rare fracture to a trace of intercrystalline porosity and a very poor sample show. The penetration rate increased from 3.5 minutes per foot to 1.5 minutes per foot. The Lower Ismay has no economic potential in this well.

The top of the Gothic Shale was encountered at 5538' measured depth, 5528' true vertical depth and was predominantly gray brown to black, silty, carbonaceous, soft to moderately firm, calcareous to slightly dolomitic and slightly micaceous. Scattered within the Gothic were very thin, cryptocrystalline to microcrystalline, earthy, limestone and dolomite partings and inclusions, with very rare scattered anhydrite crystals. The top of the Gothic was a fairly gradational contact with a decrease in penetration rate and an increase in shale noted. The base of the Gothic was marked by an abrupt decrease in penetration rate as well as a sharp lithology change.

The top of the Desert Creek is commonly picked at the Gothic Shale to transition zone facies change, which in this lateral occurred at a measured depth of 5565' and a true vertical depth of 5543' and was marked by a significant decrease in penetration rate and marked increase in limestones and thinly interbedded dolomites in the samples. The lithology of the transition zone in this well was primarily a white to cream, occasionally light brown to light gray, with some medium to dark brown, cryptocrystalline to microcrystalline, some rare algal material, occasionally platy, argillaceous to very slightly silty in part, slightly anhydritic limestones with very thin carbonaceous shale partings and some crystalline anhydrite inclusions. Also thin interbedded brown, cryptocrystalline to microcrystalline, argillaceous, very limy dolomites. Only very minor intercrystalline to very rare pin point vugular porosities were noted in the limestones and dolomites, with only a very spotty weak mineral fluorescence. No significant gas increases were noted in the transition zone, above the 1-A porosity zone.

The top of the Desert Creek 1-A zone was picked at 5583' measured depth, 5551.5' true vertical depth and was based on sample identification as well as the significant increase in the penetration rate. The top of the 1-A zone was approximately 4.5' above the top of the 1-A zone noted on the porosity log for this well. The porosity of the 1-A zone was in an oolitic to oomoldic limestone grainstone, which was tan to brown, very rare dark brown, very fine to cryptocrystalline, with a granular to microsucrosic to traces of sucrosic texture, very rare scattered translucent to clear chert fragments were noted, scattered anhydrite crystals to inclusions and some porosity filling, with a dolomite rich cement and had a well developed oomoldic to oolitic to intercrystalline porosity development. Light brown to brown stain, with a trace to abundant black bitchimum (dead oil staining) staining was noted in the samples along with a good yellow gold fluorescence and a moderately fast to fast streaming to milky cut was noted through out the lateral until reaching a measured depth of 6160', with true vertical depth of 5555' and a horizontal displacement of 600', when the top of the 1-A zone (base of the Desert Creek transition zone) was penetrated. As the lateral was continued, and the 1-A porosity zone was reacquired at a measured depth of 6156', 5559' true vertical depth, and a horizontal displacement of 800', the amounts of bitchimum (dead oil staining) in the oolitic to oomoldic limestone grainstone was fair to good, but appeared to decrease and be rather erratic as the lateral continued to its termination. Scattered with in the very good, porous oolitic grainstones were thin, tight, dense, slightly oolitic limestone packstones, white to cream with no to visible porosity development and had no visible sample show.

The curve section was completed at a measured depth of 5635', 5561' true vertical depth, and a vertical section (horizontal displacement) of 76.6', in the oolitic to oolmoldic limestone grainstone porosity, right at the proposed target line, with a 92-degree angle. The well bore turned upward to move away from the base of the 1-A zone, and continued upward toward the top of the 1-A zone. As the lateral was continued upward, the lithology of the 1-A zone was predominately interbedded oolitic to oolmoldic limestone grainstones and dense to occasionally platy and chalky limestone packstones. A 2' thick zone of good oolitic to oolmoldic porosity zone was penetrated from a true vertical depth of 5557.5' to 5555.5', just below the top of the 1-A porosity zone. The top of the porosity zone was at a measured depth of 6160', 5555.5' true vertical depth, with a horizontal displacement of 600', as the top of the zone dipped downward at 89.6 degrees, very near the projected dip angle of 89.5 degrees. The lithology of the very base of the Desert Creek transition zone, top of the 1-A zone was interbedded dense, slightly oolitic, occasionally platy to chalky, limestone packstone to some very dark brown, dense limestone wackstone, with very thin oolitic to oolmoldic limestone grainstones lenses near the very base of the transition zone. The packstones and wackstones had no visible porosity or sample show, and the very thin grainstones had poor to moderately fair visible porosity and sample show. At a horizontal displacement of 800' the well path reacquired the top of the best porosity in the 1-A zone at a true vertical depth of 5559', and a measured depth of 6360'. The top of the zone had increased to a dip angle of 89.3 degrees. The well path dropped to a true vertical depth of 5566' and resumed tracking along the proposed target line, which at this time appeared to be just above the base of the best porosity in the 1-A zone, as the base was probably approached, but not noticeably encountered. As the well bore was rotated ahead, the well path climbed on its own and glanced of the top of the best porosity at a measured depth of 6870', with a horizontal displacement of 1310', and a true vertical depth of 5862.5'. The calculated dip angle had returned to a dip of 89.6 degrees. As soon as the decrease in penetration rate was noted the well path was oriented downward to a true vertical depth of 5565' and then leveled off, as the well bore was drilled to termination approximately 9' above the proposed target line. The lateral section was drilled through out the majority of its length in the porosity zone of the 1-A. The lithology of the best porosity of the 1-A zone throughout its length in the lateral remained fairly consistent with only very minor variations in porosity type being noted. The lithology of the 1-A was a light to medium brown, rare dark brown to gray brown, micro to very finely crystalline, microsugrosic to occasionally sugrosic, oolitic to oolmoldic limestone grainstone, with scattered anhydrite crystals to inclusions and some porosity filling, slightly dolomitic, with a trace of dolomite rich cement, and very thin, scattered cream to tan, cryptocrystalline, occasionally oolitic to very slightly fossiliferous limestone packstone inclusions to laminations.

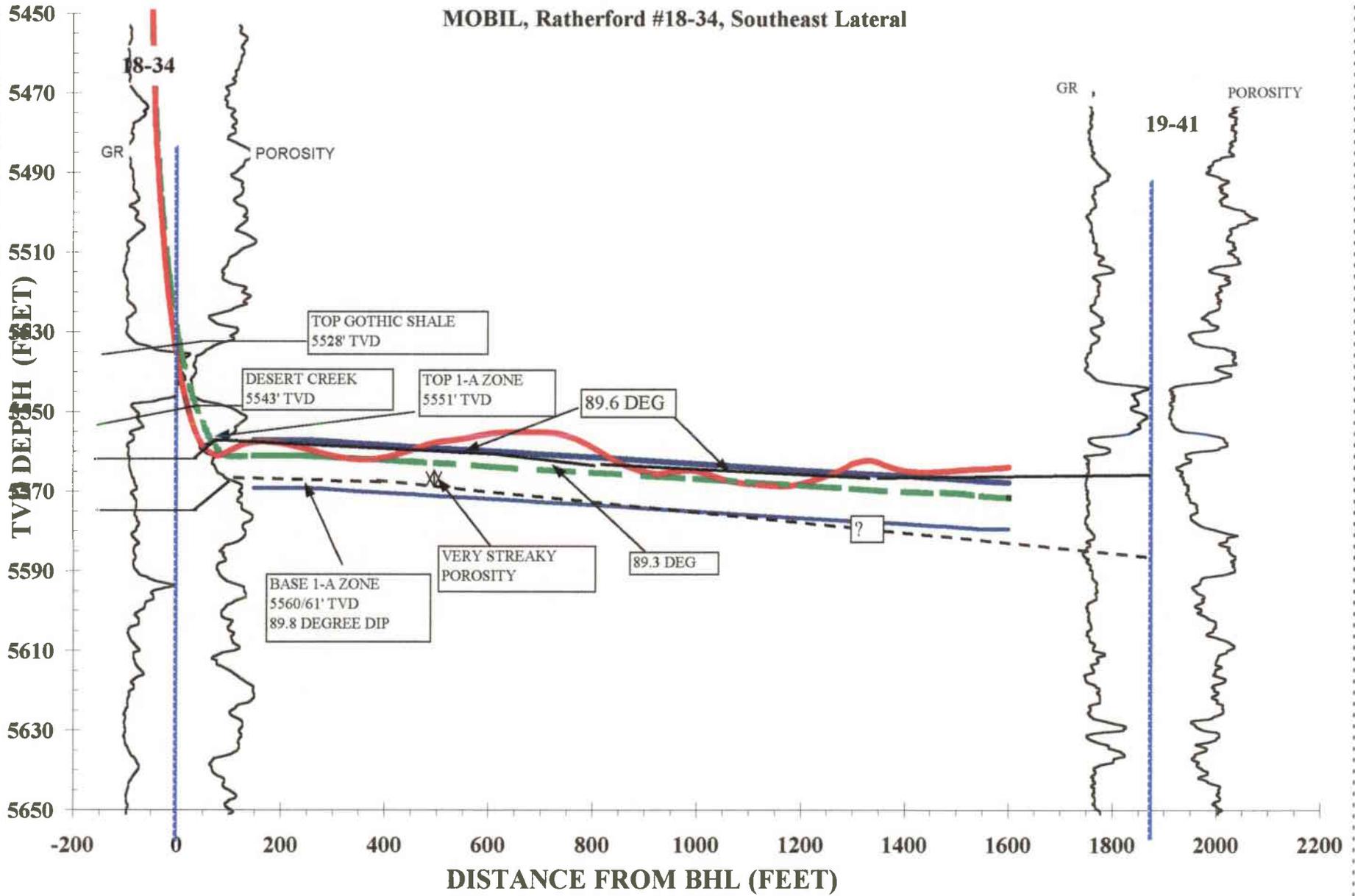
The best porosity of the 1-A zone had good visible porosity and a fair to good sample show through the lateral drilled with in the best porosity. Of note was the very streaky porosity encountered as the lateral section was begun at a horizontal displacement of 76', 5636' measured depth with a true vertical depth of 5561.5', and continuing upward to a measured depth of 6060', 5557.5' true vertical depth, and a horizontal displacement of 500'. The lithology through this interval had streaks of oolitic to oolmoldic limestone grainstones, and tight limestone packstones. The oolitic to oolmoldic limestones showed good to very poor porosity, as varying amounts of anhydrite and calcite porosity filling was noted. The best gas show was noted in the 2' porosity streak encountered just below the top of the 1-A porosity zone, from 6060' to 6160' measured depths. The back ground gases in the lateral, after reacquiring the 1-A porosity at a measured depth of 6360' were only moderate (only averaging 1500 units), and with the background gases decreasing to an average of 750 units over the last 450' of the lateral. Through out the length of the lateral drilled in the 1-A zone, with the oolitic to oolmoldic limestone grainstones being consistent within the best porosities penetrated. The top of the 1-A was encountered twice during the drilling of the lateral at intervals discussed above. The determination of when and where the top was encountered was made on the decrease in penetration rate as well as the decrease in the angle of the well path, as well as the significant increase in the amount of packstone in the samples. The base of the 1-A was encountered after beginning the lateral section, while trying to follow the target line at a measured depth of 5870, 5561' true vertical depth, and a horizontal displacement of 310', and was not encountered there after during the lateral.

The best drilling and porosity appeared to be 2' to 10' above the target line until reaching 300' of horizontal displacement, where the porosity became very streaky and thinned to 2' thick, approximately 7' to 10' above the proposed target line, until reaching a horizontal displacement 800'. Though out the remainder of the lateral, from 800' to 1600' of horizontal section, the porosity appeared the thicken gradually, with the best porosity and drilling as low as the proposed target line (and possible deeper near the end of the lateral), to 9' above the target line. The limestone packstones at the top of the 1-A porosity zone and in the section of very streaky porosity encountered after bumping the base of the zone early in the lateral section, were predominately a cream to white to tan, cryptocrystalline to occasionally microcrystalline, occasionally platy, chalky, dense, very slightly anhydritic, occasionally very slightly fossiliferous to very slightly oolitic, with very rare, very thin, scattered light brown to tan, microcrystalline to very finely crystalline limestone grainstone streaks. The tight limestone packstones had no visible sample shows, while the thin grainstones had a poor to occasionally moderately fair sample show.

The lithology of the 1-A porosity zone from 800' to 1600' of horizontal displacement, remained the in the predominately oolitic to oolmoldic limestone grainstones as the well path continued to its termination. The lateral was terminated, at a measured depth of 7160', 5863.7' true vertical depth and a horizontal displacement of 1600' on January 7, 1998.

In tracking the well bore through the 1-A porosity bench, the intercrystalline to oolitic to oolmoldic porosity was predominately very good, but did show some anhydrite and calcite porosity filling early in the lateral. There were some other minor changes in rock classification, from predominately intercrystalline and oolitic porosities in the limestone grainstones to the tight limestone packstones in thin laminations and inclusions within the 1-A porosity zone as well as at the top and near the base of the zone. Sample shows were predominately good and stayed fairly consistent throughout the length of the lateral, except early in the lateral and when the top was penetrated. The background gases were low through the curve section, and began low in the lateral section, slowly increased in the porosity near the very top of the 1-A from a horizontal displacement of 500' to 600', and then continued to decrease throughout the rest of the lateral. The effective or best porosity was associated with the oolitic and oolmoldic to very minor algal limestone grainstone facies, which had fair to good intercrystalline to oolitic porosities. The majority of the grainstones showed very minor amount of porosity (anhydrite to calcite) plugging, with the previously noted section of abundant porosity plugging. The well produced minor amounts of oil and gas with a slow water flow noted as the lateral neared termination.

### MOBIL, Ratherford #18-34, Southeast Lateral



OPERATOR MOBIL PRODUCING TX & NM, INC.

OPERATOR ACCT. NO. N 7370

ADDRESS P. O. BOX 633

MIDLAND, TX 79702

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RG	COUNTY		
B	99999	06280	43-037-15737	RATHERFORD 18-W-34	SW/SE	18	41S	24E	SAN JUAN	12-18-97	2-12-98
WELL 1 COMMENTS: Entity added 4-15-98 fee (Ratherford Unit)											
WELL 2 COMMENTS:											
WELL 3 COMMENTS:											
WELL 4 COMMENTS:											
WELL 5 COMMENTS:											

**ACTION CODES** (See instructions on back of form)

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (explain in comments section)

NOTE: Use COMMENT section to explain why each Action Code was selected.

(3/89)

<p><b>RECEIVED</b></p> <p><b>APR 10 1998</b></p> <p><b>DIV. OF OIL, GAS &amp; MINING</b></p>	<i>Shirley Houchins for</i>	
	Signature	SHIRLEY HOUCHINS
	TITLE	ENV & REG TECH
	Date	4-3-98
Phone No. (915 ) 688-2584		

**RECEIVED**  
 APR 10 1998

**UNITED STATES DEPARTMENT OF THE INTERIOR**  
**BUREAU OF LAND MANAGEMENT**

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

FORM APPROVED  
 OMB NO. 1004-0137  
 Expires: February 28, 1995

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG\***  
 DIV. OF OIL, GAS & MINING

1. TYPE OF WELL: OIL WELL  GAS WELL  DRY  Other  INJECTOR

6. TYPE OF COMPLETION: NEW WELL  WORK OVER  DEEP-EN  PLUG BACK  DIFF. RESVR.  Other  SIDETRACK

2. NAME OF OPERATOR: MOBIL PRODUCING TX & NM INC.\*  
 \*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM

3. ADDRESS AND TELEPHONE NO.: P.O. Box 633, Midland TX 79702 (915) 688-2585

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)\*  
 At surface: 780' FSL & 1860' FEL (SW/SE)  
 At top prod. interval reported below: BHL: LATERAL #1  
 At total depth: 1119' FSL & 1144' FEL F/SURFACE SPOT

5. LEASE DESIGNATION AND SERIAL NO.: 14-20-603-353

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NAVAJO TRIBAL

7. UNIT AGREEMENT NAME: RATHERFORD UNIT

8. FARM OR LEASE NAME, WELL NO.: RATHERFORD 18-W-34

9. API WELL NO.: 43-037-15737

10. FIELD AND POOL, OR WILDCAT: GREATER ANETH

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SEC. 18, T41S, R24E

12. COUNTY OR PARISH: SAN JUAN

13. STATE: UT

14. PERMIT NO. \_\_\_\_\_ DATE ISSUED: 11-18-97

15. DATE SPUDDED: 12-18-97

16. DATE T.D. REACHED: 01-08-98

17. DATE COMPL. (Ready to prod.): 2-12-98

18. ELEVATIONS (DF, RKB, RT, GR, ETC.):\* 4782' GL, 4794' KB

19. ELEV. CASINGHEAD \_\_\_\_\_

20. TOTAL DEPTH, MD & TVD: \*#24

21. PLUG, BACK T.D., MD & TVD: \*#24

22. IF MULTIPLE COMPL., HOW MANY\* \_\_\_\_\_

23. INTERVALS DRILLED BY: \_\_\_\_\_

ROTARY TOOLS: X

CABLE TOOLS: \_\_\_\_\_

24. PRODUCING INTERVAL(S), OF THIS COMPLETION - TOP, BOTTOM, NAME (MD AND TVD)\*: LATERAL #1A1 (5451-7160' TMD)(5450-5564' TVD) *PRDX*

25. WAS DIRECTIONAL SURVEY MADE: YES

26. TYPE ELECTRIC AND OTHER LOGS RUN: NO

27. WAS WELL CORED: NO

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

CASING SIZE/GRADE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	TOP OF CEMENT, CEMENTING RECORD	AMOUNT PULLED
13 3/8"	27.1# ARMC0	150'	17 1/4"	SURFACE / 175 SXS	
8 5/8"	24# J55	1518'	11"	CIRC / 330 SXS	
5 1/2"	15.5/14# J55	5778"	7 7/8"	CIRC / 132 SXS	

**29. LINER RECORD**

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2 7/8"	5348'	5448'

**30. TUBING RECORD**

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 7/8"	5348'	5448'

31. PERFORATION RECORD (Interval, size and number)

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5650-7160'	ACIDIZE LATERAL #1 W/4433 GALS 15% HCL AND 31620 GALS SXE ACID

**33.\* PRODUCTION**

DATE FIRST PRODUCTION: 2-12-98

PRODUCTION METHOD (Flowing, gas lift, pumping - size and type of pump): FLOWING

WELL STATUS (Producing or shut-in): PRODUCING

DATE OF TEST: 2-98

HOURS TESTED: 24

CHOKE SIZE: \_\_\_\_\_

PROD'N. FOR TEST PERIOD: \_\_\_\_\_

OIL - BBL: \_\_\_\_\_

GAS - MCF: \_\_\_\_\_

WATER - BBL: 546

GAS - OIL RATIO: \_\_\_\_\_

FLOW. TUBING PRESS.: 2900

CASING PRESSURE: \_\_\_\_\_

CALCULATED 24-HOUR RATE: \_\_\_\_\_

OIL - BBL: \_\_\_\_\_

GAS - MCF: \_\_\_\_\_

WATER - BBL: \_\_\_\_\_

OIL GRAVITY - API (CORR.): \_\_\_\_\_

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

TEST WITNESSED BY: \_\_\_\_\_

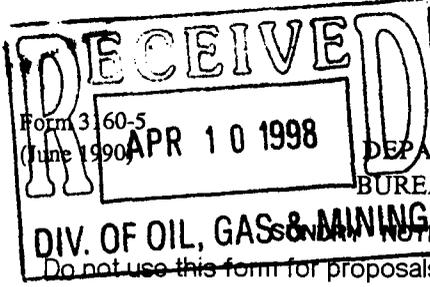
35. LIST OF ATTACHMENTS: DIRECTIONAL SURVEY

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

SIGNED: *Shirley Houchins* TITLE: SHIRLEY HOUCHINS/ENV & REG TECH DATE: 4-03-98

\*(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.



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993  
5. Lease Designation and Serial No.  
**14-20-603-353**  
6. If Indian, Allottee or Tribe Name  
**NAVAJO TRIBAL**  
7. If Unit or CA, Agreement Designation  
**RATHERFORD UNIT**  
8. Well Name and No.  
**RATHERFORD 18 W 34**  
9. API Well No.  
**43-037-15737**  
10. Field and Pool, or exploratory Area  
**GREATER ANETH**  
11. County or Parish, State  
**SAN JUAN UT**

**SECONDARY 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

**SUBMIT IN TRIPLICATE**

1. Type of Well  
 Oil Well  Gas Well  Other  
2. Name of Operator **MOBIL PRODUCING TX & NM INC.\***  
**\*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM**  
3. Address and Telephone No.  
**P.O. Box 633, Midland TX 79702 (915) 688-2585**  
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
**780 FSL AND 1860 FEL (SW/SE)  
SEC. 18, T41S, R24E**

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 <b>INJECTOR/SIDETRACK</b>
	<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.)\*

BHL: LATERAL #1, 1119' SOUTH & 1144' EAST F/SURFACE SPOT (ZONE 1a).

SEE ATTACHED

14. I hereby certify that the foregoing is true and correct  
Signed Shirley Houchins for Title SHIRLEY HOUCHINS/ENV & REG TECH Date 4-3-98

(This space for Federal or State office use)

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

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

**DRILLED FOOTAGE CALCULATION FOR  
DIRECTIONAL AND HORIZONTAL WELLS**

Unit, Well Name:               Ratherford Unit, Well 18-W-34  
Surface Location:             780' FSL, 1860' FEL, Sec. 18, T. 41S, R. 24E  
API Well #:                    14-037-15737  
Well Completion:             Horizontal, Injector, 1 Lateral

First leg description:                               Lateral #1A1  
Kick Off Point MD                               5444.00  
Kick Off Point TVD                               5443.30  
End of Leg MD                                    7160.00  
End of Leg TVD                                   5568.48  
   Footage drilled:                               1716.00  
Max. TVD Recorded                               5568.48

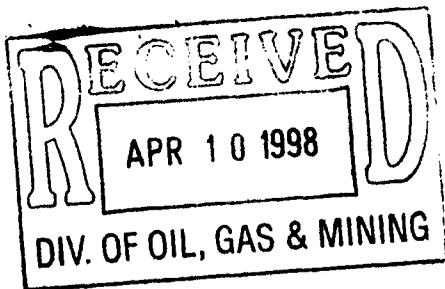
Second leg description:  
                                  KOP MD:  
                                  KOP TVD:  
                                  EOL MD:  
                                  EOL TVD:  
                                  Footage drilled:  
Max. TVD Recorded

Third leg description:  
                                  KOP MD:  
                                  KOP TVD:  
                                  EOL MD:  
                                  EOL TVD:  
                                  Footage drilled:

Fourth leg description:  
                                  KOP MD:  
                                  KOP TVD:  
                                  EOL MD:  
                                  EOL TVD:  
                                  Footage drilled:

Fifth leg description:  
                                  KOP MD:  
                                  KOP TVD:  
                                  EOL MD:  
                                  EOL TVD:  
                                  Footage drilled:

<b>Total Footage Drilled (MD):</b>	<b>1716.00</b>
<b>Deepest point (TVD):</b>	<b>5568.48</b>



ATTACHMENT - FORM 3160-5  
RATHERFORD UNIT - WELL #18-W-34  
14-20-603-353  
NAVAJO TRIBAL  
SAN JUAN, UTAH

12-18-97 CALLED NAVAJO EPA @ 10:18 ON 12-16-97, LEFT MESSAGE OF INTENT TO DIG & LINE SURFACE PIT FOR DRLG. CALLED BLM @ 10:22 ON 12-16-97, INFORMED MARK KELLY OF INTENT TO PREP WELL FOR DRLG RIG, SET CEMENT RETAINER & SQZ OF EXISTING PERFS. MOVE IN RIG UP NAVAJO RIG #36, CHANGE OUT TBG, SITP @ 16:00 WAS 175 PSI. RIG UP & KILL WELL. NIPPLE DOWN WELL HEAD, NIPPLE UP BOPE. SWIFN.

12-19-97 SICP @ 7:30 WAS 0 PSI. RIG UP & TEST CSG. TO 1000 PSI. 30 MIN. OK. RELEASE PKR. POOH & LD TBG & PKR. CHANGE OUT SLIPS, TONGS HEADS & RAMS, W/O BASIN WIRELINE/RIG UP & RIH W/GUAGE RING TO 5540'. SIFN.

12-20-97 SICP @ 7:30 WAS 50 PSI. RU BASIN WL UT., RIH W/GAMMA RAY, CSG. COLLAR LOG TO 5584'. LOG F/5584-5200'. POOH RIH W/5 1/2" CEMENT RETAINER & SET @ 5460'. POOH RDMO. RIH W/STRINGER & TBG TO 5460'. CIRC HOLE SIFN.

12-21-97 SICP @ 7:30 WAS 0 PSI. MIRU DOWELL CEMENT UNIT, SQUEEZE PERFS F/5556-5567', THROUG CMT RETAINER @ 5460' W/50 SXS OF CLASS 'G' CMT, PUMP 35 SXS OF CMT INTO FORMATION, TBG PRESSURE TO 500 PSI & HOLDING. STING OUT OF CMT RET. & REVC. OUT 3 SXS OF CMT TO PIT. POOH & LD WORK STRING. NIPPLE DOWN BOPE. CAP WELL, SIFN.

12-22-97 SICP @ 7:30 WAS 0 PSI. NIPPLE DN TBG. HEAD. PULL CSG SLIPS. CUT OFF CSG HEAD. PULL CSG SLIPS. WELD ON 11' x 3000 LB X 8 5/8" X 3000 LB CSG. HEAD. SET 8 5/8" CSG SLIPS. NIPPLE UP TBG HEAD. TEST TO 1500 PSI. OK. SIFN.

12-23-97 RIG DOWN MOVE OFF. FINAL REPORT FOR PREP.

01-01-98 NOTIFIED JIM THOMPSON W/STATE OF UTAH, MIRU NAVAJO WEST #25.

01-02-98 FIN. RU NAVAJO RIG #25., TEST BOP STACK. PU BTM. TRIP WHIPSTOCK & STARTER MILL, ORIENT. RUN GYRO SET & BEGIN WINDOW W/STARTER MILL @ 5444'.

01-03-98 MILL WINDOW IN 5 1/2" CSG W/STARTER MILL 5443-5451' (1' FORMATION) CIRC. SWEEP. HANG SWIVEL BK. POOH LD AOHDP & MILLS. LATERAL #1A1.

01-03-98 PU CURVE BLDG ASSY. RIH TO 5450'. RU GYRO DATA. RIH W/GYRO.

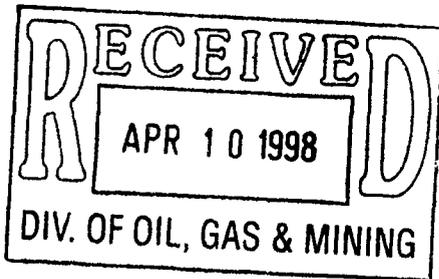
01-04-98 FIN RIH W/GYRO. ORIENT TOOLFACE. TIME DRILL F/5451-5453'. SLIDE DRILL W/GYRO F/5453-5479'. PULL GYRO & RD GYRO DATA. SLIDE DRILL :& SURVEY CURVE SECTION F/5479'-5635' TD CURVE. LAST SURVEY @ 5611' MD, 80.40 ANGLE, 134.50 AZ., 5559.31 TVD, VERT. SEC. 52.75' (ON TARGET) CIRC. SWEEP, TOOHP & LD CURVE BLDG ASSY. PU LATERAL BLDG. ASSY.

01-05-98 RIH W/LATERAL BLDG ASSY., SLIDE/ROTATE DRILL & SURVEY F/5635-6168'.

01-06-98 SLIDE/ROTATE DRILL & SURVEY F/6168-6560'.

01-07-98 SLIDE/ROTATE DRILL & SURVEY F/6560-7160' TD (VERTICAL SECTION 1600'). RIH W/RBP & SET @ 5230', PRESSURE TEST TO 600# OK., START OUT OF HOLE LD DRILL STRING.

01-08-98 FIN LAY DOWN DRILL STRING. ND. BOP STACK, CHOKE MANIFOLD, GAS SEPARATOR ETC. FINAL REPORT PENDING COMPLETION.



ATTACHMENT - FORM 3160-5  
RATHERFORD UNIT - WELL #18-W-34  
14-20-603-353  
NAVAJO TRIBAL  
SAN JUAN, UTAH  
PAGE 2

#### COMPLETION

02-04-98 MIRU NAVAJO RIG #36 & SUPPORT EQUIPMENT, NU BOP. PU & RIH W/RET. HD ON 2 7/8" PH-6 TBG TO 2300'. SECURE WELL SDFN.

02-05-98 CONTINUE PICKING UP 2 7/8" WS & LATCH INTO RBP @ 5230'. LET EQUALIZE. POOH W//RBP. RIH W/GUIBERSON UNI VI PKR, SET @ 5355.80. W/TAIPIPE @ 5634.49.(TOP WINDOW @ 5443'). SWI, SDFN.

02-06-98 WO DOWELL CTU. RIG UP DOWELL, READY FOR ACID. SI & SDFN.

02-07-98 TIH WITH C/T ACIDIZE LATERAL #1A1 W/4433 GALS 15% HCL ACID.

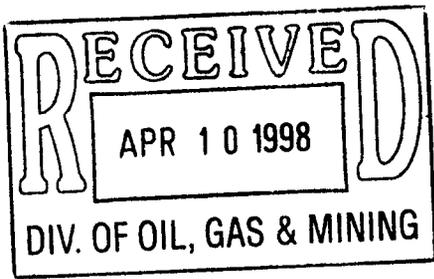
02-08-98 FIN PUMPING ACID, 31620 GALS SXE ACID.

02-09-98 SIP @ 7:30 AM WAS 50 PSI. RIG UP & KILL WELL W/10# BRINE. WELL DEAD. REL. PKR, POOH & LD TBG. PICK-UP GUIBERSON 5 1/2" G-6 PKR. MOVE IN & TALLY CMT LINED TBG., TIH TO 1000'. SIFN.

02-10-98 SIP @ 7:30 WAS 300 PSI. BLEED TO 100 PSI IN 10 MIN. RU & KILL WELL W/30 BBLS OF 10# BRINE. PICK-UP & RIH W/2 3/8" CMT LINED TBG TO 5348.02'. (PKR DEPTH) 5354.02 (END OF TBG STRING) RIH W/2 7/8" CMT LINED TBG.

02-11-98 SICP @ 7:30 WAS 100 PSI. BLEED TO 0 IN 10 IN. SPACE OUT & SET GUIBERSON G-6 PRODUCTION PKR @ 5348.02', END OF PKR ASSY @ 5354.02. 2 7/8" CMT LINED TBG TO 5296.92. NIPPLE DN BOPE. RU PRODUCTION TREE. RELEASE F/ ON/OFF TOOL. SIFN.

02-12-98 RIG DOWN MOVE OFF NAVAJO WEST RIG #36. TURN WELL OVER TO PRODUCTION. FINAL COMPLETION REPORT.



***Mobil***

***San Juan County  
Utah  
Ratherford Unit  
R.U. 18-34 - MWD Survey***

# ***SURVEY REPORT***

***4 February, 1998***

**sperry-sun**  
**DRILLING SERVICES**  
A HESSBACH COMPANY

**Survey Ref: svy2280**

# Sperry-Sun Drilling Services

Survey Report for R.U. 18-34



**Mobil  
San Juan County**

**Utah  
Ratherford Unit**

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
<b>Gyro</b>							
0.00	0.000	0.000	0.00	0.00 N	0.00 E	0.00	
200.00	0.150	142.570	200.00	0.21 S	0.16 E	0.26	0.075
400.00	0.170	144.230	400.00	0.66 S	0.49 E	0.81	0.010
600.00	0.170	216.440	600.00	1.14 S	0.49 E	1.15	0.100
800.00	0.690	286.510	799.99	1.03 S	0.84 W	0.13	0.326
1000.00	0.990	289.280	999.97	0.12 S	3.63 W	-2.48	0.151
1200.00	1.130	298.200	1199.94	1.38 N	7.00 W	-5.92	0.108
1400.00	1.230	300.660	1399.89	3.41 N	10.58 W	-9.89	0.056
1600.00	1.340	307.690	1599.84	5.93 N	14.28 W	-14.29	0.096
1800.00	1.140	312.450	1799.80	8.71 N	17.60 W	-18.60	0.112
2000.00	1.120	318.560	1999.76	11.51 N	20.36 W	-22.54	0.061
2200.00	1.170	338.870	2199.72	14.88 N	22.39 W	-26.36	0.203
2400.00	1.440	338.890	2399.67	19.13 N	24.03 W	-30.52	0.135
2600.00	1.440	350.670	2599.60	23.96 N	25.34 W	-34.86	0.148
2800.00	1.460	352.870	2799.54	28.97 N	26.07 W	-38.91	0.030
3000.00	1.400	352.460	2999.48	33.92 N	26.70 W	-42.86	0.030
3200.00	1.230	1.530	3199.43	38.48 N	26.97 W	-46.28	0.134
3400.00	1.060	6.120	3399.39	42.47 N	26.71 W	-48.92	0.097
3600.00	0.800	6.960	3599.36	45.69 N	26.34 W	-50.94	0.130
3800.00	0.600	353.000	3799.34	48.12 N	26.30 W	-52.62	0.131
4000.00	0.270	335.920	3999.34	49.59 N	26.62 W	-53.89	0.175
4200.00	0.140	316.590	4199.34	50.20 N	26.98 W	-54.57	0.073
4400.00	0.120	282.690	4399.34	50.42 N	27.36 W	-55.00	0.039
4600.00	0.210	129.700	4599.34	50.23 N	27.28 W	-54.81	0.161
4800.00	0.550	161.490	4799.33	49.09 N	26.69 W	-53.58	0.194
5000.00	0.670	176.710	4999.32	47.01 N	26.32 W	-51.85	0.100
5200.00	0.350	170.930	5199.31	45.24 N	26.16 W	-50.48	0.162
5400.00	0.540	149.250	5399.31	43.83 N	25.58 W	-49.08	0.125
5432.00	0.610	147.480	5431.30	43.55 N	25.41 W	-48.76	0.226
<b>MWD Survey</b>							
5444.00	0.620	147.480	5443.30	43.44 N	25.34 W	-48.64	0.083
5451.00	4.900	135.000	5450.29	43.20 N	25.11 W	-48.30	61.382
5461.00	9.600	134.100	5460.21	42.32 N	24.21 W	-47.04	47.012
5471.00	14.900	133.700	5469.98	40.85 N	22.68 W	-44.92	53.006
5481.00	20.300	133.600	5479.51	38.76 N	20.49 W	-41.90	54.001
5491.00	25.200	138.100	5488.73	35.98 N	17.81 W	-38.04	51.965
5501.00	29.400	141.800	5497.61	32.46 N	14.87 W	-33.47	45.280
5511.00	33.300	146.300	5506.15	28.25 N	11.83 W	-28.34	45.464
5521.00	37.500	143.500	5514.30	23.52 N	8.49 W	-22.63	45.014
5531.00	42.200	139.300	5521.98	18.52 N	4.49 W	-16.27	54.138

Continued...

# Sperry-Sun Drilling Services

Survey Report for R.U. 18-34



Mobil  
San Juan County

Utah  
Ratherford Unit

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
5541.00	46.900	136.700	5529.10	13.31 N	0.21 E	-9.27	50.407
5551.00	51.200	136.000	5535.66	7.85 N	5.42 E	-1.72	43.323
5561.00	56.600	136.300	5541.55	2.03 N	11.02 E	6.36	54.054
5571.00	62.000	137.000	5546.65	4.23 S	16.92 E	14.95	54.334
5581.00	66.900	136.900	5550.96	10.82 S	23.07 E	23.96	49.008
5591.00	71.600	135.600	5554.50	17.57 S	29.54 E	33.31	48.546
5601.00	76.200	135.100	5557.28	24.40 S	36.29 E	42.92	46.250
5611.00	80.400	134.500	5559.30	31.30 S	43.24 E	52.71	42.409
5635.00	92.300	136.100	5560.83	48.29 S	60.05 E	76.61	50.026
5659.00	93.800	135.100	5559.55	65.42 S	76.82 E	100.58	7.508
5690.00	92.400	136.100	5557.88	87.53 S	98.48 E	131.53	5.547
5722.00	89.600	134.900	5557.32	110.35 S	120.90 E	163.52	9.519
5754.00	88.900	135.100	5557.74	132.98 S	143.53 E	195.52	2.275
5786.00	88.100	132.600	5558.57	155.13 S	166.59 E	227.50	8.200
5818.00	88.300	133.900	5559.58	177.05 S	189.89 E	259.46	4.108
5849.00	87.900	133.700	5560.61	198.49 S	212.25 E	290.44	1.442
5881.00	88.800	134.000	5561.53	220.65 S	235.32 E	322.42	2.965
5913.00	90.000	134.200	5561.86	242.92 S	258.30 E	354.41	3.802
5945.00	91.100	135.300	5561.56	265.45 S	281.02 E	386.41	4.861
5976.00	91.900	134.700	5560.75	287.36 S	302.93 E	417.40	3.225
6008.00	92.600	133.900	5559.49	309.69 S	325.82 E	449.37	3.320
6039.00	92.500	134.000	5558.11	331.19 S	348.11 E	480.34	0.456
6071.00	90.600	133.500	5557.24	353.30 S	371.22 E	512.32	6.139
6102.00	91.300	134.400	5556.73	374.82 S	393.53 E	543.31	3.678
6134.00	91.700	134.900	5555.89	397.30 S	416.29 E	575.29	2.001
6166.00	90.800	135.100	5555.19	419.92 S	438.91 E	607.29	2.881
6198.00	90.000	135.800	5554.97	442.72 S	461.36 E	639.28	3.322
6230.00	89.900	136.800	5555.00	465.86 S	483.47 E	671.27	3.141
6261.00	90.100	137.700	5555.00	488.62 S	504.51 E	702.25	2.974
6293.00	88.700	137.500	5555.33	512.25 S	526.09 E	734.22	4.419
6325.00	86.700	138.400	5556.62	535.99 S	547.50 E	766.15	6.853
6356.00	85.800	139.300	5558.65	559.28 S	567.86 E	797.01	4.101
6388.00	85.300	137.700	5561.13	583.18 S	589.00 E	828.85	5.224
6420.00	87.000	136.100	5563.28	606.49 S	610.81 E	860.76	7.288
6452.00	87.500	136.100	5564.81	629.52 S	632.97 E	892.72	1.562
6484.00	90.300	136.100	5565.43	652.57 S	655.16 E	924.70	8.750
6515.00	91.700	135.400	5564.89	674.77 S	676.78 E	955.69	5.049
6547.00	89.600	135.300	5564.52	697.53 S	699.27 E	987.69	6.570
6579.00	86.900	133.700	5565.50	719.95 S	722.08 E	1019.67	9.806
6611.00	88.100	133.300	5566.90	741.96 S	745.27 E	1051.63	3.952
6643.00	89.100	131.400	5567.68	763.50 S	768.91 E	1083.58	6.708
6674.00	89.600	131.600	5568.03	784.04 S	792.13 E	1114.52	1.737
6706.00	88.900	131.900	5568.45	805.35 S	816.00 E	1146.47	2.380
→ 6738.00	91.000	133.000	5568.48 ✓	826.95 S	839.61 E	1178.43	7.408
6769.00	92.200	133.700	5567.61	848.22 S	862.14 E	1209.41	4.481

Continued...

# Sperry-Sun Drilling Services

Survey Report for R.U. 18-34



Mobil  
San Juan County

Utah  
Ratherford Unit

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
6801.00	92.600	134.000	5566.27	870.37 S	885.20 E	1241.37	1.562
6833.00	93.200	135.300	5564.65	892.83 S	907.93 E	1273.33	4.470
6864.00	94.100	135.100	5562.68	914.78 S	929.73 E	1304.27	2.974
6895.00	88.200	136.300	5562.06	936.95 S	951.37 E	1335.24	19.421
6927.00	86.800	135.100	5563.45	959.83 S	973.70 E	1367.21	5.760
6959.00	89.000	134.200	5564.62	982.30 S	996.44 E	1399.18	7.427
6991.00	89.800	133.700	5564.96	1004.51 S	1019.48 E	1431.18	2.948
7023.00	90.400	133.700	5564.90	1026.62 S	1042.62 E	1463.17	1.875
7055.00	90.700	132.600	5564.60	1048.50 S	1065.96 E	1495.15	3.563
7086.00	90.300	132.100	5564.33	1069.38 S	1088.87 E	1526.12	2.065
7126.00	90.600	131.600	5564.01	1096.07 S	1118.66 E	1566.05	1.458
7160.00	90.600	131.600	5563.66	1118.64 S	1144.09 E	1599.99	0.000

*End Dogleg*  
*EOL*  
*(M)*

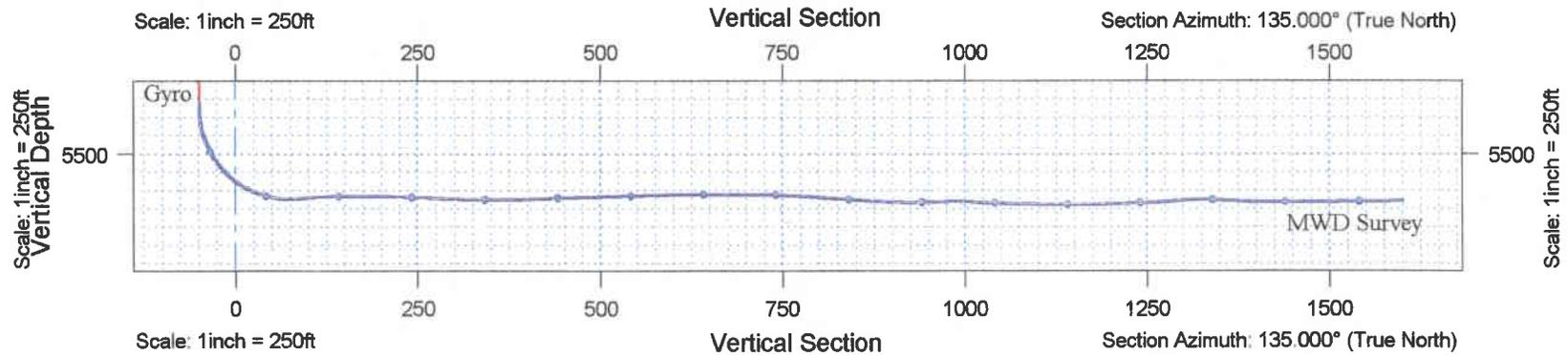
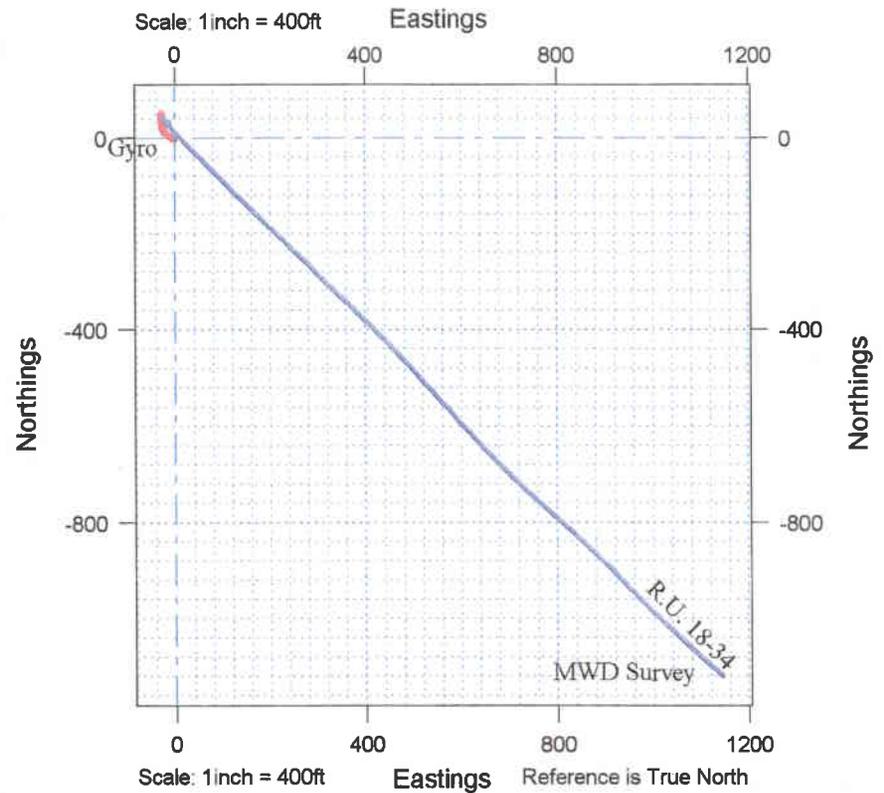
All data is in feet unless otherwise stated. Directions and coordinates are relative to True North. Vertical depths are relative to Well. Northings and Eastings are relative to Well.

The Dogleg Severity is in Degrees per 100ft.

Vertical Section is from Well and calculated along an Azimuth of 135.000° (True).

Based upon Minimum Curvature type calculations, at a Measured Depth of 7160.00ft., The Bottom Hole Displacement is 1600.09ft., in the Direction of 134.356° (True).

San Juan County  
Utah  
Ratherford Unit  
R.U. 18-34



Prepared:

Checked:

Approved:

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.

14-20-603-353

6. If Indian, Allottee or Tribe Name

NAVAJO TRIBAL

7. If Unit or CA, Agreement Designation

RATHERFORD UNIT

8. Well Name and No.

RATHERFORD 18-W-34

9. API Well No.

43-037-15737

10. Field and Pool, or exploratory Area

GREATER ANETH

11. County or Parish, State

SAN JUAN UT

SUBMIT IN TRIPLICATE

1. Type of Well

Oil Well  Gas Well  Other

2. Name of Operator

MOBIL PRODUCING TX & NM INC.\*  
\*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM

3. Address and Telephone No.

P.O. Box 633, Midland TX 79702 (915) 688-2585

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

SEC. 18, T41S, R24E  
(SW/SE) 780' FSL & 1860' FEL

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

TYPE OF SUBMISSION

- Notice of Intent  
 Subsequent Report  
 Final Abandonment Notice

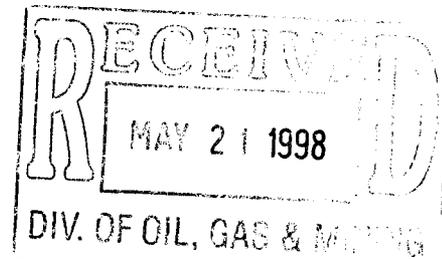
TYPE OF ACTION

- Abandonment  
 Recompletion  
 Plugging Back  
 Casing Repair  
 Altering Casing  
 Other MIT TEST  
 Change of Plans  
 New Construction  
 Non-Routine Fracturing  
 Water Shut-Off  
 Conversion to Injection  
 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.)\*

SEE ATTACHED MIT AND CHART



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

Signed

*Shirley Houchins*

Title SHIRLEY HOUCHINS/ENV & REG TECH

Date 5-18-98

(This space for Federal or State office use)

Approved by

Title

Date

Conditions of approval, if any:

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

# ANNULAR PRESSURE TEST

(Mechanical Integrity Test)

Operator Mobil E. & P., Inc. Date of Test 2-27-98  
 Well Name RU # 18W-34 EPA Permit No. \_\_\_\_\_  
 Location Sec. 18, T41S-R24E Tribal Lease No. 14-20-603-353  
 State and County San Juan County, Utah

Continuous Recorder? YES  NO  Pressure Gauge? YES  NO   
 Bradenhead Opened? YES  NO  Fluid Flow? YES  NO

<u>TIME</u>	<u>ANNULUS PRESSURE, psi</u>	<u>TUBING PRESSURE, psi</u>
<u>11:30</u>	<u>1055</u>	<u>0</u>
<u>11:35</u>	<u>1055</u>	
<u>11:40</u>	<u>1055</u>	
<u>11:50</u>	<u>1050</u>	
<u>12:00</u>	<u>1045</u>	

MAX. INJECTION PRESSURE: \_\_\_\_\_ PSI  
 MAX. ALLOWABLE PRESSURE CHANGE: \_\_\_\_\_ PSI (TEST PRESSURE X 0.05)  
 REMARKS: Passed? Failed? If failed, cease injection until well passes MIT (40CFR§144.21(c)(6)).

*PASSED TEST*

Fritz Johnson Fritz Johnson 2-27-98  
 COMPANY REPRESENTATIVE: (Print and Sign) DATE  
Melvin Capitan Jr. [Signature] 2-27-98  
 INSPECTOR: (Print and Sign) DATE

U.S. ENVIRONMENTAL PROTECTION AGENCY

NOTICE OF INSPECTION

Address (EPA Regional Office)

Region 9  
Environmental Inspection Agency  
215 Fremont Street (W-6-2)  
San Francisco, CA 94105

Inspection Contractor

Navajo Nation EPA  
GPC Program  
P.O. Box 1979  
Shiprock, NM 87420

Firm To Be Inspected

Mobil E. & P., Inc.  
P.O. Box Drawer G  
Cortez, CO 81321

Date 2-27-98

Hour 9:30 am

Notice of Inspection is hereby given according to Section 1445(b) of the Safe Drinking Water Act (42 U.S.C. §300 f et seq.).

Reason For Inspection

For the purpose of inspecting records, files, papers, processes, controls and facilities, and obtaining samples to determine whether the person subject to an applicable underground injection control program has acted or is acting in compliance with the Safe Drinking Water Act and any applicable permit or rule.

*RU# 7W-21, WATER INJECTION WELL, M.I.T. - PASSED*  
*RU# 8W-14, WATER INJECTION WELL, M.I.T. - PASSED*  
*RU# 18W-34, WATER INJECTION WELL, M.I.T. - PASSED*  
*RU# 8W-43, WATER INJECTION WELL, M.I.T. - PASSED*  
*RU# 29W-23, WATER INJECTION WELL, M.I.T. - PASSED*  
*RU# 30W-21, WATER INJECTION WELL, M.I.T. - PASSED*  
*RU# 9W-23, WATER INJECTION WELL, M.I.T. - PASSED*

Section 1445(b) of the SDWA (42 U.S.C. §300 j-4 (b) is quoted on the reverse of this form.

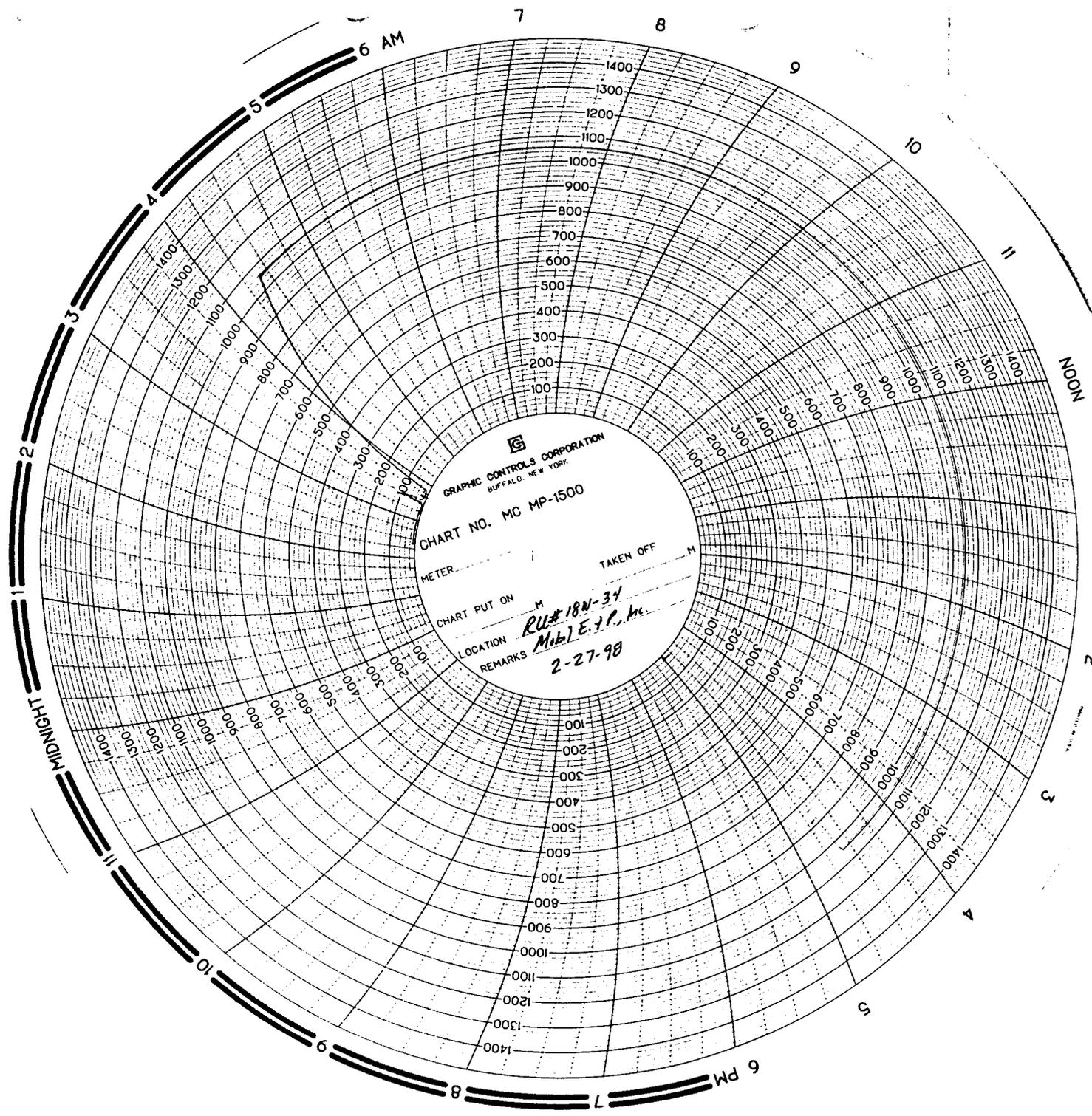
Receipt of this Notice of Inspection is hereby acknowledged.

Firm Representative

Date

2-27-98

Inspector



GRAPHIC CONTROLS CORPORATION  
BUFFALO, NEW YORK

CHART NO. MC MP-1500

METER \_\_\_\_\_ TAKEN OFF \_\_\_\_\_ M

CHART PUT ON \_\_\_\_\_ M

LOCATION *RU# 18N-34*

REMARKS *Mihal E. J. P., Inc.*

*2-27-98*

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.

14-20-603-353

6. If Indian, Allottee or Tribe Name

NAVAJO TRIBAL

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RATHERFORD UNIT

8. Well Name and No.

RATHERFORD 18-W-34

9. API Well No.

43-037-15737

10. Field and Pool, or exploratory Area

GREATER ANETH

11. County or Parish, State

SAN JUAN UT

SUBMIT IN TRIPLICATE

1. Type of Well

Oil Well  Gas Well  Other

2. Name of Operator MOBIL PRODUCING TX & NM INC.\*

\*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM

3. Address and Telephone No.

P.O. Box 633, Midland TX 79702

(915) 688-2585

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

SEC. 18, T41S, R24E  
(SW/SE) 780' FSL & 1860' FEL  
LATERAL 1A1

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- Notice of Intent  
 Subsequent Report  
 Final Abandonment Notice

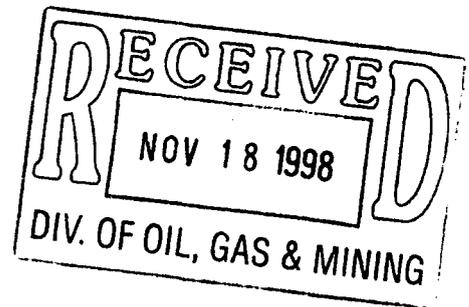
TYPE OF ACTION

- Abandonment  
 Recompletion  
 Plugging Back  
 Casing Repair  
 Altering Casing  
 Other ANNULAR PRESSURE  
 Change of Plans  
 New Construction  
 Non-Routine Fracturing  
 Water Shut-Off  
 Conversion to Injection  
 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.)\*

SEE ATTACHED PROCEDURE.



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

Signed Shirley Houchins for

Title SHIRLEY HOUCHINS/ENV & REG TECH

Date 11-13-98

(This space for Federal or State office use)

Approved by \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

Conditions of approval, if any:

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.

Sundry Notice Procedure  
Ratherford Unit #18-34  
Repair Annular Pressure

I. Workover Procedure

1. RU slickline and run 1.875" plug in profile of on/off tool. RD slickline.
2. Pressure up on tubing to test tbg and on/off tool. Test tbg and annulus to 1000 psi. *After evaluating all the potential mechanical leak sources, J-off on/off tool and circulate the appropriate kill fluid. J-on on/off tool.*
3. ND wellhead and RU BOP's and test using chart.
4. Unset pkr and circulate kill fluid to ensure well is dead. POH w/ cmt lined tbg and packer.
5. PU 5 1/2" RTBP and packer and RIH. Set RTBP at 5230' and leave pkr swinging. Test casing to 1000 psi.

*If casing leaks, move pkr up hole to 4000' and test interval between pkr and RTBP along with the annulus. Continue until leak is isolated. Obtain injection rate into the leak and make plans to squeeze the leak. Continue to step 6.*

*If casing holds, RU Campbell Testers to hydrotest cmt lined tubing using water RBIH. Continue to step 8.*

Casing Leak Repair

6. If casing leaks, run inspection log. **See step 11 to TA well.** POH w/ pkr and dump bail 20 ft of sand on top of RTBP. RIH w/ bit and set 50 ft above leak. Use slurry below for sqz job, however, if the injection rate is below 1/4 bpm, a micro-cement slurry should be used instead. (This can be done with a retainer in lieu of a packer).  
Cement Slurry: 25 sx Class 'B' + 0.1% D65 (dispersant)  
Confer with Wendy Storbeck on volumes before job.  
Density: 15.6 ppg  
Yield: 1.19 ft<sup>3</sup>/sk
  - A) Begin pumping 5 bbl fresh water ahead of cement slurry.
  - B) Pump 25 sx (1 bbl for inside of casing and 3 bbl for behind pipe) while maintaining 500 psi on backside during job.
  - C) Begin pumping fresh water displacement down to top of bit, 0.00579 bbl/ft.
  - D) PU 2 stands and shut down for 1 hour. Continue to wash down reversing out cement without allowing cement to develop compressive strength. This should minimize nodes that develop on the casing wall and improve squeeze success.
  - E) Wash down to top of RTBP, reversing out sand. POH w/bit and PU retrieving tool for RTBP.
7. RIH w/ retrieving tool on workstring and unset RTBP and POH. PU gage ring and RIH on workstring.

Running New Packer

8. PU new UNI-SIX injection pkr with on/off tool (use pump out plug in mule shoe), and RIH to set at 5230'. Hydrotest tbg going in hole. *Test to 3500 psi. Call Navajo EPA to get them on location to witness MIT. Document the occurrence and results of all conversations in morning reports.*
9. J-off on/off tool and circ pkr fluid. J-on on/off tool and ND BOP's and NU wellhead spacing out as needed. Pump out plug in pkr.
10. Test again down annulus to 1000 psi. Run MIT test and chart. Send original to Sue Mosley and keep copy for records.

Temporarily Abandoning well

11. To TA well, POH w/ RTBP and PU CIBP. RIH and set 50 ft above top of leak. Dump bail 1 sx of cement on top of CIBP. Lay down all equipment and Run MIT test and chart.
12. RDMO.

780' FSL  
1860 FEL  
S-18  
T41S  
R24E  
San Juan Co., Utah

Ratherford Unit  
18-34  
Current Wellbore

YPO: 1/8/98

1338' 27.1# @ 171' w/ 175 sx to surf

858' 24# J55 @ 1521' w/ 475 sx cmt to surface

Guiberson Uni VI RBP @ 5230'

Window: Top - 5443'  
Bottom - 5450"

Top Whipstock 5443'

Cmt Ret @ 5460'

PBTD: 5586'  
Vertical hole TD: 5777'

Old perms Sqz'd  
5511'-18' &  
5583'-68'

Old perms Sqz'd  
5583'-5731'

5 1/2" 14# J55 from @ 5777' w/ 132 sx cmt,  
TOC @ 4900'

**Lateral 1A1 Details**

**Curve Section:**

MD: 5443'-5635'

TVD: 5443'-5561'

Az: 136.1 deg

Inc: 92.3 deg

Max dog leg: 61 deg @ 5451' md,  
54 deg @ 5481',  
5531', 5571'

**Lateral Section**

MD: 5635'-7160'

TVD: 5561'-5564'

VS: 1600

Az: 31.6 deg

Length: 1525'

Max dog leg: 10 deg @ 5722' md  
& 6579'  
19 deg @ 6895'

LATERAL1A1

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.

14-20-603-353

6. If Indian, Allottee or Tribe Name

NAVAJO TRIBAL

7. If Unit or CA, Agreement Designation

RATHERFORD UNIT

8. Well Name and No.

RATHERFORD 18-W-34

9. API Well No.

43-037-15737

10. Field and Pool, or exploratory Area

GREATER ANETH

11. County or Parish, State

SAN JUAN UT

SUBMIT IN TRIPLICATE

1. Type of Well

Oil Well  Gas Well  Other

2. Name of Operator

MOBIL PRODUCING TX & NM INC.\*  
\*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM

3. Address and Telephone No.

P.O. Box 633, Midland TX 79702 (915) 688-2585

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

SEC. 18, T41S, R24E  
(SW/SE) 780' FSL & 1860' FEL

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 checked="" 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>SIDETRACK</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

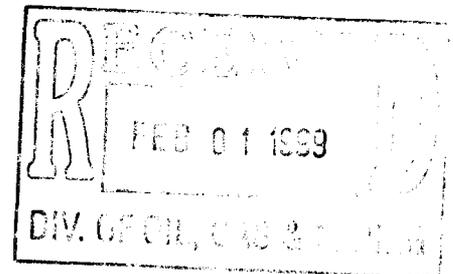
(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

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.)\*

LATERAL #1 1119' FSL & 1144' FEL FROM SURFACE SPOT.

12-18-97 -- 2-12-98 HORIZONTAL RECOMPLETION

ATTACHED FORM 15



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

Signed Shirley Houchins for Title SHIRLEY HOUCHINS/ENV & REG TECH Date 1-28-99

(This space for Federal or State office use)

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

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

WTC  
3-1-99  
RSK

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires November 30, 2000

**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.*

5. Lease Serial No.

**14-20-603-353**

6. If Indian, Allottee or Tribe Name

**NAVAJO TRIBAL**

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

**RATHERFORD UNIT**

8. Well Name and No.

**RATHERFORD 18-W-34**

9. API Well No.

**43-037-15737**

10. Field and Pool, or Exploratory Area

**GREATER ANETH**

11. County or Parish, State

**SAN JUAN UT**

*SUBMIT IN TRIPLICATE - Other instructions on reverse side*

1. Type of Well

Oil Well  Gas Well  Other

**INJECTOR**

2. Name of Operator

**MOBIL PRODUCING TX & NM INC.\*  
\*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM**

3a. Address

**P.O. Box 633, Midland TX 79702**

3b. Phone No. (include area code)

**(915) 688-2585**

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

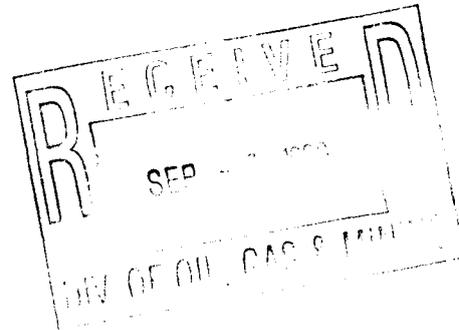
**SEC. 18, T41S, R24E  
(SW/SE) 780' FSL & 1860' FEL  
LATERAL 1A1**

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 checked="" 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 checked="" type="checkbox"/> Other <b>CANCEL</b>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	<b>INTENT</b>
	<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 recomplate 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 final site is ready for final inspection.)

**PLEASE CANCEL APPROVED INTENT 11-19-98, ANNULAR PRESSURE DUE TO METER MALFUNCTION.**



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

Name (Printed/Typed)

**SHIRLEY HOUCHINS**

Title

**ENVIRONMENTAL & REGULATORY TECH**

Date

**9-02-99**

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

Approved by

Title

Date

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.

Office

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.

(Instructions on reverse)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0135  
Expires November 30, 2000

**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.*

1. Type of Well <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other <b>INJECTION WELL</b>		5. Lease Serial No. 14-20-603-353
2. Name of Operator <b>Mobil Producing TX &amp; NM Inc. *</b>		6. If Indian, Allottee or Tribe Name <b>NAVAJO TRIBAL</b>
3a. Address P.O. Box 4358 Houston, TX 77210-4358	3b. Phone No. (include area code) 713-431-1197	7. If Unit or CA/Agreement, Name and/or No. <b>RATHERFORD UNIT</b>
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec. 18, T41S, R24E (SW/SE) 780' FSL & 1860' FEL		8. Well Name and No. <b>RATHERFORD UNIT #18W34</b>
		9. API Well No. 43-037-15737
		10. Field and Pool, or Exploratory Area <b>GREATER ANETH</b>
		11. County or Parish, State <b>SAN JUAN, UTAH</b>

**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 checked="" 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 checked="" type="checkbox"/> Other <u>MIT RESULTS</u>
	<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 recompleat 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 recompleat 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)

MIT results and chart are attached.

**RECEIVED**

MAY 16 2000

DIVISION OF  
OIL, GAS AND MINING

14. I hereby certify that the foregoing is true and correct Name (Printed/Typed) Ellen M. Carroll	Title Senior Staff Office Assistant	* ExxonMobil Production Company, A division of Exxon Mobil Corporation, acting for Mobil Producing Texas & New Mexico, Inc.
Signature <i>Ellen M. Carroll</i>	Date 5/12/2000	

Approved By	Title	Date
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.	Office	

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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.

# ANNULAR PRESSURE TEST

(Mechanical Integrity Test)

Operator EXXON-MOBIL E+P, INC. Date of Test 1-19-2000

Well Name RATHERFORD UNIT WELL #18W34 EPA Permit No. \_\_\_\_\_

Location <sup>SWSE</sup> SEC 18, T4S, R24E Tribal Lease No. 1420603353

State and County SAN JUAN COUNTY, UTAH

Continuous Recorder? YES  NO

Pressure Gauge? YES  NO

Bradenhead Opened? YES  NO

Fluid Flow? YES  NO

<u>TIME</u>	<u>ANNULUS PRESSURE, psi</u>		<u>TUBING PRESSURE, psi</u>
	<small>0-2000 psi gauge</small>	<small>0-1500 psi recorder</small>	<small>0-3000 psi gauge</small>
9:30 Am	1065	1060	0
9:35 Am	1065	1060	
9:40 Am	1065	1060	
9:45 Am	1065	1060	
9:50 Am	1065	1060 <sub>etc</sub>	
9:55 Am	1064	1060	
10:00 Am	1063	1060	

MAX. INJECTION PRESSURE: 3000 PSI

MAX. ALLOWABLE PRESSURE CHANGE: 53.25 PSI (TEST PRESSURE X 0.05)

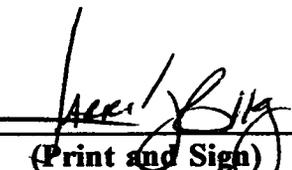
REMARKS: Passed? Failed? If failed, cease injection until well passes MIT (40CFR§144.21(c)(6)).

Bradenhead is buried.

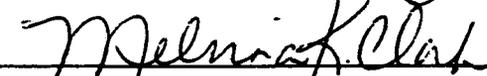
Passed MIT Well just had workover done on it. was shut in prior to test. **RECEIVED**

MAY 18 2000

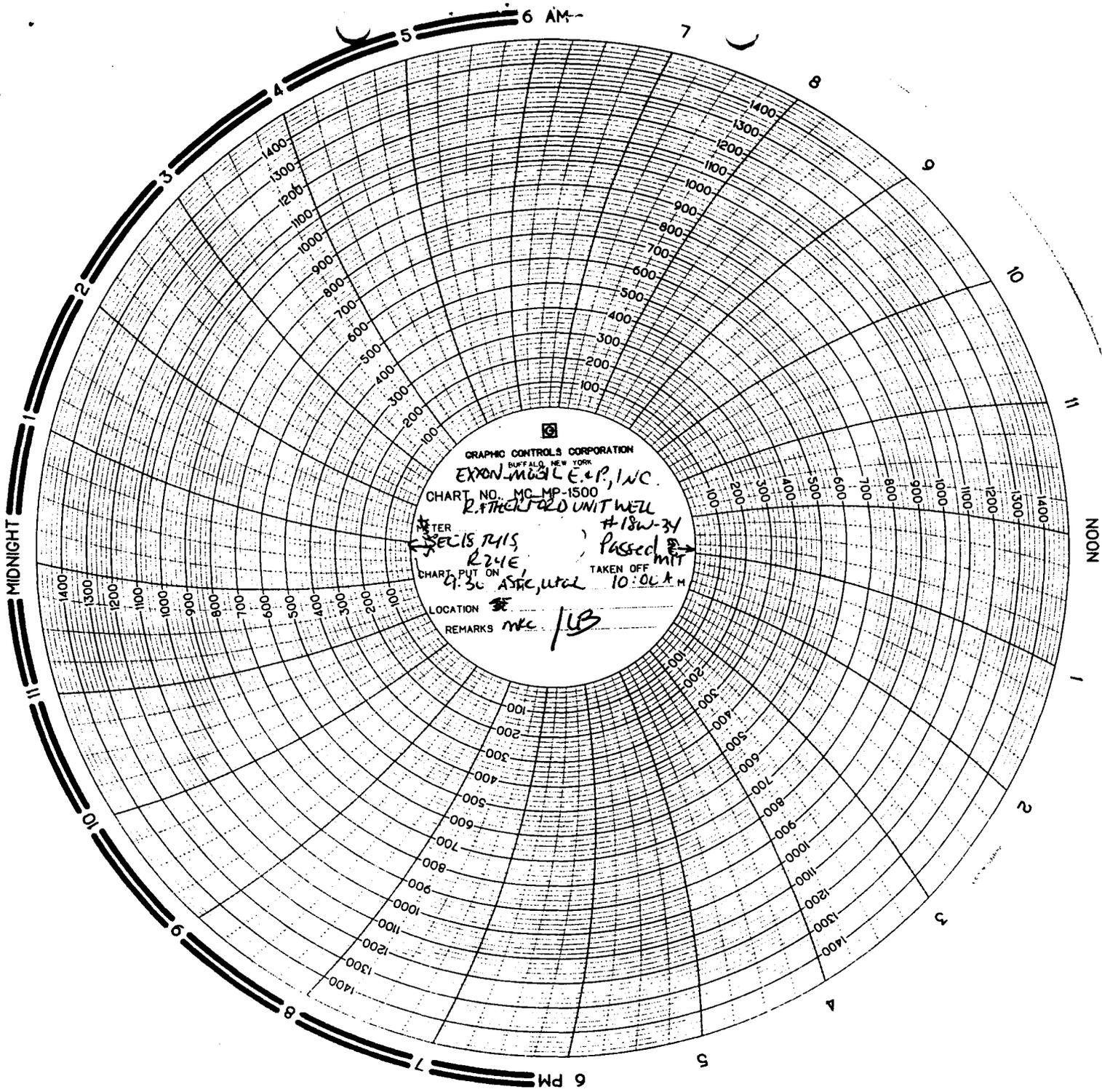
DIVISION OF  
OIL, GAS AND MINING

LARISON BLAIR   
COMPANY REPRESENTATIVE: (Print and Sign)

1/19/00  
DATE

MELVINA K. CLAH   
INSPECTOR: (Print and Sign)

1-19-2000  
DATE



**RECEIVED**

MAY 16 2000

DIVISION OF  
OIL, GAS AND MINING

**ExxonMobil Production Comp**  
U.S. West  
P.O. Box 4358  
Houston, Texas 77210-4358

June 27, 2001

**ExxonMobil**  
*Production*

Mr. Jim Thompson  
State of Utah, Division of Oil, Gas and Mining  
1549 West North Temple  
Suite 1210  
Salt Lake City, UT 84114-5801

Change of Name – Mobil Oil Corporation to  
ExxonMobil Oil Corporation

Dear Mr. Thompson

Effective June 1, 2001, Mobil Oil Corporation (MOC) changed its name to ExxonMobil Oil Corporation (EMOC). This was a name change only; EMOC is the same corporation as Mobil Oil Corporation, but with a new name. No facility or other asset was transferred from one corporation to another by virtue of the name change. Specifically, EMOC will remain the owner and operator of its existing exploration and production oil and gas properties and facilities, as well as relevant permits.

There is no change to the name of Exxon Mobil Corporation, the ultimate shareholder of EMOC.

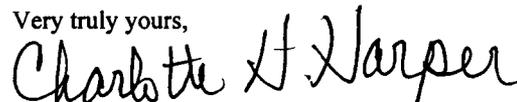
Please note the change of name of MOC to ExxonMobil Oil Corporation in your records pertaining to any MOC permits.

The Federal Identification Number for MOC (13-5401570) will remain the same for EMOC.

A copy of the Certification, Bond Rider and a list of wells are attached.

If you have any questions please feel free to call Joel Talavera at 713-431-1010

Very truly yours,



Charlotte H. Harper  
Permitting Supervisor

ExxonMobil Production Company  
a division of Exxon Mobil Corporation,  
acting for ExxonMobil Oil Corporation

RECEIVED

JUN 27 2001

DIVISION OF  
OIL, GAS AND MINING



# United States Department of the Interior

BUREAU OF INDIAN AFFAIRS

Navajo Area Office  
**NAVAJO REGION**

P.O. Box 1060  
Gallup, New Mexico 87305-1060

**AUG 30 2001**

IN REPLY REFER TO:

RRES/543

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

Charlotte H. Harper, Permitting Supervisor  
Exxon Mobil Production Company  
U. S. West  
P. O. Box 4358  
Houston, TX 77210-4358

Dear Ms. Harper:

This is to acknowledge receipt of your company's name change from Mobil Oil Corporation to ExxonMobil Oil Corporation effective June 1, 2001. The receipt of documents includes the Name Change Certification, current listing of Officers and Directors, Listing of Leases, Financial Statement, filing fees of \$75.00 and a copy of the Rider for Bond Number 8027 31 97. There are no other changes.

Please note that we will provide copies of these documents to other concerned parties. If you need further assistance, you may contact Ms. Bertha Spencer, Realty Specialist, at (928) 871-5938.

Sincerely,

**DEAN DENETSONE**

Regional Realty Officer

cc: BLM, Farmington Field Office w/enclosures ✓  
Navajo Nation Minerals Office, Attn: Mr. Akhtar Zaman, Director/w enclosures

<b>MINERAL RESOURCES</b>	
ADM	<i>DM</i>
NATV RM MIN COORD	_____
SOLID MIN TEAM	_____
PETRO MENT TEAM	<i>2</i>
O & G INSPECT TEAM	_____
ALL TEAM LEADERS	_____
LAND RESOURCES	_____
ENVIRONMENT	_____
FILES	_____

**ExxonMobil Production Company**  
U.S. West  
P.O. Box 4358  
Houston, Texas 77210-4358

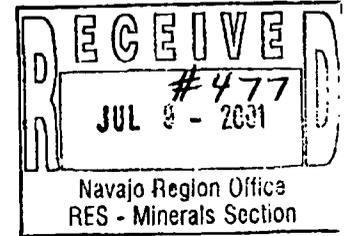
*PS 7/12/2001*  
*SH*  
*543*  
*File*

June 27, 2001

**ExxonMobil**  
*Production*

Certified Mail  
Return Receipt Requested

Ms. Genni Denetsone  
United States Department of the Interior  
Bureau of Indian Affairs, Navajo Region  
Real Estate Services  
P. O. Box 1060  
Gallup, New Mexico 87305-1060  
Mail Code 543



Change of Name –  
Mobil Oil Corporation to  
ExxonMobil Oil Corporation

Dear Ms. Denetsone:

Effective June 1, 2001, Mobil Oil Corporation (MOC) changed its name to ExxonMobil Oil Corporation (EMOC). This was a name change only; EMOC is the same corporation as Mobil Oil Corporation, but with a new name. No facility or other asset was transferred from one corporation to another by virtue of the name change. Specifically, EMOC will remain the owner and operator of its existing exploration and production oil and gas properties and facilities, as well as relevant permits.

There is no change to the name of Exxon Mobil Corporation, the ultimate shareholder of EMOC.

Please note the change of name of MOC to ExxonMobil Oil Corporation in your records pertaining to any MOC permits.

The Federal Identification Number for MOC (13-5401570) will remain the same for EMOC.

Attached is the Name Change Certification, Current listing of Officers and Directors, Filing Fee of \$75/-, Listing of Leases, Financial Statement and a copy of the Rider for Bond number 8027 31 97. The original Bond Rider has been sent to Ms. Barbar Davis at your Washington Office.

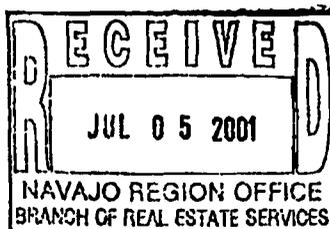
If you have any questions , please contact Alex Correa at (713) 431-1012.

Very truly yours,

*Charlotte H. Harper*

Charlotte H. Harper  
Permitting Supervisor

Attachments



ExxonMobil Production Company  
a division of Exxon Mobil Corporation,  
acting for ExxonMobil Oil Corporation

*NOTE: Check forwarded to Ella Isaac*

Bureau of Indian Affairs  
Navajo Region Office  
Attn: RRES - Mineral and Mining Section  
P.O. Box 1060  
Gallup, New Mexico 87305-1060

Gentlemen:

The current listing of officers and director of ExxonMobil Oil Corporation (Name of Corporation), of New York (State) is as follows:

**OFFICERS**

President	<u>F.A. Risch</u>	Address <u>5959 Las Colinas Blvd. Irving, TX 75039</u>
Vice President	<u>K.T. Koonce</u>	Address <u>800 Bell Street Houston, TX 77002</u>
Secretary	<u>F.L. Reid</u>	Address <u>5959 Las Colinas Blvd. Irving, TX 75039</u>
Treasure	<u>B.A. Maher</u>	Address <u>5959 Las Colinas Blvd. Irving, TX 75039</u>

**DIRECTORS**

Name	<u>D.D. Humphreys</u>	Address	<u>5959 Las Colinas Blvd. Irving, TX 75039</u>
Name	<u>P.A. Hanson</u>	Address	<u>5959 Las Colinas Blvd. Irving, TX 75039</u>
Name	<u>T.P. Townsend</u>	Address	<u>5959 Las Colinas Blvd. Irving, TX 75039</u>
Name	<u>B.A. Maher</u>	Address	<u>5959 Las Colinas Blvd. Irving, TX 75039</u>
Name	<u>F.A. Risch</u>	Address	<u>5959 Las Colinas Blvd. Irving, TX 75039</u>

Sincerely,



Alex Correa

This is to certify that the above information pertaining to ExxonMobil Oil Corporation (Corporation) is true and correct as evidenced by the records and accounts covering business for the State of Utah and in the custody of Corporation Service Company (Agent), Phone: 1 (800) 927-9800 whose business address is One Utah Center, 201 South Main Street, Salt Lake City, Utah 84111-2218



Signature

AGENT AND ATTORNEY IN FACT

Title

**CERTIFICATION**

I, the undersigned Assistant Secretary of ExxonMobil Oil Corporation. (formerly Mobil Oil Corporation), a corporation organized and existing under the laws of the State of New York, United States of America, DO HEREBY CERTIFY, That, the following is a true and exact copy of the resolutions adopted by the Board of Directors on May 22, 2001:

**CHANGE OF COMPANY NAME**

WHEREAS, the undersigned Directors of the Corporation deem it to be in the best interest of the Corporation to amend the Certificate of Incorporation of the Corporation to change the name and principal office of the Corporation:

NOW THEREFORE BE IT RESOLVED, That Article 1st relating to the corporate name is hereby amended to read as follows:

"1st The corporate name of said Company shall be,  
ExxonMobil Oil Corporation",

FURTHER RESOLVED, That the amendment of the Corporation's Certificate of Incorporation referred to in the preceding resolutions be submitted to the sole shareholder of the Corporation entitled to vote thereon for its approval and, if such shareholder gives its written consent, pursuant to Section 803 of the Business Corporation Law of the State of New York, approving such amendment, the proper officers of the Corporation be, and they hereby are, authorized to execute in the name of the Corporation the Certificate of Amendment of Certificate of Incorporation, in the form attached hereto;

FURTHER RESOLVED, That the proper officers of the Corporation be and they hereby are authorized and directed to deliver, file and record in its behalf, the Certificate of Amendment of Certificate of Incorporation, and to take such action as may be deemed necessary or advisable to confirm and make effective in all respects the change of this Company's name to EXXONMOBIL OIL CORPORATION.

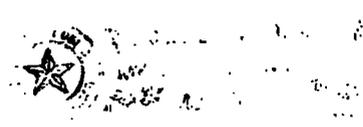
WITNESS, my hand and the seal of the Corporation at Irving, Texas, this 8th day of June, 2001.

*S. A. Milligan*  
Assistant Secretary

COUNTY OF DALLAS )  
STATE OF TEXAS )  
UNITED STATES OF AMERICA )

Sworn to and subscribed before me at Irving, Texas, U. S. A. on this the 8th day of June, 2001.

*Janice M. Phillips*  
Notary Public



**LISTING OF LEASES OF MOBIL OIL CORPORATION****Lease Number**

- 1) 14-20-0603-6504
- 2) 14-20-0603-6505
- 3) 14-20-0603-6506
- 4) 14-20-0603-6508
- 5) 14-20-0603-6509
- 6) 14-20-0603-6510
- 7) 14-20-0603-7171
- 8) 14-20-0603-7172A
- 9) 14-20-600-3530
- 10) 14-20-603-359
- 11) 14-20-603-368
- 12) 14-20-603-370
- 13) 14-20-603-370A
- 14) 14-20-603-372
- 15) 14-20-603-372A
- 16) 14-20-603-4495
- 17) 14-20-603-5447
- 18) 14-20-603-5448
- 19) 14-20-603-5449
- 20) 14-20-603-5450
- 21) 14-20-603-5451

6/1/01

# CHUBB GROUP OF INSURANCE COMPANIES

World Center One South, Suite 1900, Houston, Texas 77027-3501  
Telephone: (713) 227-4600 • Facsimile: (713) 297-4750

*NW Bond*

**FEDERAL INSURANCE COMPANY RIDER**  
to be attached to and form a part of

**BOND NO 8027 31 97**

wherein

**Mobil Oil Corporation and Mobil Exploration and Producing U.S., Inc. is**  
named as Principal and

**FEDERAL INSURANCE COMPANY AS SURETY,**

**in favor of United States of America, Department of the Interior**  
**Bureau of Indian Affairs**

**in the amount of \$150,000.00**

**bond date: 11/01/65**

**IT IS HEREBY UNDERSTOOD AND AGREED THAT effective June 1, 2001**  
**the name of the Principal is changed**

**FROM: Mobil Oil Corporation and Mobil Exploration and Producing U.S., Inc.**

**TO : ExxonMobil Oil Corporation**

**All other terms and conditions of this Bond are unchanged.**

**Signed, sealed and dated this 12<sup>th</sup> of June, 2001.**

**ExxonMobil Oil Corporation**

By :



**FEDERAL INSURANCE COMPANY**

By:



**Mary Pierson, Attorney-in-fact**



**Chubb  
Surety**

**POWER  
OF  
ATTORNEY**

**Federal Insurance Company  
Vigilant Insurance Company  
Pacific Indemnity Company**

**Attn.: Surety Department  
15 Mountain View Road  
Warren, NJ 07059**

Know All by These Presents, That FEDERAL INSURANCE COMPANY, an Indiana corporation, VIGILANT INSURANCE COMPANY, a New York corporation, and PACIFIC INDEMNITY COMPANY, a Wisconsin corporation, do each hereby constitute and appoint R.F. Bobo, Mary Pierson, Philana Berros, and Jody E. Specht of Houston, Texas-----

each as their true and lawful Attorney-in-Fact to execute under such designation in their names and to affix their corporate seals to and deliver for and on their behalf as surety thereon or otherwise, bonds and undertakings and other writings obligatory in the nature thereof (other than bail bonds) given or executed in the course of business, and any instruments amending or altering the same, and consents to the modification or alteration of any instrument referred to in said bonds or obligations.

In Witness Whereof, said FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY have each executed and attested these presents and affixed their corporate seals on this 10th day of May, 2001.

Kenneth C. Wendel  
Kenneth C. Wendel, Assistant Secretary

Frank E. Robertson  
Frank E. Robertson, Vice President

STATE OF NEW JERSEY } ss.  
County of Somerset

On this 10th day of May, 2001, before me, a Notary Public of New Jersey, personally came Kenneth C. Wendel, to me known to be Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY, the companies which executed the foregoing Power of Attorney, and the said Kenneth C. Wendel being by me duly sworn, did depose and say that he is Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY and knows the corporate seals thereof, that the seals affixed to the foregoing Power of Attorney are such corporate seals and were thereto affixed by authority of the By-Laws of said Companies; and that he signed said Power of Attorney as Assistant Secretary of said Companies by like authority; and that he is acquainted with Frank E. Robertson, and knows him to be Vice President of said Companies; and that the signature of Frank E. Robertson, subscribed to said Power of Attorney is in the genuine handwriting of Frank E. Robertson, and was thereto subscribed by authority of said Notary Public in the deponent's presence.



Notary Public State of New Jersey  
No. 2231647  
Commission Expires Oct 28, 2004

Karen Price  
Notary Public

Extract from the By-Laws of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY:

"All powers of attorney for and on behalf of the Company may and shall be executed in the name and on behalf of the Company, either by the Chairman or the President or a Vice President or an Assistant Vice President, jointly with the Secretary or an Assistant Secretary, under their respective designations. The signature of such officers may be engraved, printed or lithographed. The signature of each of the following officers: Chairman, President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary and the seal of the Company may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such power of attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached."

I, Kenneth C. Wendel, Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY (the "Companies") do hereby certify that

- (i) the foregoing extract of the By-Laws of the Companies is true and correct,
- (ii) the Companies are duly licensed and authorized to transact surety business in all 50 of the United States of America and the District of Columbia and are authorized by the U. S. Treasury Department; further, Federal and Vigilant are licensed in Puerto Rico and the U. S. Virgin Islands, and Federal is licensed in American Samoa, Guam, and each of the Provinces of Canada except Prince Edward Island; and
- (iii) the foregoing Power of Attorney is true, correct and in full force and effect.

Given under my hand and seals of said Companies at Warren, NJ this 12th day of June, 2001.



Kenneth C. Wendel  
Kenneth C. Wendel, Assistant Secretary

IN THE EVENT YOU WISH TO NOTIFY US OF A CLAIM, VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT ADDRESS LISTED ABOVE, OR BY Telephone (908) 903-3485 Fax (908) 903-3656 e-mail: surety@chubb.com

CSC

5184334741

06/01 '01 08:46 NO.410 03/05

CSC

06/01 '01 09:06 NO.135 02/04

F010601000187

CERTIFICATE OF AMENDMENT  
OF  
CERTIFICATE OF INCORPORATION  
OF  
MOBIL OIL CORPORATION

CSC 45

(Under Section 805 of the Business Corporation Law)

Pursuant to the provisions of Section 805 of the Business Corporation Law, the undersigned President and Secretary, respectively, of Mobil Oil Corporation hereby certify:

**FIRST:** That the name of the corporation is **MOBIL OIL CORPORATION** and that said corporation was incorporated under the name of Standard Oil Company of New York.

**SECOND:** That the Certificate of Incorporation of the corporation was filed by the Department of State, Albany, New York, on the 10th day of August, 1882.

**THIRD:** That the amendments to the Certificate of Incorporation effected by this Certificate are as follows:

(a) Article 1st of the Certificate of Incorporation, relating to the corporate name, is hereby amended to read as follows:

"1st: The corporate name of said Company shall be, ExxonMobil Oil Corporation",

(b) Article 7th of the Certificate of Incorporation, relating to the office of the corporation is hereby amended to read as follows:

The office of the corporation within the State of New York is to be located in the County of Albany. The Company shall have offices at such other places as the Board of Directors may from time to time determine.

CSC  
CSC

5184334741

06/01 '01 08:47 NO.410 04/05  
06/01 '01 07:06 NO.133 03/04

FOURTH: That the amendments to the Certificate of Incorporation were authorized by the Board of Directors followed by the holder of all outstanding shares entitled to vote on amendments to the Certificate of Incorporation by written consent of the sole shareholder dated May 22, 2001.

IN WITNESS WHEREOF, this Certificate has been signed this 22nd Day of May, 2001.

  
\_\_\_\_\_  
F. A. Risch, President 

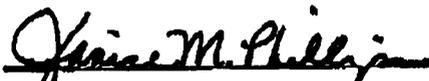
STATE OF TEXAS        )  
COUNTY OF DALLAS    )

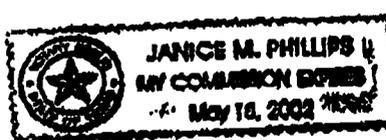
F. L. REID, being duly sworn, deposes and says that he is the Secretary of MOBIL OIL CORPORATION, the corporation mentioned and described in the foregoing instrument; that he has read and signed the same and that the statements contained therein are true.

  
\_\_\_\_\_  
F. L. REID, Secretary

SUBSCRIBED AND SWORN TO before me, the undersigned authority, on this the 22nd day of May, 2001.

[SEAL]

  
\_\_\_\_\_  
NOTARY PUBLIC, STATE OF TEXAS



CSC  
CSC

5184334741

06/01 '01 09:01 NO. 411 02/02  
06/01 '01 09:00 NO. 132 04/04  
**F010601000187**

**CSC 45**

**CERTIFICATE OF AMENDMENT**

**OF**

**MOBIL OIL CORPORATION**

Under Section 805 of the Business Corporation Law

*SAC*

**STATE OF NEW YORK  
DEPARTMENT OF STATE**

*100 cc*

Filed by: EXXONMOBIL CORPORATION  
(Name)

FILED JUN 01 2001

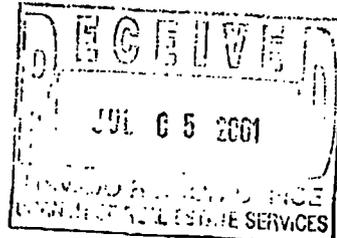
6949 Las Colinas Blvd.  
(Mailing address)

TAX \$ \_\_\_\_\_  
BY: *SAC*

Irving, TX 75039-2298  
(City, State and Zip code)

*ny Albany*

*Cost Ref # 165578 MPJ*



**010601000195**

State of New York    )  
Department of State } ss:

*I hereby certify that the annexed copy has been compared with the original document in the custody of the Secretary of State and that the same is a true copy of said original.*

Witness my hand and seal of the Department of State on **JUN 01 2001**



A handwritten signature in black ink, appearing to read "J. H. ...", followed by a long horizontal line extending to the right.

*Special Deputy Secretary of State*

**OPERATOR CHANGE WORKSHEET**

**ROUTING**

1. GLH
2. CDW
3. FILE

Change of Operator (Well Sold)

Designation of Agent

**X Operator Name Change**

Merger

The operator of the well(s) listed below has changed, effective: **06-01-2001**

<b>FROM: (Old Operator):</b>	<b>TO: ( New Operator):</b>
MOBIL EXPLORATION & PRODUCTION	EXXONMOBIL OIL CORPORATION
Address: P O BOX DRAWER "G"	Address: U S WEST P O BOX 4358
CORTEZ, CO 81321	HOUSTON, TX 77210-4358
Phone: 1-(970)-564-5212	Phone: 1-(713)-431-1010
Account No. N7370	Account No. N1855

**CA No. Unit: RATHERFORD**

**WELL(S)**

NAME	SEC TWN RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
NAVAJO A-9 (RATHERFORD 16W23)	16-41S-24E	43-037-15722	99990	INDIAN	WI	A
NAVAJO A-12 (RATHERFORD 16W21)	16-41S-24E	43-037-16414	99990	INDIAN	WI	A
RATHERFORD 16W43	16-41S-24E	43-037-16415	99990	INDIAN	WI	A
RATHERFORD 17-W-12	17-41S-24E	43-037-15726	6280	INDIAN	WI	A
17-14	17-41S-24E	43-037-15727	6280	INDIAN	WI	A
RATHERFORD 17-W-23	17-41S-24E	43-037-15728	6280	INDIAN	WI	A
17-32	17-41S-24E	43-037-15729	6280	INDIAN	WI	A
17-34	17-41S-24E	43-037-15730	6280	INDIAN	WI	A
17-41	17-41S-24E	43-037-15731	6280	INDIAN	WI	I
RATHERFORD 17-W-21	17-41S-24E	43-037-16416	99990	INDIAN	WI	A
RATHERFORD 17W43	17-41S-24E	43-037-16417	99990	INDIAN	WI	A
RATHERFORD 18-W-14	18-41S-24E	43-037-15735	6280	INDIAN	WI	A
18-W-32	18-41S-24E	43-037-15736	6280	INDIAN	WI	A
RATHERFORD 18-W-34	18-41S-24E	43-037-15737	6280	INDIAN	WI	A
DESERT A-4 (RATHERFORD 18W41)	18-41S-24E	43-037-15738	99990	INDIAN	WI	A
DESERT A-3 (RATHERFORD 18-W-21)	18-41S-24E	43-037-16418	99990	INDIAN	WI	A
18-23	18-41S-24E	43-037-30244	6280	INDIAN	WI	A
RATHERFORD U 18-W-12 (SDTRK)	18-41S-24E	43-037-31153	6280	INDIAN	WI	A
RATHERFORD UNIT 18-W-43B	18-41S-24E	43-037-31718	6280	INDIAN	WI	A
RATHERFORD U 19-W-12	19-41S-24E	43-037-15739	6280	INDIAN	WI	A

**OPERATOR CHANGES DOCUMENTATION**

Enter date after each listed item is completed

- (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 06/29/2001
- (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 06/29/2001
- The new company has been checked through the **Department of Commerce, Division of Corporations Database** on: 04/09/2002
- Is the new operator registered in the State of Utah: YES Business Number: 579865-0143
- If **NO**, the operator was contacted on: N/A

6. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BIA-06/01/01

7. **Federal and Indian Units:**

The BLM or BIA has approved the successor of unit operator for wells listed on: 06/01/2001

8. **Federal and Indian Communization Agreements ("CA"):**

The BLM or BIA has approved the operator for all wells listed within a CA on: N/A

9. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: N/A

**NOTE: EPA ISSUES UIC PERMIT**

**DATA ENTRY:**

1. Changes entered in the **Oil and Gas Database** on: 04/11/2002

2. Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 04/11/2002

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: N/A

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

1. Federal well(s) covered by Bond Number: N/A

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

1. Indian well(s) covered by Bond Number: 80273197

**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:**

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

<b>ROUTING</b>
1. DJJ
2. CDW

**X Change of Operator (Well Sold)**

Operator Name Change/Merger

The operator of the well(s) listed below has changed, effective:		<b>6/1/2006</b>
<b>FROM:</b> (Old Operator): N1855-ExxonMobil Oil Corporation PO Box 4358 Houston, TX 77210-4358 Phone: 1 (281) 654-1936	<b>TO:</b> ( New Operator): N2700-Resolute Natural Resources Company 1675 Broadway, Suite 1950 Denver, CO 80202 Phone: 1 (303) 534-4600	
<b>CA No.</b>	<b>Unit:</b>	<b>RATHERFORD (UIC)</b>

**OPERATOR CHANGES DOCUMENTATION**

Enter date after each listed item is completed

- (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 4/21/2006
- (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 4/24/2006
- The new company was checked on the **Department of Commerce, Division of Corporations Database** on: 6/7/2006
- Is the new operator registered in the State of Utah: YES Business Number: 5733505-0143
- If **NO**, the operator was contacted on: \_\_\_\_\_
- (R649-9-2)Waste Management Plan has been received on: requested
- Inspections of LA PA state/fee well sites complete on: n/a
- Reports current for Production/Disposition & Sundries on: ok
- 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: BLM n/a BIA not yet
- Federal and Indian Units:**  
The BLM or BIA has approved the successor of unit operator for wells listed on: not yet
- Federal and Indian Communization Agreements ("CA"):**  
The BLM or BIA has approved the operator for all wells listed within a CA on: n/a
- 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: 6/12/2006

**DATA ENTRY:**

- Changes entered in the **Oil and Gas Database** on: 6/22/2006
- Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 6/22/2006
- Bond information entered in RBDMS on: n/a
- Fee/State wells attached to bond in RBDMS on: n/a
- Injection Projects to new operator in RBDMS on: 6/22/2006
- Receipt of Acceptance of Drilling Procedures for APD/New on: n/a

**BOND VERIFICATION:**

- Federal well(s) covered by Bond Number: n/a
- Indian well(s) covered by Bond Number: PA002769
- (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number n/a
- 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:**

- (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:**

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

UIC FORM 5

**TRANSFER OF AUTHORITY TO INJECT**

Well Name and Number See attached list		API Number Attached
Location of Well		Field or Unit Name Rutherford Unit
Footage: See attached list	County: San Juan	Lease Designation and Number See attached list
QQ, Section, Township, Range:	State: UTAH	

**EFFECTIVE DATE OF TRANSFER:** 6/1/2006

**CURRENT OPERATOR**

Company: Exxon Mobil Oil Corporation Name: \_\_\_\_\_  
 Address: PO Box 4358 Signature: \_\_\_\_\_  
city Houston state TX zip 77210-4358 Title: \_\_\_\_\_  
 Phone: (281) 654-1936 Date: \_\_\_\_\_  
 Comments: Exxon Mobil has submitted a separate, signed copy of UIC Form 5

**NEW OPERATOR**

Company: Resolute Natural Resources Company Name: Dwight E Mallory  
 Address: 1675 Broadway, Suite 1950 Signature:   
city Denver state CO zip 80202 Title: Regulatory Coordinator  
 Phone: (303) 534-4600 Date: 4/20/2006  
 Comments: A list of affected UIC wells is attached.  
 New bond numbers for these wells are:  
 BIA Bond # PA002769 and US EPA Bond # B001252

(This space for State use only)

Transfer approved by:   
 Title: Field Operations Manager Approval Date: 6/12/06

Comments:

**RECEIVED**  
**APR 24 2006**  
 DIV. OF OIL, GAS & MINING

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

FORM 9

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		5. LEASE DESIGNATION AND SERIAL NUMBER: <b>See attached list</b>
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: <b>Navajo Tribe</b>
1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <u>Unit Agreement</u>		7. UNIT or CA AGREEMENT NAME: <b>Ratherford Unit</b>
2. NAME OF OPERATOR: <b>Resolute Natural Resources Company</b> <i>N2700</i>		8. WELL NAME and NUMBER: <b>See attached list</b>
3. ADDRESS OF OPERATOR: 1675 Broadway, Suite 1950 CITY <b>Denver</b> STATE <b>CO</b> ZIP <b>80202</b>	PHONE NUMBER: <b>(303) 534-4600</b>	9. API NUMBER: <b>Attached</b>
4. LOCATION OF WELL FOOTAGES AT SURFACE: <b>See attached list</b> COUNTY: <b>San Juan</b>		10. FIELD AND POOL, OR WILDCAT: <b>Greater Aneth</b>
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: _____ STATE: <b>UTAH</b>		

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input checked="" type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Effective June 1, 2006 Exxon Mobil Oil Corporation resigns as operator of the Ratherford Unit. Also effective June 1, 2006 Resolute Natural Resources Company is designated as successor operator of the Ratherford Unit.

A list of affected producing and water source wells is attached. A separate of affected injection wells is being submitted with UIC Form 5, Transfer of Authority to Inject.

As of the effective date, bond coverage for the affected wells will transfer to BIA Bond # PA002769.

NAME (PLEASE PRINT) <u>Dwight E Malloy</u>	TITLE <u>Regulatory Coordinator</u>
SIGNATURE	DATE <u>4/20/2006</u>

(This space for State use only)

**APPROVED** 6127106  
*Earlene Russell*  
Division of Oil, Gas and Mining (See Instructions on Reverse Side)  
Earlene Russell, Engineering Technician

**RECEIVED**  
**APR 24 2006**  
DIV. OF OIL, GAS & MINING

(5/2000)

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

FORM 9

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		5. LEASE DESIGNATION AND SERIAL NUMBER:
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: <b>Ship Rock</b>
		7. UNIT or CA AGREEMENT NAME: <b>UTU68931A</b>
1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <u>Injection</u>	8. WELL NAME and NUMBER: <b>Ratherford</b>	
2. NAME OF OPERATOR: <b>ExxonMobil Oil Corporation</b> <i>N1855</i>		9. API NUMBER: <b>attached</b>
3. ADDRESS OF OPERATOR: <b>P.O. Box 4358</b> CITY <b>Houston</b> STATE <b>TX</b> ZIP <b>77210-4358</b>	PHONE NUMBER: <b>(281) 654-1936</b>	10. FIELD AND POOL, OR WILDCAT: <b>Aneth</b>
4. LOCATION OF WELL FOOTAGES AT SURFACE:		COUNTY: <b>San Juan</b>
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:		STATE: <b>UTAH</b>

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: <u>6/1/2006</u>	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion:	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input checked="" type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

ExxonMobil Oil Corporation is transferring operatorship of Greater Aneth field, Ratherford lease to Resolute Natural Resources Company. All change of operator notices should be made effective as of 7:00 AM MST on June 1, 2006.

Attached please find a listing of injection wells included in the transfer.

NAME (PLEASE PRINT) Laurie Kilbride TITLE Permitting Supervisor

SIGNATURE *Laurie S. Kilbride* DATE 4/19/2006

(This space for State use only) **APPROVED** 6/27/06  
*Earlene Russell*  
Division of Oil, Gas and Mining  
Earlene Russell, Engineering Technician  
(See Instructions on Reverse Side)

RECEIVED  
APR 21 2006

**GREATER ANETH FIELD UIC WELL LIST**  
**Ratherford lease, San Juan County, Utah**

Reg Lease Name	Well ID	API Num	Status	Reg Lease #	Surface Location						
					Qtr 1	Qtr 2	Sec	TN	RNG	NS Foot	EW Foot
RATHERFORD UNIT	1W24	430371583900S1	Shut-in	14-20-603-246A	NE	SE	1	41S	23E	0651FSL	3300FEL
RATHERFORD UNIT	2W44	430371638600S1	Active	14-20-603-246A	SE	SE	2	41S	23E	0810FSL	0510FEL
RATHERFORD UNIT	11W42	430371584100S1	Active	14-20-603-246A	SE	NE	11	41S	23E	3290FSL	4617FWL
RATHERFORD UNIT	11W44	430371584200S1	Shut-in	14-20-603-246A	SE	SE	11	41S	23E	0660FSL	0558FEL
RATHERFORD UNIT	12W11	430371584300S1	Active	14-20-603-246A	NW	NW	12	41S	23E	0678FNL	4620FEL
RATHERFORD UNIT	12W13	430371640400S1	Active	14-20-603-246A	NW	SW	12	41S	23E	1980FSL	4620FEL
RATHERFORD UNIT	12W22	430371584501S1	Active	14-20-603-246A	SE	NW	12	41S	23E	1920FNL	2080FWL
RATHERFORD UNIT	12W24	430373115101S1	Active	14-20-603-246A	SE	SW	12	41S	23E	0775FSL	1980FWL
RATHERFORD UNIT	12W31	430371584700S1	Active	14-20-603-246A	NW	NE	12	41S	23E	0661FNL	1981FEL
RATHERFORD UNIT	12W33	430371584800S1	Active	14-20-603-246A	NW	SE	12	41S	23E	1958FSL	3300FEL
RATHERFORD UNIT	12W42	430371585000S1	Active	14-20-603-246A	SE	NE	12	41S	23E	3275FSL	0662FEL
RATHERFORD UNIT	12W44A	430373154300S1	Shut-in	14-20-603-246A	SE	SE	12	41S	23E	0772FSL	0807FEL
RATHERFORD UNIT	13W11	430373115201S1	Active	14-20-603-247A	NW	NW	13	41S	23E	0500FNL	0660FWL
RATHERFORD UNIT	13W13	430371585100S1	Active	14-20-603-247A	NW	SW	13	41S	23E	1980FSL	4620FEL
RATHERFORD UNIT	13W22	430371585200S1	Active	14-20-603-247A	SE	NW	13	41S	23E	1988FNL	3300FEL
RATHERFORD UNIT	13W24	430371585300S1	Active	14-20-603-247A	SE	SW	13	41S	23E	0660FSL	3300FEL
RATHERFORD UNIT	13W33	430371585501S1	Active	14-20-603-247A	NW	SE	13	41S	23E	1970FSL	1979FEL
RATHERFORD UNIT	13W42	430371585700S1	Shut-in	14-20-603-247A	SE	NE	13	41S	23E	2139FNL	0585FEL
RATHERFORD UNIT	13W44	430371640700S1	Active	14-20-603-247A	SE	SE	13	41S	23E	0653FSL	0659FEL
RATHERFORD UNIT	14-31	430373171700S1	Active	14-20-603-247A	NW	NE	14	41S	23E	0754FNL	1604FEL
RATHERFORD UNIT	14W42	430371586001S1	Active	14-20-603-247A	SE	NE	14	41S	23E	1976FNL	653FEL
RATHERFORD UNIT	24W31	430371586200S1	Shut-in	14-20-603-247A	NW	NE	24	41S	24E	0560FNL	1830FEL
RATHERFORD UNIT	24W42	430371586300S1	Shut-in	14-20-603-247A	SE	NE	24	41S	24E	1980FNL	0660FEL
RATHERFORD UNIT	17W12	430371572601S1	Active	14-20-603-353	SW	NW	17	41S	24E	1980FNL	510FWL
RATHERFORD UNIT	17W14	430371572700S1	Active	14-20-603-353	SW	SW	17	41S	24E	0610FSL	0510FWL
RATHERFORD UNIT	17W21	430371641601S1	Active	14-20-603-353	NE	NW	17	41S	24E	0510FNL	1830FWL
RATHERFORD UNIT	17W23	430371572801S1	Active	14-20-603-353	NE	SW	17	41S	24E	1880FSL	1980FWL
RATHERFORD UNIT	17W32	430371572900S1	TA'd	14-20-603-353	SW	NE	17	41S	24E	1830FNL	2030FEL
RATHERFORD UNIT	17W34	430371573000S1	Active	14-20-603-353	SW	SE	17	41S	24E	0560FSL	1880FEL
RATHERFORD UNIT	17W41	430371573100S1	Shut-in	14-20-603-353	NE	NE	17	41S	24E	0610FNL	0510FEL
RATHERFORD UNIT	17W43	430371641701S1	Active	14-20-603-353	NE	SE	17	41S	24E	1980FSL	0660FEL
RATHERFORD UNIT	18-43B	430373171801S1	Active	14-20-603-353	NE	SE	18	41S	24E	2023FSL	0651FEL
RATHERFORD UNIT	18W12	430373115301S1	Active	14-20-603-353	SW	NW	18	41S	24E	1980FNL	560FWL
RATHERFORD UNIT	18W14	430371573501S1	Active	14-20-603-353	SW	SW	18	41S	24E	0810FSL	0600FWL
RATHERFORD UNIT	18W21	430371641801S1	Active	14-20-603-353	NE	NW	18	41S	24E	660FNL	1882FWL
RATHERFORD UNIT	18W23	430373024400S1	Shut-in	14-20-603-353	NE	SW	18	41S	24E	2385FSL	2040FWL
RATHERFORD UNIT	18W32	430371573601S1	Active	14-20-603-353	SW	NE	18	41S	24E	2140FNL	1830FEL
RATHERFORD UNIT	18W34	430371573701S1	Active	14-20-603-353	SW	SE	18	41S	24E	780FSL	1860FEL
RATHERFORD UNIT	18W41	430371573800S1	TA'd	14-20-603-353	NE	NE	18	41S	24E	0660FNL	0660FEL
RATHERFORD UNIT	19-12	430371573901S1	Active	14-20-603-353	SW	NW	19	41S	24E	1980FNL	0600FWL
RATHERFORD UNIT	19-32	430371574301S1	Active	14-20-603-353	SW	NE	19	41S	24E	2717FNL	2802FEL
RATHERFORD UNIT	19-34	430371574401S1	Active	14-20-603-353	SW	SE	19	41S	24E	0660FSL	1980FEL
RATHERFORD UNIT	19W21	430371574100S1	Shut-in	14-20-603-353	NE	NW	19	41S	24E	0660FNL	1860FWL
RATHERFORD UNIT	19W23	430371574200S1	Shut-in	14-20-603-353	NE	SW	19	41S	24E	2080FSL	1860FWL
RATHERFORD UNIT	19W43	430371642000S1	Shut-in	14-20-603-353	NE	SE	19	41S	24E	1980FSL	0760FEL
RATHERFORD UNIT	20-12	430371574601S1	Active	14-20-603-353	SW	NW	20	41S	24E	0709FNL	0748FEL
RATHERFORD UNIT	20-14	430371574701S1	Active	14-20-603-353	SW	SW	20	41S	24E	0660FSL	0660FWL
RATHERFORD UNIT	20-32	430371574901S1	Active	14-20-603-353	SW	NE	20	41S	24E	0037FNL	0035FWL
RATHERFORD UNIT	20-34	430371575001S1	Active	14-20-603-353	SW	SE	20	41S	24E	0774FNL	0617FWL
RATHERFORD UNIT	20-67	430373159000S1	Active	14-20-603-353	NE	SW	20	41S	24E	2629FSL	1412FWL
RATHERFORD UNIT	20W21	430371642300S1	Active	14-20-603-353	NE	NW	20	41S	24E	0660FNL	1880FWL
RATHERFORD UNIT	20W23	430371574800S1	Active	14-20-603-353	NW	SW	20	41S	24E	2080FSL	2120FWL
RATHERFORD UNIT	20W41	430371575100S1	Active	14-20-603-353	NE	NE	20	41S	24E	0660FNL	0660FEL
RATHERFORD UNIT	20W43	430371642400S1	TA'd	14-20-603-353	NE	SE	20	41S	24E	2070FSL	0810FEL
RATHERFORD UNIT	16W12	430371572000S1	Active	14-20-603-355	SW	NW	16	41S	24E	1880FNL	0660FWL

**GREATER ANETH FIELD UIC WELL LIST**  
**Ratherford lease, San Juan County, Utah**

Reg Lease Name	Well ID	API Num	Status	Reg Lease #	Surface Location						
					Qtr 1	Qtr 2	Sec	TN	RNG	NS Foot	EW Foot
RATHERFORD UNIT	16W14	430371572100S1	Shut-in	14-20-603-355	SW	SW	16	41S	24E	0660FSL	0660FWL
RATHERFORD UNIT	16W21	430371641400S1	Active	14-20-603-355	NE	NW	16	41S	24E	0660FNL	1880FWL
RATHERFORD UNIT	16W23	430371572201S1	Active	14-20-603-355	NE	SW	16	41S	24E	1980FSL	1980FWL
RATHERFORD UNIT	16W43	430371641501S1	Active	14-20-603-355	NE	SE	16	41S	24E	2140FSL	0820FEL
RATHERFORD UNIT	21-14	430371575301S1	Active	14-20-603-355	SW	SW	21	41S	24E	0660FSL	0460FWL
RATHERFORD UNIT	21-67	430373175301S1	Active	14-20-603-355	NE	SW	21	41S	24E	2560FSL	1325FWL
RATHERFORD UNIT	21W21	430371642501S1	Active	14-20-603-355	NE	NW	21	41S	24E	0660FNL	2030FWL
RATHERFORD UNIT	6W14	430371598400S1	Active	14-20-603-368	NE	SE	6	41S	24E	0660FSL	0660FWL
RATHERFORD UNIT	7W12	430371598500S1	Active	14-20-603-368	NE	SE	7	41S	24E	2140FNL	0585FWL
RATHERFORD UNIT	7W14	430371598600S1	Active	14-20-603-368	NE	SE	7	41S	24E	1065FSL	0660FWL
RATHERFORD UNIT	7W21	430371639400S1	Active	14-20-603-368	NE	NW	7	41S	24E	0710FNL	1820FWL
RATHERFORD UNIT	7W34	430371598900S1	Active	14-20-603-368	SW	SE	7	41S	24E	0710FSL	2003FEL
RATHERFORD UNIT	7W43	430371639500S1	Active	14-20-603-368	NE	SE	7	41S	24E	2110FSL	0660FEL
RATHERFORD UNIT	8W14	430371599200S1	Active	14-20-603-368	SW	NE	8	41S	24E	0745FSL	0575FWL
RATHERFORD UNIT	10W43	430371640300S1	TA'd	14-20-603-4037	NE	SE	10	41S	24E	1980FSL	0550FEL
RATHERFORD UNIT	29-12	430371533701S1	Active	14-20-603-407	SW	NW	29	41S	24E	2870FNL	1422FWL
RATHERFORD UNIT	29-32	430371533901S1	Active	14-20-603-407	SW	NE	29	41S	24E	0694FNL	0685FWL
RATHERFORD UNIT	29W21	430371643200S1	Active	14-20-603-407	NE	NW	29	41S	24E	0667FNL	2122FWL
RATHERFORD UNIT	29W41	430371643300S1	Active	14-20-603-407	NE	NE	29	41S	24E	0557FNL	0591FEL
RATHERFORD UNIT	29W43	430371643400S1	Shut-in	14-20-603-407	NE	SE	29	41S	24E	1980FSL	0660FEL
RATHERFORD UNIT	30W41	430371534300S1	Shut-in	14-20-603-407	NE	NE	30	41S	24E	0660FNL	0660FEL
RATHERFORD UNIT	28-12	430371533601S1	Active	14-20-603-409	SW	SE	28	41S	24E	2121FNL	0623FWL
RATHERFORD UNIT	28W21	430371643100S1	Shut-in	14-20-603-409	NE	NW	28	41S	24E	0660FNL	2022FWL
RATHERFORD UNIT	9W23	430371639800S1	Active	14-20-603-5046	NW	SE	9	41S	24E	1980FSL	1980FWL

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> 14-20-603-353
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> NAVAJO
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>7. UNIT or CA AGREEMENT NAME:</b> RATHERFORD
		<b>8. WELL NAME and NUMBER:</b> RATHERFORD 18-W-34
<b>1. TYPE OF WELL</b> Water Injection Well	<b>9. API NUMBER:</b> 43037157370000	
<b>2. NAME OF OPERATOR:</b> RESOLUTE NATURAL RESOURCES	<b>9. FIELD and POOL or WILDCAT:</b> GREATER ANETH	
<b>3. ADDRESS OF OPERATOR:</b> 1675 Boradway Ste 1950 , Denver, CO, 80202	<b>PHONE NUMBER:</b> 303 534-4600 Ext	<b>COUNTY:</b> SAN JUAN
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0780 FSL 1860 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWSE Section: 18 Township: 41.0S Range: 24.0E Meridian: S	<b>STATE:</b> UTAH	
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 7/3/2012  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> WILDCAT WELL DETERMINATION <input checked="" type="checkbox"/> OTHER	
OTHER: <input style="width: 100px;" type="text" value="well status"/>		
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
Attached daily well report to 7-3-12.		
<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY July 12, 2012</b>		
<b>NAME (PLEASE PRINT)</b> Shery Glass	<b>PHONE NUMBER</b> 303 573-4886	<b>TITLE</b> Sr Regulatory Technician
<b>SIGNATURE</b> N/A	<b>DATE</b> 7/3/2012	



## Daily Well Report

## Well Name: Ratherford U 1834

API Number 43037157370000	Section 18	Township 41S	Range 24E	Field Name Ratherford	County San Juan	State/Province Utah	Wellbore Config Horizontal
Ground Elevation (ft)	Casing Flange Elevation (ft)	KB-Ground Distance (ft)	KB-Casing Flange Distance (ft)	Well Spud Date/Time 12/18/1997 00:00	Rig Release Date/Time 2/12/1998 00:00		

Job Category Completion/Workover	Primary Job Type Recompletion	Secondary Job Type	Working Interest (%) 64.50
Start Date 6/24/2012	End Date	AFE Number 10012780	

Objective  
Job scope: Sidetrack out of 5-1/2" wellbore, drill ~2600' OH lateral to the SE, adjacent and parallel to the current lateral, acid stimulate, run new injection packer and new 2-7/8" TK Fiberlined tubing with KC couplings.

Contractor Key	Rig Number 27	Rig Type	Rig Start Date 6/24/2012	Rig Release Date
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Report Number	Start Date	End Date	Summary
1	6/15/2012	6/15/2012	Cut off 2 1/2" riser on injection and cap off 2 1/2" trunkline
2	6/24/2012	6/25/2012	Check location f/trash and make sure all tools & equipment is loaded & secure. Wait for Dawn trucks to arrive f/move. Group JSA, 21 men present. Dawn has 4 trucks, 5th truck was not available. Topic-discuss route to RU 18-34 locaton, local traffic & house's on route. Heavy traffic on loc. Smoking area's and fire danger. Start load out & truck equipment, 18 loads. MIRU on RU 18-34 Drive rig on ramp & level, prep to raise derrick. Found pinched between A leg and pivot point of derrick. PU derrick 4" and inspect cable. Will have to be replaced. Was told about incident w/Key doghouse AC unit hitting handrail of crown on move over f/AU E #220. Crew will be sent to Cortez for UA after crew change. Crew change JSA-topic forklift operations, overhead loads. Use spotters & tag lines. Strike zone & pinch points. RU 3" hardline's f/choke manifold & gas buster to FB tanks. NU BOP double to Hydril annular at stump skid. RU & blow down well, starting pressure of 600 psi. Well bleed off in 4 min. Returns of gas, lt oil & water. Gather tools & equipment f/planned daylight operations. Crew change JSA-topic rig maintenance. Prep to take rig off ramp
3	6/25/2012	6/26/2012	Waiting of replacement cable f/crown to headache rack on unit. Perform rig maintenace. Move rig off ramp and off location. Welder making repairs. Nightlight electric on location to install 30 amp RV plug on power panel. Meet w/Pason Tech to look at job scope and cost of installing system on rig & installations in supervisor & directional drillers RV's. Looking at 3 days work & trucking cost @ appox 3K plus downtime. Talk w/Jim Styler & Jason w/Resolute and Peter w/Mesa West Directional about project options. Peter is going to locate encoder for downhole tools to track depth and we can set up work station, satelite and phone thru Pason for e-mail. Gamma will be recorded with Mesa West downhole tools. Lansing spot & drop empty Tbg trailer. Use winch truck to assist parking rig unit on ramp. Level rig, wait on new cable. Fuel delivery-2028 gal diesel. New cable on location, install. Raise & scope derrick. Check dog pins-good. Start secure guy line. PROBLEM with new cable, made to long. Made up all adjustment and still not tight. Call into Wes Roundtree to inform. Cable will have to made up again. Crew change JSA, topic-scope and lower derrick. Teamwork & good communication. Lower derrick & remove new cable. Remove other cable & measure. Load new cable on Toolpushers truck. Call into HSC to re-make cable. Will not start on re-make until Tuesday morning. Downtime waiting of correct cable. Crew change JSA, topic-housekeeping & powerwash rig & equipment.
4	6/26/2012	6/27/2012	This is the report on the Ratherford Unit 18-34 Capital Injection well Key rig #27 Waited on tool pusher to return with low guide cable While waiting had rig crew perform a MOCK MIT to 1000 psi for 30 mins (Good Test).Bleed off pressure. Spot in and rig-up Tefteller. Make-up 1.75 Impression Block. Pressure test lubricator to 1000 psi (good test). Bleed off pressure and run on end and tag at 5324, wireline depth come out. Showed traces of scale. Pick-up 1.906 gauge ring and tag at 5314, came out and pick-up 1.657 gauge ring and went through packer to 5345 .wireline depth, to make sure we were clear through packer. Come out and rig down Tefteller and move off. Put on new cable and rig up service unit.Crew change at 6:00. Tail Gate safety meeting with 12 personal on location. Topic that were discuss were fort lift operations, good communication, use of spotter, suspended loads, hand placement, over- all good house keeping, also the release of Weatherford packer.Start nipple down upper tree. Strip over BOP stack and nipple-up. Rig up work platform, hand rails, ladders, cat walk, pipe racks. also 6" line to gas buster.Slow process due to lighting and thunder also high winds in the area. Pressure test BOP stack 300 low and 1000 high. (Good Test). Unscrew lock down pins, pull up and release packer. Taker off hanger and secure tubing with TIW valve. Crew shut down to eat lunch. Start laying down 2 7/8 production string and transfer to trailer Layed down 100 jts and talley, transfer to trailer. . Crew change at 6:00 in the morning. Tail gate safety meeting with rig crew topic was laying down drill pipe, fork lift operations, team work. Continue laying down production string and talley.
5	6/26/2012	6/27/2012	This is the report On the RU- 18-34 Capitai Injection well Key rig #27 Wait on toolpusher to trturn with low guide cable. While waiting had the rig crew perform a MONT-MIT to 1000 psi on casing.



## Daily Well Report

## Well Name: Ratherford U 1834

API Number 43037157370000	Section 18	Township 41S	Range 24E	Field Name Ratherford	County San Juan	State/Province Utah	Wellbore Config Horizontal
Ground Elevation (ft)	Casing Flange Elevation (ft)	KB-Ground Distance (ft)	KB-Casing Flange Distance (ft)	Well Spud Date/Time 12/18/1997 00:00	Rig Release Date/Time 2/12/1998 00:00		

Report Number	Start Date	End Date	Summary
6	6/27/2012	6/28/2012	This is on the Ratherford Unit 18-34 Capital Injection well Key rig #27 Finish laying down 168 jts. On and Off tool, 5 1/2 Arrowset 1-X packer and transfer to trailer. Started transferring AOH drill pipe to pipe racks. Talley and make up 5 1/2 scaper. Started in hole Talley and pick-up 89 jts. Transfer the remaining 91 jts to pipe racks. Crew shut down to eat lunch Talley and start picking-up pipe. Had KC Transport spot in trailer for Mesa West Directional. Finish picking up 172 jts of drill pipe to the depth of 5442.43. Rig up hose and pump 8 bbls of P/W. Reverse circulate well clean for 1 hour. Crew change at 6:00. Tail gate safety meeting with rig crew topic was tripping, weather conditions, wireline work. Finish circulating well clean. Rig down hose and lay down 24 jts of AOH drill pipe. TOH with 5 1/2 scraper. Move equipment around to make room for Blue Jet. Rig up wireline and hold safety meeting with all contractors on location topic was wireline operations, suspended loads, and staying away from wireline operations. Make-up 40 Arm Caliper Casing Inspection tool and log from 5440 to 2000 ft. Came out and picked-up tool to ran a Cement Bond Log from 5440 to 2000 ft. Send all logs to Jlm Styler.. Crew change at 6:00. Tail Gate safety meeting with rig crew Topic was good house keeping, hand placement, watching speed on lease roads Service rig and wait on next operation
7	6/28/2012	6/29/2012	This is the report on Ratherford Unit 18-34 Capital injection well Key #27 Set pipe rack and move 20 jts of spiral heavy weight drill pipe onto racks and talley. Had 6 personal go over to MCU Office and have Resolute orientation with Troy Begay also discuss the next operations with Jim Styler. Have Blue Jet run in and set CIBP at 5335. Come out and rig down wireline. Had safety meeting with rig crew topic was (mills and whipstock) Pick-up 5 1/2 Anchor, Debris sub, 4 3/4 window mill, 4 3/4 watermelon mill, 2 7/8 flex jt, 2 7/8 AOH x 2 3/8 IF, 2 7/8 AOH flex jt, UBHO sub, SL H90 x 2 7/8 AOH, 2 7/8 AOH x SL H90, and 20 jts of 2 7/8 spiral heavy weight Drill Pipe. Shut down so crew can eat lunch. Move equipment around for Mesa West.TIH with BHA to 5312.50, lay down top jt. Rig-up Blue Jet and pick-up jt and gyro tools,, run on in and orientate whip stock with gyrocompass, Azimuth at 1.38 degrees.due (south--east) Crew change at 6:00 Tail gate safety meeting with rig crew topic was wireline operations, high pressure lines, team work. Set whipstock, pull up to 1000 ft of cable, sheer of mills.Come out with gyro tools and rig down Blue Jet release wireline also gyro Tec hands. .Install a depth indicator off the main clutch system on the rig for Mesa West. Pick-up 3.5 power swivel and rig up on jt 168 .Pump 10 bbls of P/W to establish circulation . Milling operation started with 1-K down, and level out to 5-K down, 750 psi on pressure, at 2 bbls a min, returns were metal shaving, Cut window from 5324. to 5329 Crew change tail gate safety meeting with rig crew topic was milling operations, good communication, high pressure lines, keeping and eye on all fluids As of 6:30 this morning .Milled out window to 5335. Continue to circulate well clean
8	6/29/2012	6/30/2012	This is the report on the Ratherford Unit 18-34 Capital Injection well Key rig #27 Finish circulating well clean. Rig down hoses and TOH with mills. Make up BHA with Hughes/STX 30C, 3 3/4 3 stage Motor, Float Sub, X over, UBHO, x over, 2 Flex Monel, UBHO.Rig up to drill pipe and test motor (Good Test)TIH with 46 stands of AHO, and 10 stands of spiral heavy weight drill pipe Had Mesa West retest motor and calibrate depth tracker. (Good Test) .Crew shut down to eat lunch Finish running AOH drill pipe. Pick up 6 jts and change out bails to the longer set. Rig up 3.5 swivel on jt 167.. Rig up Blue Jet wireline lubricator to the top of power swivel. Pick-up jt and rig up gyro tools with wireline.Crew change at 6: 00 Tail gate safety meeting with rig crew topic was wireline operations,keeping up with fluids, team work. Make up joint and run wireline, went in and seat fot proper tool face. but no communicating properly. Pull-up and reset gyro. Slide on in and bring up pump pressure to 1000 psi at 2 bbls a min. Slide from 5336 to 5337. Gyro failure kickoff pump and release pressure. Pull wireline to change out tools Run in and recalibrate. Tool would not give out any information. Pull wireline and and change out gyro. Run wireline and seat and recalibrate. Crew change at 6:00 Tail gate safety meeting with rig crew topic was good house keeping, team work, working around wireline operations. When attempting to slide the gyro tool failed. Gyro locked up @ 7' inc and 358 A Release Scientific Drilling
9	6/30/2012	7/1/2012	The report on the Raterford Unit 18-34 Capital Injection well Key rig #27 Call out Gyro Data and waited on Tec hands to show. Service all equipment on location Hold safety meeting with rig crew and Tec hands about operations, and good communication, Rig up gyro on wireline run on in and seat try to calibrate. Gyro failed and pull wireline and switch out tools and test. Make up tool on wireline and reseal slide on in and turn on pump at 2 bbls a min with pressure at 1000 psi. Time drill from 5336 to 5338. Gyro failed pull wireline and lay down tools. Build gyro tools and make up on wireline and run. Turn on pump at 2 bbls a min with 1000 psi. Time drill from 5338 to 5343.at 3 min/inch. Pull up and kick out pump pull wireline with gyro tools to make a connection. Pick up jt 168 and pick up tools on wireline make up drill pipe. Run wireline and seat tool. Time drill from 5343 to 5345.Shift change at 6:00 Tail gate safety meeting with rig crew topic was high pressure lines and staying on top of fluids. Reset drift on gyro. Had trouble holing tool face from 5340 to 5347. tool face lock in at 350" Azimuth. We were able to drill 2" at a time before problem would happen again.Finish time drilling to 5362, Survey Inc 3.2 Bleed of pressure and rig down Blue Jet. Release wireline crew also Gyro Date.Gyro check shot final was 359.78 Start slide drilling from 5362 to 5437 pump pressure at 1100 psi with 10 k down with the penetration rate of 15 to 20 ft a hour. Crew change at 6:00 Tail gate safety meeting with rig crew topic was drilling operations, keeping and eye on fluids, good communication, team work. Cont to drill out lateral



## Daily Well Report

## Well Name: Ratherford U 1834

API Number 43037157370000	Section 18	Township 41S	Range 24E	Field Name Ratherford	County San Juan	State/Province Utah	Wellbore Config Horizontal
Ground Elevation (ft)	Casing Flange Elevation (ft)	KB-Ground Distance (ft)	KB-Casing Flange Distance (ft)	Well Spud Date/Time 12/18/1997 00:00	Rig Release Date/Time 2/12/1998 00:00		

Report Number	Start Date	End Date	Summary
10	7/1/2012	7/2/2012	Report for R.U. 18-43 Capital Injector Key Rig 27. Survey @ 5402' Inc. 23.7 Az 146.4. Continue to Slide F/ 5437' T/ 5469'. Survey @ 5434' Inc. 33.1 Az 144.1. Slide F/ 5469' T/ 5512'. Survey 5466' Inc 42.4 Az 139.0. Circ hole clean for 1hr. L/D 5 jts DP w/ Swivel. Stand Swivel back in derrick, Change out bells F/ long T/ short. TOH 30 stds DP, 10 stds HWDP, 44 stds DP. L/D 2 jts monel, Gyro tool, L/D Motor & Bit. Bit slightly worn, Good to rerun. Move new motor to catwalk. Tally & P/U Motor, Rerun bit, Scribe UBHO to motor, P/U Monel, Gyro tool, Monel. TIH 44 stds DP. Crew change @ 1800hrs, JSA (Tripping DP, Making Connections). TIH 10 stds HWDP, 30 stds DP. Change out bells F/ short T/ long, P/U Power Swivel. P/U 5 jts DP w/ swivel. Tag @ 5512' Slide F/ 5512' T/ 5530', Survey @ 5495' Inc 51.7 Az 136.6, Slide F/ 5530' T/ 5547', Survey 5512' Inc 56 Az 136.6, Slide F/ 5547' T/ 5561', Survey 5526' Inc 57.4 Az 137.5, Slide F/ 5561' T/ 5593', Survey @ 5526' Inc 60.5 Az 138.7, Slide F/ 5593' T/ 5625'. 14K- 15K on Bit, 1100psi pump psi, 60 storkes, 2bbl min, Fluid wt 8.9, Vis 27.
11	7/2/2012	7/3/2012	Report for R.U. 18-43 Capital Injector Key Rig #27. Slide F/ 5593' T/ 5625', Survey @ 5590' 64.1 Inc 139.3 Az, Slide F/ 5625' T/ 5656', Survey @ 5621' 67.2 Inc 139.8 Az, Slide F/ 5656' T/ 5688', Survey @ 5653' 70.4 Inc 140.2 Az, Silde F/ 5688' T/ 5719', Survey @ 5684' 73.7 Inc 140.1 Az, Crew Change @ 1800 JSA (House keeping, Hand placement) Slide F/ 5719' T/ 5751', Survey @ 5684' 77.2 Inc 139.8 Az, Slide F/ 5751' T/ 5783', Survey @ 5748' 81 Inc 140.2 Az, Slide F/ 5783' T/ 5814', Survey @ 5779' 85.3 Inc 140.5 Az, Slide F/ 5814' T/ 5829', Rotate F/ 5829' T/ 5839', Power swivel doesn't have enough power to turn more then 15 RPM and take more then 6k-8K on the Bit, Rotate F/ 5839' T/ 5846', Survey @ 5811' 89.1 Inc 140.1 Az, Slide F/ 5846' T/ 5856', Try to rotate swivel not working, Circ air out of hydraulic lines, Swivel working good, Rotate F/ 5856' T/ 5877', Survey @ 5842' 90.8 Inc 140 Az, Crew Change @ 0600 JSA (Drilling Operations, Moving DP) Slide F/ 5877' T/ 5887'. Slide 19K on the Bit, 10' an hour ROP, 1250 psi, 60 strokes, 2 bbls a min. Rotate 10K on the Bit 25' and hour ROP, 1250 psi, 60 storkes, 2 bbls a min. Drilling w/ P/W 8.8 wt, 27 vis, 7 ph.

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> 14-20-603-353
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> NAVAJO
		<b>7. UNIT or CA AGREEMENT NAME:</b> RATHERFORD
<b>1. TYPE OF WELL</b> Water Injection Well	<b>8. WELL NAME and NUMBER:</b> RATHERFORD 18-W-34	
<b>2. NAME OF OPERATOR:</b> RESOLUTE NATURAL RESOURCES	<b>9. API NUMBER:</b> 43037157370000	
<b>3. ADDRESS OF OPERATOR:</b> 1675 Boradway Ste 1950 , Denver, CO, 80202	<b>PHONE NUMBER:</b> 303 534-4600 Ext	<b>9. FIELD and POOL or WILDCAT:</b> GREATER ANETH
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0780 FSL 1860 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWSE Section: 18 Township: 41.0S Range: 24.0E Meridian: S	<b>COUNTY:</b> SAN JUAN	
	<b>STATE:</b> UTAH	
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: <b>6/25/2012</b>	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input checked="" type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:		
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:		
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
Sidetrack out of 5-1/2" wellbore, drill ~2600' OH lateral to the SE, adjacent and parallel to the current lateral, acid stimulate, run new injection packer and new 2-7/8" TK Fiberlined tubing with KC couplings. Detailed proposed WBD, existing WBD and job summary is attached.		
		<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY July 16, 2012</b>
<b>NAME (PLEASE PRINT)</b> Shery Glass	<b>PHONE NUMBER</b> 303 573-4886	<b>TITLE</b> Sr Regulatory Technician
<b>SIGNATURE</b> N/A	<b>DATE</b> 7/3/2012	

**RATHERFORD UNIT # 18W-34**

GREATER ANETH FIELD

Surface Loc: 780' FSL & 1860' FEL

SEC 18-T41S-R24E

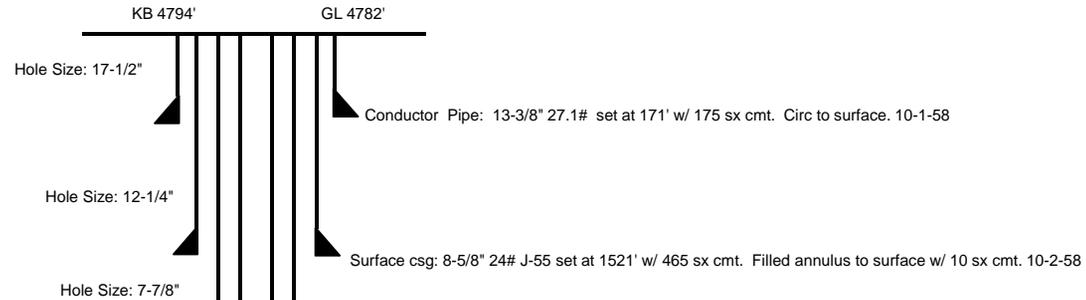
SAN JUAN COUNTY, UTAH

API 43-037-15737

PRISM 0043071

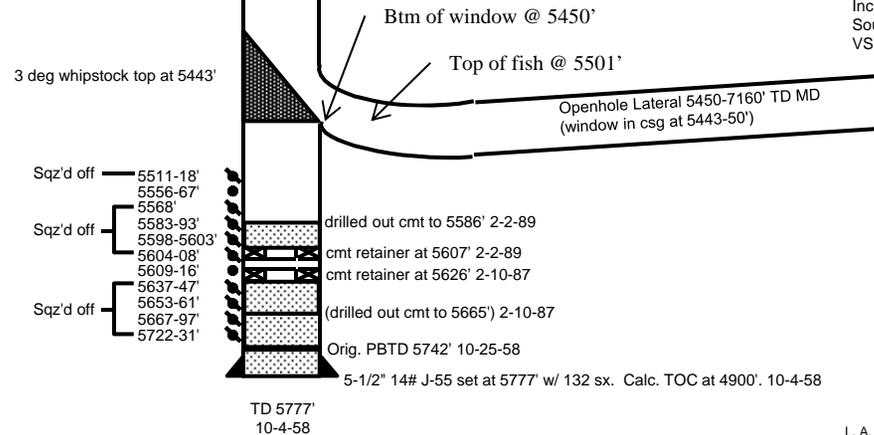
**EXISTING**

**INJECTOR**



**Tubing Record: 3/31/08**

Jts	Item Description	OD	ID	Wt	Grade	Len	Top	Btm
1	Tubing Hanger	2 7/8	2.5			1	14	15
1	Tubing TKFL (Landing jt)	2 7/8	2.212	6.5	J-55	32	15	47
167	Tubing TKFL	2 7/8	2.212	6.5	J-55	5,261	47	5,308
1	Cross Over (2 7/8"x 2 3/8")	2 7/8	2			1	5,308	5,309
1	On-Off Tool (T2-w/1.81"F")	4 1/2	1.81			2	5,309	5,311
1	Packer (ArrowSet 1X)	4 5/8	2			7	5,311	5,318
1	Profile Nipple (2 3/8"x 1.78 "R")	3 1/16	1.78			1	5,318	5,319
1	Wireline Guide	3 1/16	2			1	5,319	5,320



**Lateral #1 :**  
TMD 7160', TVD 5564'  
Inc. 90.6, Azimuth 131.6,  
South 1119', East 1144',  
VS 1600'. 2-12-98

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9  <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> 14-20-603-353
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<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> NAVAJO  <b>7. UNIT or CA AGREEMENT NAME:</b> RATHERFORD
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<b>1. TYPE OF WELL</b> Water Injection Well	<b>8. WELL NAME and NUMBER:</b> RATHERFORD 18-W-34
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<b>2. NAME OF OPERATOR:</b> RESOLUTE NATURAL RESOURCES	<b>9. API NUMBER:</b> 43037157370000
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<b>3. ADDRESS OF OPERATOR:</b> 1700 Lincoln Street, Suite 2800 , Denver, CO, 80203 4535	<b>PHONE NUMBER:</b> 303 534-4600 Ext	<b>9. FIELD and POOL or WILDCAT:</b> GREATER ANETH
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<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0780 FSL 1860 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWSE Section: 18 Township: 41.0S Range: 24.0E Meridian: S	<b>COUNTY:</b> SAN JUAN  <b>STATE:</b> UTAH
---	---

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 7/20/2015  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input checked="" type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Resolute Natural Resources respectfully submits this sundry as notice of acid treatment on the above well, attached are the procedures and schematic

**Accepted by the  
 Utah Division of  
 Oil, Gas and Mining**

Date: July 15, 2015  
 By: *Derek Duff*

<b>NAME (PLEASE PRINT)</b> Erin Joseph	<b>PHONE NUMBER</b> 303 573-4886	<b>TITLE</b> Sr. Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 7/14/2015

# Resolute

## Natural Resources

### Re: RU Injection Wells Bullhead Stimulation - Eight Treatments

Well Summary Table												
Well No.	Planned Treatment	Bbls after xyl to 30 min soak	Bbls wtr disp after trtmt	Well Type	Tbg - Csg Sizes	Perforated Interval, ft	Current BWIPD	Pattern Oil Cut, %	Tbg Install Date	Last Acid Date	Pattern +BOPD	Est Stim Cost, \$M
1	8W-14 2500 HCl & 400 xyl	26.8	33	Vertical	2-3/8 - 7	28	37	5.4	Nov 1990	None - WV <sup>1</sup>	14	21.7
2	12W-11 2500 HCl & 400 xyl	21.4	28	Vertical	2-3/8 - 4	47	94	7.2	May 2006	None - WV	14	21.7
3	13W-42 2500 HCl & 400 xyl	21.1	27	Vertical	2-3/8 - 4	40	318*	4.4	Nov 2010	11/4/2006	22	21.7
4	19W-34 5000 HCl & 600 xyl	39.5	63	Sgl Lateral	2-7/8 - 5-1/2 (H. lateral)		54	16.3	Mar 2014	None - WV	57	32.9
5	13W-13 2500 ClO <sub>2</sub>	NA	27	Vertical	2-3/8 - 4	58	447	5.5	Jan 1993	None - WV	22	28.8
6	24W-42 2500 ClO <sub>2</sub>	NA	28	Vertical	2-3/8 - 4	32	159	4.5	June 2012	12/10/2014	18	28.8
7	28W-21 2500 ClO <sub>2</sub>	NA	27	Vertical	2-3/8 - 4	24	124	5.9	Dec 1992	None - WV	24	28.8
8	18W-34 3500 ClO <sub>2</sub>	NA	94	Sgl Lateral	2-7/8 - 5-1/2 (H. lateral)		481	9.7	July 2012	None ever	29	37.5
											200	221.9
*13W-42 was backflowed ~500 bbls on 7/9 & put back on injection at 318 bwipd, 100% open; previously zero rate & suspected to be plugged downhole at tbg plug (sheared only, not pulled).						<sup>1</sup> No acid recorded in Well View, i.e. none since 2006.						

### Procedure

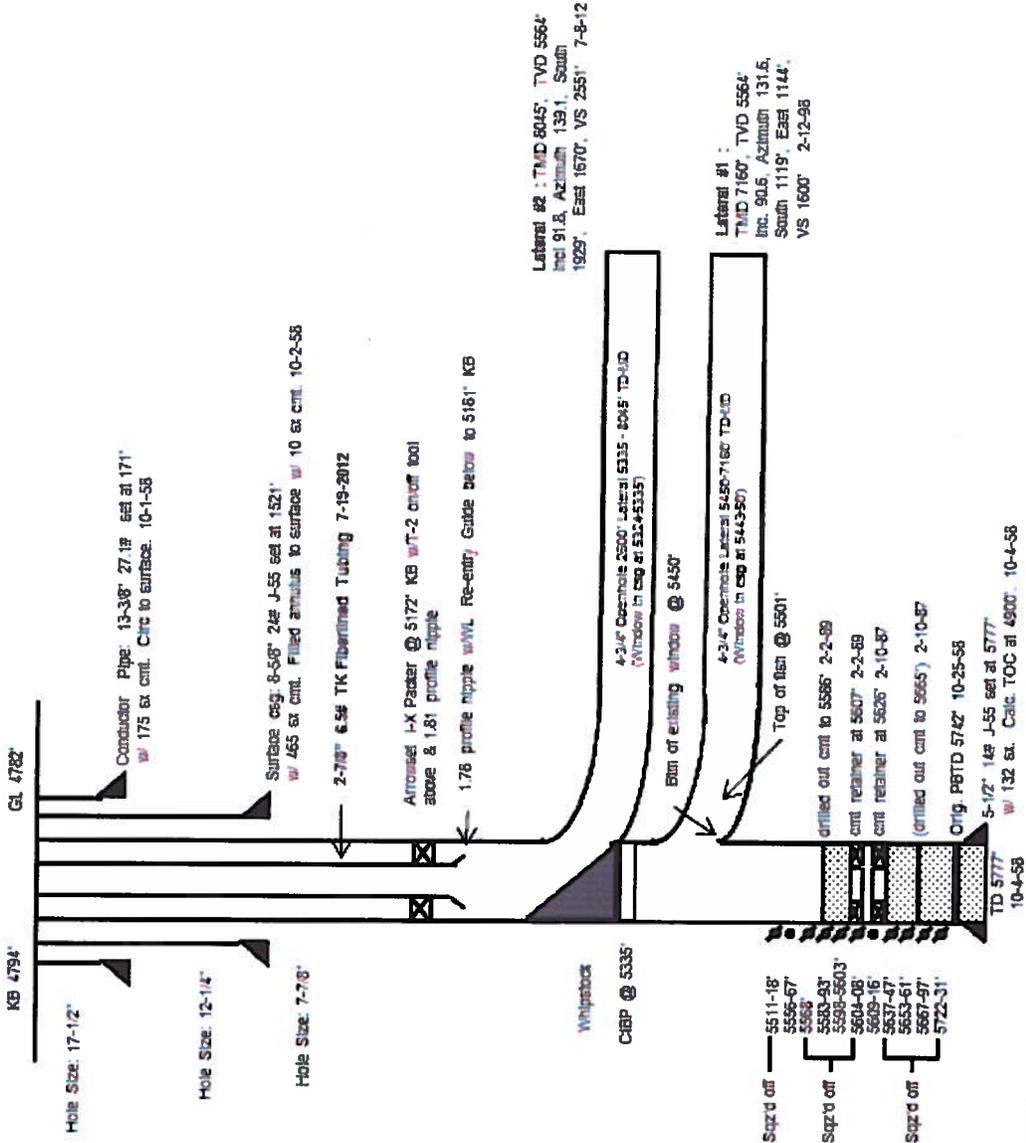
#### Horsley Witten: **Not Applicable**

1. Check crown valve & wing valve for integrity to ensure pump truck can rig up to well. (All wells to be checked before mobilizing equipment.)
2. MIRU frac tank, manifold & hard line for flowback. RU ABC shower trailer.
3. Backflow the well for ~400 bbls, or until significant gas appears, or well dies, then shut in.
4. RU pumping equipment to wellhead & PT lines. Record TP, CP, Bradenhead P (BHP).
5. ACID TREATMENTS: Pump xylene, inhibited 20% HCl, produced water displacement volumes per table above, stopping for 30 min soak after xylene "turns the corner" into perms. **Pump displacement volume at maximum rate possible, staying under 3000 psi TP.** Monitor CP and BHP while pumping.
6. CHLORINE DIOXIDE TREATMENTS: Pump 400 gal xylene, 5 bbls water, 500 gal 20% HCl w/additives, 1 bbl water, 65 gal 410B Activator, 1 bbl water; Repeat this sequence 5 times until products are all gone. NOTE: For 18W-34 the sequence will be the same except that it will be pumped 7 times.
7. Rig down pumping equipment. Allow 2 hrs minimum soak time after acid treatments; overnight for Chlorine Dioxide treatments before returning to injection.
8. Notify Pierce Benally (435) 619-7227 that the well is ready to return to injection.
9. Open the well to injection; Record the initial injection rate and tubing pressure.

**RATHERFORD UNIT # 18W-34**  
 GREATER ANETH FIELD  
 Surface Loc: 780' FSL & 1860' FEL  
 SEC 18-T41S-R24E  
 SAN JUAN COUNTY, UTAH  
 API 43-037-15737  
 PRISM 0043071

**Attachment 1**  
**Final Wellbore Drawing**

**INJECTOR**



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9  5. LEASE DESIGNATION AND SERIAL NUMBER: 14-20-603-353
---	--

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NAVAJO  7. UNIT or CA AGREEMENT NAME: RATHERFORD
--	--

1. TYPE OF WELL Water Injection Well	8. WELL NAME and NUMBER: RATHERFORD 18-W-34
---	--

2. NAME OF OPERATOR: RESOLUTE NATURAL RESOURCES	9. API NUMBER: 43037157370000
--	----------------------------------

3. ADDRESS OF OPERATOR: 1700 Lincoln Street, Suite 2800 , Denver, CO, 80203 4535	PHONE NUMBER: 303 534-4600 Ext	9. FIELD and POOL or WILDCAT: GREATER ANETH
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4. LOCATION OF WELL FOOTAGES AT SURFACE: 0780 FSL 1860 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSE Section: 18 Township: 41.0S Range: 24.0E Meridian: S	COUNTY: SAN JUAN  STATE: UTAH
--	---

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 12/21/2015  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input type="checkbox"/> DRILLING REPORT Report Date:	<input checked="" type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION  OTHER: <input style="width: 100px;" type="text"/>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Resolute proposes to attempt to acidize the subject well to enhance injectivity and reduce the injection pressure in the area. The proposed procedure and schematics are attached.

**Accepted by the  
 Utah Division of  
 Oil, Gas and Mining**

Date: ~~November 23, 2015~~  
 By: *Derek Duff*

NAME (PLEASE PRINT) Sherry Glass	PHONE NUMBER 303 573-4886	TITLE Sr Regulatory Analyst
SIGNATURE N/A	DATE 11/19/2015	

# **RESOLUTE**

## **NATURAL RESOURCES**

**November 13, 2015**

**1420603353**

**UTU68931A**

**4303715737**

### **RU Injection Well 18W-34 Bullhead Acid Stimulation**

#### **Recommendation**

The production engineers and operations staff at Ratherford Unit recommend pumping xylene plus hydrochloric acid down RU 18W-34 single lateral injector to enhance injectivity and reduce the injection pressure in RU area. This treatment is expected to improve injection from 460 to 1000 bwipd and production by 57 BOPD and 418 BWPD for the pattern.

#### **Job Scope**

Job Scope: Backflow the well, RU to wellhead & pump 600 gal xylene plus 5000 gal 20% inhibited HCl acid, and displacement water; Soak, Return to injection.

Acid planned? Y; Change of tubing size? N; Paraffin expected? N

#### **Work History**

10/25/1958 Initial Completion Test - Flowed 92 bopd, 0 bwpd, 180 to 365 TP.

12/19/1958 Workover - Install rod pumping equipment for artificial lift - Pulled tbg & pkr, RIH w/ SN, TAC, on re-run tbg. Set TAC @ 5421'. Ran 1.75" pump on 1" x 7/8" x 3/4" rods.

3/4/1969 Workover - Pulled rod pumping equipment and ran electrical submersible pump.

5/5/1976 Shut in - Uneconomic.

11/11/1976 Recompletion - Cmt sqz'd DC-II & III 5559-5731' overall w/250 sx B cmt tp 4000 psi; CO to new PBD 5623', Perf'd 5511' to 5616' overall @ 2 spf, Acidized w/5000 gal 28% HCl in two steps, ran rod pumping completion w/1.75" pump, returned to production.

2/10/1987 Converted to water injection.

2/2/1989 Workover - Cleaned out wellbore, ran casing inspection log, performed cement squeezes, CO to new PBD 5586', acidized 5511-5567' overall with 1000 gal 28% HCl, ran Baker 45AN lockset packer & 2-3/8 Rice Duoline tubing. Returned to injection.

1/27/1997 CTU - CO to PBD @ 5591' CTM, pumped 4000 gal 15% HCl, 1.17 max rate @ 3740 psi CTP.

Jan-Feb 1998 Horizontal Sidetrack - Milled 5-1/2" csg window 5443-50', drilled 4-3/4" horizontal lateral to 7160' TMD/5564' TVD, azimuth 131.6 degrees, 90.6 degrees inclination; VS 1600'. Set 5-1/2" pkr @ 5356' on 2-7/8 tbg. RIH CTU to 7160' & acidized w/6000 gal 15% HCl, 1.5 bpm @ 3700 CTP followed by 42,840 gal (?) SXE acid system. Backflowed, killed w/brine, RIH Guiberson G6 inj pkr & 2-7/8 cement lined tbg.

1/03/2000 UIC Workover - Pulled & replaced tubing & packer.

12/01/2006 UIC Workover, Part 1 - Pulled tubing & pkr; G6 pkr parted & lower half fell downhole & entered the lateral. Subsequent fishing was unable to recover the fish; cemented in place & left cmt top @ 5440' (3' above window). Set cibp @ 5436', RDMO.

1/28/2008 UIC Workover, Part 2 - Milled up cibp above window, chased remains down to 5454' (btm of window @ 5450'); circ clean. Ran pkr on workstring & set @ 5360' for injectivity test: zero rate at 3000 psi. Swabbed back 42 bbls total from max 5200' depth, no significant inflow; decide to drill past fish. RIH bit & drilled past fish to 5568', circ clean, pump 126 gal 31.5% HCl thru bit & displaced w/30 bbls PW. POOH, left 67' fish (2-3/8 tbg & bit) w/top @ 5501'. Set pkr @ 5360' and tested 5-1/2" csg to 1000 psi - good test. Pump dn tbg - zero injection rate; reset AS-1X @ 5311' & ran injection tbg, RDMO. No injection rate was achieved.

6/15/2012 Drill Replacement lateral - Pulled tbg & pkr, ran csg inspection & cement bond logs 5440-2000', set cibp 5335', orient & set whipstock on top of cibp, milled 5-1/2" window 5324-5335', drilled 4-3/4" horizontal lateral to 8045' TMD/5564' TVD, azimuth 139.1 degrees, 91.8 degrees inclination, VS 2551'. Got stuck POOH w/bit but worked free & recovered drilling bha intact. Made cleanout trip to end of lateral using N2. Ran & set pkr @ 5256' (68' above window) for injectivity test: 201 bbls/4.5 hrs ~ 1072 bwipd equivalent; inj break to 322 bbls/hr @ 2500 psi, then to 160 bbls/hr @ 2000 psi final rate ~ 3840 bwipd equivalent. Decided not to acidize. POOH. Left whipstock in place, ran 2-7/8 TK Fiberline injection tbg & 5-1/2" AS-1X pkr, returned to injection 7/24/2012.

7/15/2015 Three Year MIT - NNEPA witnessed MIT PASSED.

11/12/2015: Current injection rate = 460 bwipd @ 3050 TP.

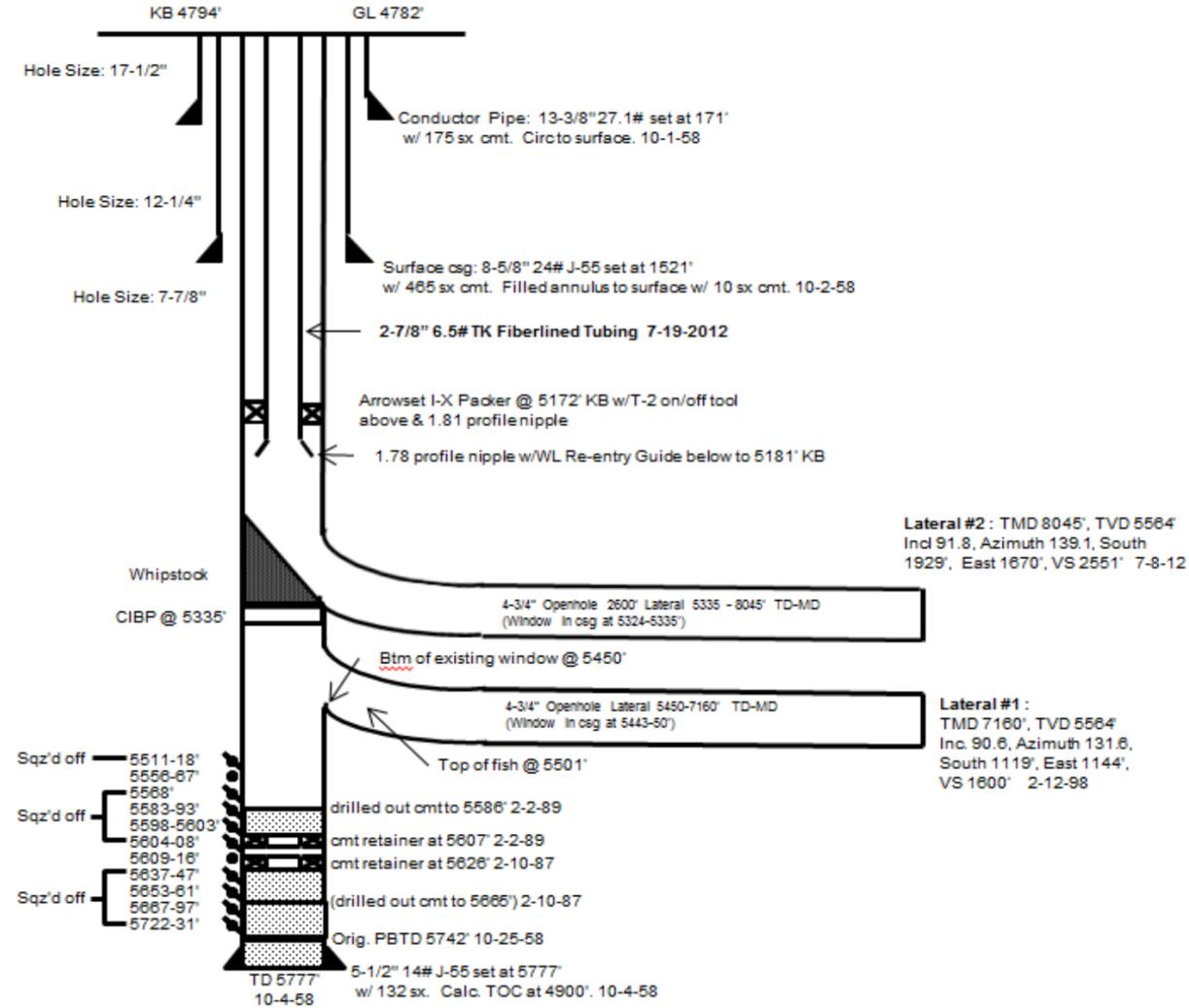
#### Procedure

**Horsley-Witten:** Not Applicable.

1. Check crown valve & wing valve for integrity before rigging up.
2. MIRU frac tank, manifold & hard line for flowback. RU ABC shower trailer.
3. Backflow the well for ~400 bbls, or until significant gas appears, or well dies, then shut in.
4. RU pumping equipment to wellhead & PT lines. Record TP, CP, Bradenhead P (BHP).
5. Pump 600 gal xylene, 5000 gal inhibited 20% HCl, followed by 94 bbls produced water displacement, stopping for 30 min soak after xylene "turns the corner" & reaches Desert Creek interval in the lateral (41 bbls behind xylene). **Pump displacement volume at max rate possible, staying under 3000 psi TP.** Monitor CP & BHP while pumping.
6. Rig down pumping equipment. Allow 2 hrs minimum soak time after acid displacement before returning to injection.
7. Notify Pierce Benally (435) 619-7227 that the well is ready to return to injection.
8. Open the well to injection; Record the initial injection rate and tubing pressure.

**RATHERFORD UNIT # 18W-34**  
 GREATER ANETH FIELD  
 Surface Loc: 780' FSL & 1860' FEL  
 SEC 18-T41S-R24E  
 SAN JUAN COUNTY, UTAH  
 API 43-037-15737  
 PRISM 0043071

**INJECTOR**



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB NO. 1004-0135  
Expires: July 31, 2010

**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.*

5. Lease Serial No.  
1420603353

6. If Indian, Allottee or Tribe Name

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

7. If Unit or CA/Agreement, Name and/or No.  
UTU68931A

1. Type of Well

Oil Well  Gas Well  Other: INJECTION

8. Well Name and No.  
RATHERFORD 18W34

2. Name of Operator  
RESOLUTE ANETH

Contact: SHERRY GLASS  
E-Mail: sglass@resoluteenergy.com

9. API Well No.  
43-037-15737

3a. Address  
1700 LINCOLN STREET SUITE 2800  
DENVER, CO 80203

3b. Phone No. (include area code)  
Ph: 303-573-4886 Ext: 1580

10. Field and Pool, or Exploratory  
ANETH

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

Sec 18 T41S R24E Mer NAV SWSE 780FSL 1860FEL

11. County or Parish, and State

SAN JUAN COUNTY, UT

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" 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 checked="" type="checkbox"/> Other Workover Operations
	<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.)

Resolute proposes to attempt acid stimulation to enhance injectivity and reduce injection pressure on the subject well and throughout the area. The proposed procedure and wellbore schematics are attached.

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

**Electronic Submission #324141 verified by the BLM Well Information System  
For RESOLUTE ANETH, sent to the Farmington**

Name (Printed/Typed) JIM STYLER

Title PRODUCTION ENGINEER

Signature (Electronic Submission)

Date 11/19/2015

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

Approved By \_\_\_\_\_

Title

Date

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.

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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.

**\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\***

RECEIVED: Nov. 19, 2015

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9	
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> 14-20-603-353	
		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> NAVAJO	
<b>1. TYPE OF WELL</b> Water Injection Well		<b>7. UNIT or CA AGREEMENT NAME:</b> RATHERFORD	
<b>2. NAME OF OPERATOR:</b> RESOLUTE NATURAL RESOURCES		<b>8. WELL NAME and NUMBER:</b> RATHERFORD 18-W-34	
<b>3. ADDRESS OF OPERATOR:</b> 1700 Lincoln Street, Suite 2800 , Denver, CO, 80203 4535		<b>9. API NUMBER:</b> 43037157370000	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0780 FSL 1860 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWSE Section: 18 Township: 41.0S Range: 24.0E Meridian: S		<b>9. FIELD and POOL or WILDCAT:</b> GREATER ANETH	
		<b>COUNTY:</b> SAN JUAN	
		<b>STATE:</b> UTAH	
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA			
TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input checked="" type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 12/1/2015	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Resolute Natural Resources respectfully submits this sundry as notice that the acid job on the above well was completed on 12/1/15. Totals are as follows 600 gals Xylene 119 bbls 20% HCL Acid 53 bbls PW			
			<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY February 18, 2016</b>
<b>NAME (PLEASE PRINT)</b> Erin Joseph	<b>PHONE NUMBER</b> 303 573-4886	<b>TITLE</b> Sr. Regulatory Analyst	
<b>SIGNATURE</b> N/A	<b>DATE</b> 2/17/2016		