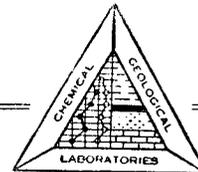


# CHEMICAL & GEOLOGICAL LABORATORIES



CHEMISTS      CORE ANALYSTS      ENGINEERS

P. O. BOX 279  
CASPER, WYOMING

May 25, 1959

Phillips Petroleum Company  
P. O. Box 3133  
Durango, Colorado

Re: Core Analysis Report  
Ratherford, Utah  
Desert No. A-30

Gentlemen:

Chem Lab's Service "C", full core type core analysis, was used in testing core samples selected from the subject well for analysis.

A total of three trips were made by our personnel in returning all the footage recovered in the total of six cores cut. Forty consecutive samples were taken for analysis from Core No. 1, brought in on the first trip on May 8, 1959. On May 10, 1959 Cores Nos. 2 and 3 were picked up at the location by Chem Lab airplane with eleven representative samples taken from the interval to be analyzed. Core Nos. 4, 5 and 6 were picked up on May 16, 1959 on the final trip made to the well by Chem Lab personnel. A total of 24 feet were analyzed from the three cores.

All of the core recovered from this well was placed in three foot core boxes, sealed, and marked as to proper depth and will be shipped to Phillips Petroleum Company for further core study.

Thank you.

Very truly yours,

CHEMICAL & GEOLOGICAL LABORATORIES

Donald M. Gutz  
Manager, Farmington Branch

DMG:kb

# CHEMICAL & GEOLOGICAL LABORATORIES

Casper Glendive Farmington Sterling

## FULL DIAMETER CORESTUDY

Operator Phillips Petroleum Co. Field Ratherford, San Juan, Utah Formation Desert Creek

Well No. Desert "A" #30 Location Sec 20-41S-24E Depths 5577' - 5744'

Elevation Date May 8, 1959 Lab. No. F-1153

Sample No.	Representative of Feet	Footage	Permeability		Effective Porosity %	Density		Saturation % of Pore Space		Description
			K	K-90		Bulk	Matrix	Residual Oil	Water	
	Core No. 1	5577' - 5621'		Recovered 40						
1	5577-78		0.01	0.01	0.3	2.69		Trace	35.6	NF
2	5578-79		0.01	0.01	0.7	2.69		0	80.7	NF
3	5579-80		0.02	0.01	1.4	2.68		Trace	37.2	HC
4	5580-81		3.39	2.41	9.0	2.67		12.8	28.4	NF
5	5581-82		10	8.50	11.9	2.68		1.8	16.1	NF
6	5582-83		1.67	1.36	20.1	2.65		0.9	8.9	NF
7	5583-84		2.34	2.11	20.0	2.66		5.4	9.7	NF
8	5584-85		4.61	4.54	17.8	2.66		6.5	11.3	NF
9	5585-86		1.27	1.04	18.2	2.64		6.8	9.0	NF
10	5586-87		4.69	1.09	20.8	2.70		1.7	15.1	VC
11	5587-88		0.31	0.29	16.0	2.68		3.5	17.3	NF
12	5588-89		0.78	0.36	19.5	2.71		3.4	14.8	VC
13	5589-90		1.64	0.48	18.5	2.69		Trace	20.9	VC
14	5590-91		1.46	0.71	19.1	2.71		2.4	15.2	NF
15	5591-92		1.04	0.97	15.2	2.65		1.3	10.1	NF
16	5592-93		0.57	0.55	14.4	2.67		0.7	10.6	NF
17	5593-94		6.57	2.00	12.3	2.65		1.5	13.3	VF
18	5594-95		1.31	0.98	17.2	2.70		Trace	25.5	NF, Sty
19	5595-96		3.17	1.28	15.5	2.66		1.8	21.4	NF
20	5596-97		2.50	2.04	22.0	2.64		0.5	26.5	HC
21	5597-98		0.74	0.48	15.1	2.67		1.8	30.1	VC
22	5598-99		0.21	0.19	8.1	2.63		14.6	37.0	NF
23	5599-5600		0.09	0.08	9.4	2.64		15.7	23.9	NF
24	5600-01		0.02	0.01	0.8	2.67		Trace	87.6	NF
25	5601-02		0.02	0.02	1.3	2.66		0	72.6	NF
26	5602-03		0.08	0.01	0.7	2.67		0	91.7	VC
27	5603-04		0.20	0.12	2.7	2.64		15.9	51.9	VC

Sample No.	Representative of Feet	Footage	Permeability		Effective Porosity %	Density		Saturation % of Pore Space		Description
			K	K-90		Bulk	Matrix	Residual Oil	Water	
	Core No. 1	(continued)								
28	5604-05		0.21	0.20	2.1	2.65		4.8	62.9	NF
29	5605-06		0.01	0.01	1.1	2.64		Trace	89.4	NF
30	5606-07		0.08	0.07	0.5	2.64		0	97.5	NF
31	5607-08		0.07	0.07	0.7	2.65		Trace	93.5	NF
32	5608-09		0.03	0.01	0.4	2.69		Trace	95.0	VC
33	5609-10		0.04	0.04	0.6	2.63		4.3	92.1	NF
34	5610-11		0.02	0.02	0.9	2.64		6.5	89.7	NF
35	5611-12		0.01	0.01	0.4	2.67		0	36.2	NF
36	5612-13		0.10	0.02	0.3	2.68		0	68.4	VC
37	5613-14		0.02	0.01	0.6	2.68		0	66.7	NF
38	5614-15		0.05	0.04	0.8	2.68		0	90.0	NF
39	5615-16		0.09	0.08	1.0	2.65		0	97.8	NF
40	5616-17		0.02	0.01	0.7	2.65		0	96.6	NF
	Core No. 2	5621' - 5635'	Recovered		14'					
	5621-22	No sample,	tight,	no stain						
41	5622-23		0.02	0.02	0.6	2.67		0	65.5	NF, Sty
	5623-26	No sample,	tight,	no stain						
42	5626-27		0.01	0.01	0.4	2.68		0	49.8	NF
	5627-30	No sample,	tight,	no stain						
43	5630-31		0.03	0.01	1.1	2.69		0	53.3	VF
	5631-35	No sample,	tight,	no stain						
	Core No. 3	5635' - 5673'	Recovered		34'					
44	5635-36		0.01	0.01	0.3	2.67		0	59.5	NF
	5636-42	No sample,	tight,	no stain						
45	5642-43		0.03	0.02	0.5	2.69		0	47.2	NF
	5643-48	No sample,	tight,	no stain						
46	5648-49		0.05	0.04	1.1	2.70		0	47.7	VF
	5649-53	No sample,	tight,	no stain						
47	5653-54		0.03	0.02	0.8	2.69		0	60.2	VF
	5654-55	No sample,	tight,	no stain						
48	5655-56		0.06	0.05	0.6	2.71		0	58.3	VF
	5656-59	No sample,	tight,	no stain						

Sample No.	Representative of Feet	Footage	Permeability		Effective Porosity %	Density		Saturation % of Pore Space		Description
			K	K-90		Bulk	Matrix	Residual Oil	Water	
	Core No. 3	(continued)								
49	5659-60		0.03	0.02	0.3	2.69		0	55.6	NF
	5660-63	No sample, tight, no	stain							
50	5663-64		0.02	0.01	0.7	2.67		0	43.9	NF
	5664-68	No sample, tight, no	stain							
51	5668-69		0.02	0.01	0.5	2.70		0	50.1	NF
	Core No. 4	5673' - 5700'		Recovered 27'						
52	5673-74		0.07	0.06	1.6	2.68	Trace		89.3	NF
	5674-76	No sample, tight, no	stain							
53	5676-77		0.04	0.03	2.3	2.65		0	91.3	NF
	5677-78	No sample, tight, no	stain							
54	5678-79		0.05	0.03	0.8	2.65		0	90.4	NF
55	5679-80		0.05	0.04	0.7	2.72		0	87.3	NF
56	5680-81		0.07	0.03	0.3	2.71		0	91.4	NF
57	5681-83	No sample, tight, no	stain							
57	5683-84		0.03	0.02	0.3	2.72		0	85.2	NF
	5684-85	No sample, tight, no	stain							
58	5685-86		0.01	0.01	2.3	2.76		0	68.7	NF
	5686-96	No sample, tight, no	stain							
59	5696-97		0.02	0.01	0.8	2.72		0	43.8	NF
	5697-5702	No sample, tight, no	stain							
	Core No. 5	5702' - 5726'		Recovered 22'						
60	5702-03		0.03	0.01	1.0	2.69		0	60.0	NF
	5703-05	No sample, tight, no	stain							
61	5705-06		0.04	0.03	0.9	2.61	21.1		69.4	NF
	5706-07	No sample, tight, no	stain							
62	5707-08		0.03	0.02	3.5	2.72		0	45.7	NF
	5708-09	No sample, tight, no	stain							
63	5709-10		0.04	0.02	2.6	2.70	15.0		49.3	NF
	5710-11	No sample, tight, no	stain							
64	5711-12		0.02	0.02	0.8	2.64	Trace		43.5	NF
65	5712-13		0.09	0.06	2.6	2.70	19.4		36.6	NF

Sample No.	Representative of Feet	Footage	Permeability		Effective Porosity %	Density		Saturation % of Pore Space		Description
			K	K-90		Bulk	Matrix	Residual Oil	Water	
Core No. 5 (continued)										
66	5713-14		0.15	0.11	6.2		2.69	3.9	64.3	NF
67	5714-15		0.17	0.16	8.0		2.71	9.3	82.4	NF
68	5715-16		0.26	0.21	4.5		2.69	7.7	77.3	HF
69	5716-17		0.10	0.09	1.3		2.68	13.3	69.3	NF
	5717-20	No sample, tight, no stain								
70	5720-21		0.19	0.16	6.7		2.69	7.2	47.1	HF
71	5721-22		0.62	0.56	8.5		2.72	23.1	57.2	HF
Core No. 6 5726' - 5744' Recovered 17'										
72	5729-30		0.03	0.02	0.4		2.71	3.1	54.3	NF
	5730-31	No sample, tight, no stain								
73	5731-32		0.02	0.01	0.6		2.70	3.3	47.5	NF
	5732-33	No sample, tight, no stain								
74	5733-34		0.02	0.01	0.3		2.72	2.9	60.7	NF
	5734-35	No sample, tight, no stain								
75	5735-36		0.03	0.02	0.7		2.71	1.7	59.4	NF
Legend: NF - No fracture VF - Vertical fracture										
HF - Horizontal fracture Sty - Stylolite										
VC - Vertical crack										
HC - Horizontal crack										

Phillips Petroleum Company  
Ratherford, Utah  
Desert No. A-30

Distribution for Final Report:

5 copies	Phillips Petroleum Company Attention: Mr. C. M. Boles P. O. Box 548 Cortez, Colorado
1 copy	Phillips Petroleum Company Mr. Earl Griffin Phillips Building Bartletttsville, Oklahoma
1 copy	Phillips Petroleum Company Mr. C. E. Turner Adams Building Bartletttsville, Oklahoma
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Invoice	Phillips Petroleum Company Attention: Mr. C. M. Boles P. O. Box 548 Cortex, Colorado
1 copy	CHEMICAL & GEOLOGICAL LABORATORIES 220 West Broadway Farmington, New Mexico

# PERMEABILITY (MILLIDARCIES)

[10-10 ON COORDINATE SCALE: 10-1000 ON LOGARITHMIC SCALE]

10 15 20 25 30 40 50 60 70 80 90 100 150 200 250 300 400 500 600 700 800 900

# EFFECTIVE POROSITY

(PER CENT)

10 20

# SATURATION (% PORE SPACE)

RESIDUAL OIL →

20 40 60 80

← TOTAL WATER

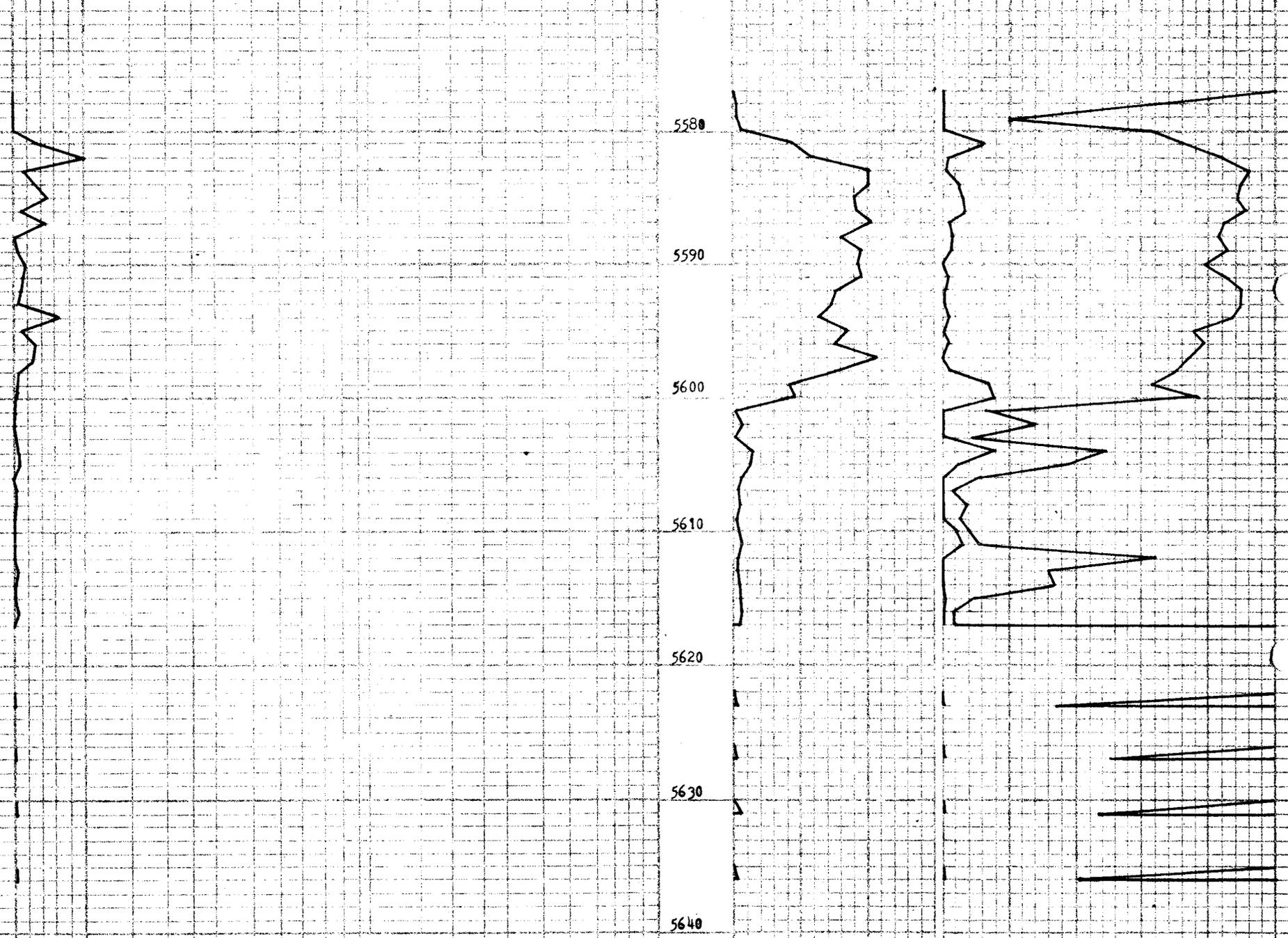
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**PERMEABILITY (MILLIDARCIES)**

[0-10 ON COORDINATE SCALE; 10-1000 ON LOGARITHMIC SCALE]

10 15 20 25 30 40 50 60 70 80 90 100 150 200 250 300 400 500 600 700 800 900

DEPTH  
(FEET)

**EFFECTIVE  
POROSITY**

(PER CENT)

10 20

**SATURATION (% PORE SPACE)**

RESIDUAL OIL

20 40 60 80

TOTAL WATER

80 60 40 20

PROBABLE  
FLUID

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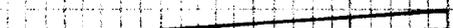
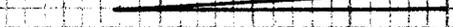
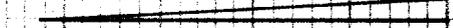
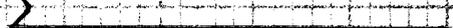
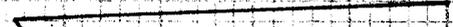
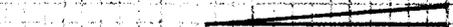
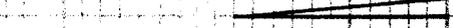
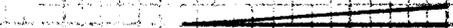
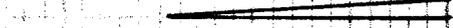
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**PERMEABILITY (MILLIDARCIES)**

[0-10 ON COORDINATE SCALE; 10-1000 ON LOGARITHMIC SCALE]

10 15 20 25 30 40 50 60 70 80 90 100 150 200 250 300 400 500 600 700 800 900

**DEPTH (FEET)**

**EFFECTIVE POROSITY**

(PER CENT)

10 20

**SATURATION (% PORE SPACE)**

RESIDUAL OIL →

20 40 60 80

← TOTAL WATER

80 60 40 20

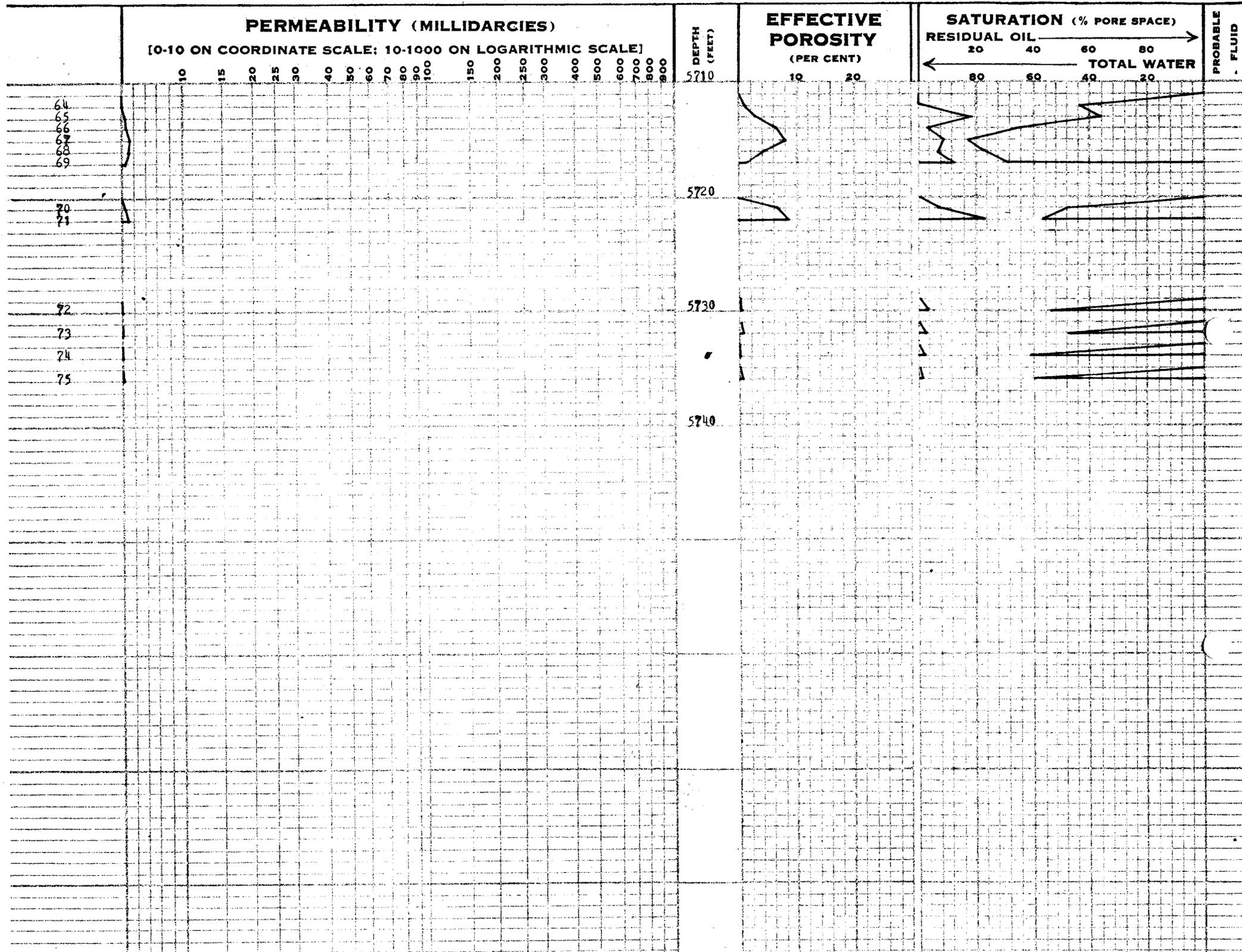
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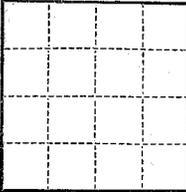
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(SUBMIT IN TRIPLICATE)

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	<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)

Desert "A"

Cortez, Colorado March 20, 1959

Well No. 30 is located 1980 ft. from N line and 1980 ft. from E line of sec. 20

SW, NE Sec 20 41S 24E 51M  
(¼ Sec. and Sec. No.) (Twp.) (Range) (Meridian)  
Rutherford San Juan Utah  
(Field) (County or Subdivision) (State or Territory)

ungraded ground

The elevation of the ~~center~~ above sea level is 4776.5 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 17-1/2" hole to approximately 160', set 160' of 13-3/8" conductor pipe and cement to surface. Drill 11" hole to approximately 1600', set 8-5/8" casing and cement to surface. Drill 7-7/8" hole to total depth of approximately 5800', run 5-1/2" casing and cement with approximately 250 sacks cement. Complete in Desert Creek 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 Box 548

Cortez, Colorado

By C. M. Boles  
Title District Superintendent

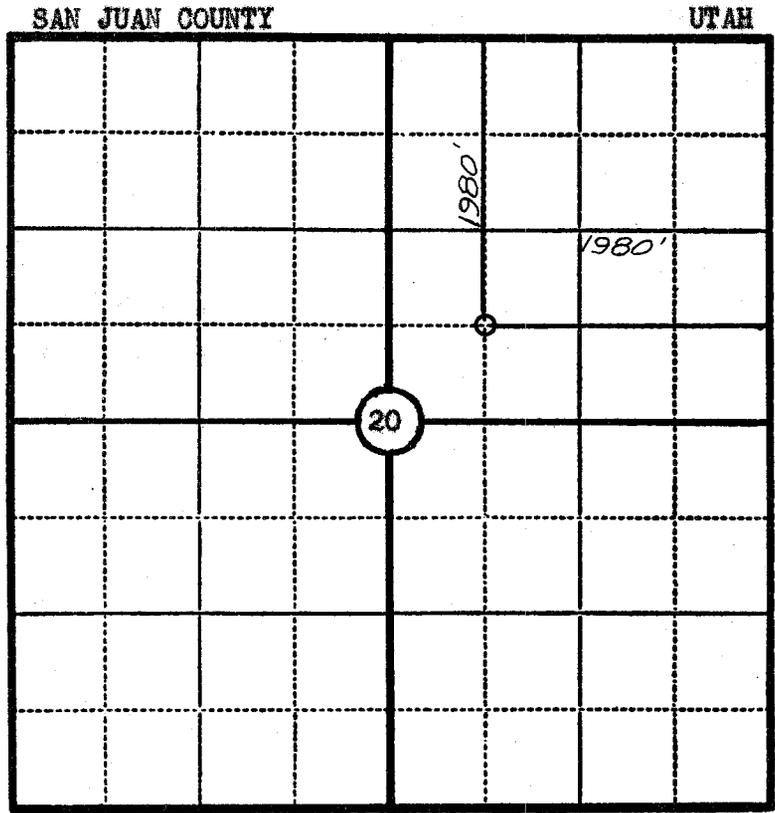
Company PHILLIPS PETROLEUM COMPANY

Lease DESERT "A" Well No. 30

Sec. 20, T 41 SOUTH, R. 24 EAST S. L. M.

Location 1980' FROM THE NORTH LINE AND 1980' FROM THE EAST LINE.

Elevation 4776.5 UNGRADED GROUND



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.

*James P. Leese*

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

Surveyed 23 DECEMBER, 1957

10

March 25, 1959

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

Attention: C. M. Boles,  
District Superintendent

Gentlemen:

This is to acknowledge receipt of your notices of intention to drill Well No. Desert A-29, which is to be located 660 feet from the south line and 1980 feet from the east line of Section 19, and Well No. Desert A-30, which is to be located 1980 feet from the north line and 1980 feet from the east line of Section 20, Township 41 South, Range 24 East, S12N, San Juan County, Utah.

Please be advised that insofar as this office is concerned approval to drill said wells is hereby granted.

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

Yours very truly,

OIL & GAS CONSERVATION COMMISSION

CLEON B. FREIGHT  
EXECUTIVE SECRETARY

CBF:co

cc: P. T. McGrath, Dist. Eng.  
U. S. Geological Survey  
Farmington, New Mexico



(SUBMIT IN TRIPLICATE)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Indian Agency Navajo  
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 July 17, 19 59

Desert "A"

Well No. 30 is located 1980 ft. from [N] line and 1980 ft. from [E] line of sec. 20

\* SW, NE Sec. 20      41S      24E      S1M  
(¼ Sec. and Sec. No.)      (Twp.)      (Range)      (Meridian)  
Ratherford      San Juan      Utah  
(Field)      (County or Subdivision)      (State or Territory)

The elevation of the ~~derick~~ <sup>ungraded ground</sup> above sea level is 4776.5 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 3:00 P.M. 4-19-59. Drilled 17-1/4" hole to 173'. Set and cemented 4 jts. 13-3/8" OD 27.1# Armo SW SJ casing at 173' with 175 sx. regular cement, 2% Calcium Chloride. Pumped plug to 143' at 4:40 A.M. 4-20-59. Cement circulated. W.O.C. 24 hours.

Drilled 11" hole to 1534'. Set and cemented 48 jts. 8-5/8" OD 24# J-55 ST&C Casing at 1534.55' with 330 sx. regular cement, 124 sx. Diacel "D", 620# Calcium Chloride, 165# Floeels, 660# Tuff Plug, Pumped plug to 1504' at 3:50 A.M. 4-22-59. Circulated estimated 175 cu. ft. and cement dropped back. Filled annulus with 75 sx. cement, 2% Calcium Chloride. W.O.C. 24 hours - tested casing 750# 30 minutes - okay.

Drilled 7-7/8" hole to 5577'. Cored from 5577-5621', recovered 40'. Cored from 5621-5635', recovered 14'. Cored from 5635-5673', recovered 34'. Reamed core hole and drilled 7-7/8" hole. (Continued on reverse side)

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 1150

Cortez, Colorado

By C. M. Boles  
C. M. Boles  
Title District Superintendent

(Continued)

Cored from 5673-5700', recovered 27'.

Cored from 5700-5726', recovered 22'.

Cored from 5726-5744', recovered 17'.

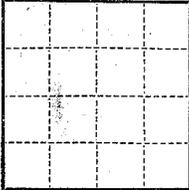
Reamed core hole and drilled 7-7/8" hole to 5773' at 11:00 P.M. 5-16-59. Ran Welex ES Induction, Micro and Gamma Ray Neutron logs to 5771'. Laid down drill pipe. Set and cemented 178 jts. 5-1/2" 14# J-55 8rd ST&C casing with Rector float collar and guide shoe at 5769.15 with 132 sx. cement, 496# Calcium Chloride, 100 sx. Diacel "D", Pumped plug to 5739' at 8:45 A.M. 5-18-59. Tested casing 1000# 30 minutes - okay.

JUL 20 1959

Form 9-331 b  
(April 1952)

(SUBMIT IN TRIPLICATE)

Indian Agency Navajo



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Allottee Tribal

Lease No. 14-20-603-393

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	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 August 24, 19 59

Desert "A"

Well No. 30 is located 1900 ft. from N line and 1900 ft. from E line of sec. 20

SW, NE Sec. 20  
(¼ Sec. and Sec. No.)

41S  
(Twp.)

24E  
(Range)

51M  
(Meridian)

Ratherford  
(Field)

San Juan  
(County or Subdivision)

Utah  
(State or Territory)

The elevation of the ~~desert floor~~ ungraded ground above sea level is 4776.5 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)

Picked up tubing and tagged bottom at 5739'. Pulled tubing. Ran Welox Gamma Ray Collar Locator Log to 5739'. Perforated Desert Creek with 4 dyna jet shots per foot from 5700-06, 5708-22 EL and RL measurements. Ran 179 lbs. 2-7/8" OD J-55 tubing with Baker HJ Packer. Set tubing at 5742.82'. Packer at 5609.66'. Released Rotary at 6:00 P.M. 5-19-59. Moved in Signal Well Service Unit. Set Packer 5669'. Swabbed water load. Acidized perforations 5700-06 and 5708-22 with 1500 gallons Western Co. regular 15% acid. Maximum pressure 3400#. Minimum pressure 2000#. 5-25-59. Treating rate 1.8 BPM. Flush rate 1 BPM. Tested. Flowed 11 barrels oil and salt water, 12% grindout in 2-1/2 hours and died. Pulled tubing, set Baker C.I. Bridge Plug at 5695' on wire line. Perforated Desert Creek (Welox) with 4 dyna jet shots per foot from 5574-98' EL and RL measurements. Ran tubing with Baker HJ packer. Set tubing at 5665'. Packer set at 5484.64'. Acidized Desert Creek perforations from 5574-98 with 2500 gallons 15% regular acid. Maximum pressure 3900#. Minimum pressure 2000#.

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

(Cont'd on reverse)

Company Phillips Petroleum Company

Address P. O. Drawer 1150

Cortez, Colorado

By C. M. Boles  
C. M. Boles  
Title District Superintendent

pressure 2500#. Average treating rate 3.2 BPH. Average flush rate 3.9 BPH.  
Flowed 359 BO, no water in 24 hours through 42/64" choke. GOR 923. TP 100#  
5-29-59.

696128504  
AUG 2 1959

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


UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
**LOG OF OIL OR GAS WELL**

LOCATE WELL CORRECTLY

Company Phillips Petroleum Address P. O. Drawer 1150, Cortez, Colorado  
Lessor or Tract Desert, RA Field Hatherford State Utah  
Well No. 30 Sec. 20 T. 419R 24E Meridian S1M County San Juan  
Location 1980 ft. N of N Line and 1980 ft. W of E Line of Sec. 20 Elevation 4789  
(Derrick 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 August 25, 1959 Title District Superintendent

The summary on this page is for the condition of the well at above date.  
Commenced drilling April 19, 1959 Finished drilling May 16, 1959

**OIL OR GAS SANDS OR ZONES**

(Denote gas by G)

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

**IMPORTANT WATER SANDS**

Navajo, Wingate, Shinarump, and De Chelly formations  
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—	
5-1/2"	34	8	8-55	3801	Reactor				

**MUDDING AND CEMENTING RECORD**

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
13-3/8"	173	175	Circulated		
8-5/8"	1535	800 cu ft	Circulated (filled annulus w/75 sx 80m, 2% CC)		
5-1/2"	5169	550 cu ft	Halliburton		

**PLUGS AND ADAPTERS**

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

**SHOOTING RECORD**

FOLD MARK

**SHOOTING RECORD**

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

**TOOLS USED**

Rotary tools were used from \_\_\_\_\_ feet to \_\_\_\_\_ feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
 Cable tools were used from \_\_\_\_\_ feet to **5773** feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet

**DATES**

Put to producing \_\_\_\_\_, 19\_\_\_\_  
 The production for the first 24 hours was \_\_\_\_\_ barrels of fluid of which **May 29** % was oil; **58** % emulsion; \_\_\_\_\_ % water; and \_\_\_\_\_ % sediment. **359**  
 Gravity, °Bé. **100**  
 If gas well, cu. ft. per 24 hours \_\_\_\_\_ Gallons gasoline per 1,000 cu. ft. of gas \_\_\_\_\_  
 Rock pressure, lbs. per sq. in. \_\_\_\_\_

**1643 - (14900) FEET**

\_\_\_\_\_, Driller  
**Morgan Bros, Inc.** \_\_\_\_\_, Driller  
 \_\_\_\_\_, Driller

**FORMATION RECORD**

FROM-	TO-	TOTAL FEET	FORMATION
1518	2332	814	Chinle
2332	2415	83	Shinarump
2415	2577	162	Moenkopi
2577	2637	60	Cutler - Hoskinini Equivalent
2637	2822	185	Cutler - De Chelly Member
2822	4573	1751	Cutler - Organ Rock Member
4573	5560	987	Honaker Trail
5560	5773	213	Desert Creek (Paradox)

FORMATION RECORD - Continued

16-43004-4

**AUG 27 1950**

FORM 10-48094-2

DATE	DEPTH (FEET)	LOGGING COMPANY	LOGGERS	LOG	LOGS RETURNED	LOGS CHECKED OUT
<b>DRILLING RECORD</b>						
<p>Drilled 11" hole to 1534'. Set and cemented 48 jts. 8-5/8" OD 24# J-55 ST&amp;C casing at 1534.55' with 330 sx. regular cement, 124 sx. Diacel "D", 620# Calcium Chloride, 16# Floccle, 660# Buff Plug. Pumped plug to 1504' at 3:50 A.M. 4-22-59. Circulated estimated 175 cu. ft. and cement dropped back. Filled annulus with 75 sx. cement, 2% Calcium Chloride. W.O.C. 24 hours - tested casing 750# 30 minutes - okay.</p>						
<b>MIDDLING AND CEMENTING RECORD</b>						

10-48094-2 U. S. GOVERNMENT PRINTING OFFICE

**HISTORY OF OIL OR GAS WELL**

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.

DATE	TIME	LOGGING COMPANY	LOGGERS	LOG	LOGS RETURNED	LOGS CHECKED OUT
------	------	-----------------	---------	-----	---------------	------------------

Spudded 3:00 P.M. 4-19-59. Drilled 17-3/4" hole to 173'. Set and cemented 4 jts. 13-3/8" OD 27.1# Armco S&S casing at 173' with 175 sacks regular cement, 2% Calcium Chloride. Pumped plug to 143' at 4:40 A.M. 4-20-59. Cement circulated. W.O.C. 24 hours.

**IMBOSIYIAL AVLEK SVINDE**

Drilled 11" hole to 1534'. Set and cemented 48 jts. 8-5/8" OD 24# J-55 ST&C casing at 1534.55' with 330 sx. regular cement, 124 sx. Diacel "D", 620# Calcium Chloride, 16# Floccle, 660# Buff Plug. Pumped plug to 1504' at 3:50 A.M. 4-22-59. Circulated estimated 175 cu. ft. and cement dropped back. Filled annulus with 75 sx. cement, 2% Calcium Chloride. W.O.C. 24 hours - tested casing 750# 30 minutes - okay.

Drilled 7-7/8" hole to 5577'. Cored from 5577-5621', recovered 40'. Cored from 5621-5635' - recovered 14'. Cored from 5635-5673', recovered 34'. Reamed core hole and drilled 7-7/8" hole. Cored 5673-5700', recovered 27'. Cored from 5700-5726', recovered 22'. Cored from 5726-5764', recovered 17'. Reamed core hole and drilled 7-7/8" hole to 5773' at 11:00 P.M. 5-16-59. Ran Welox ES Induction, Micro and Gamma Ray Neutron logs to 5773'. Laid down drill pipe. Set and cemented 178 jts. 5-1/2" OD J-55 ST&C casing with Rector float collar and guide shoe at 5769.15' with 132 sx. cement, 196# Calcium Chloride, 100 sx. Diacel "D". Pumped plug to 5739' at 8:45 A.M. 5-18-59. Tested casing 1000# 30 minutes - okay.

Picked up tubing and tagged bottom at 5739'. Pulled tubing. Ran Welox Gamma Ray Collar Locator Log to 5739'. Perforated Desert Creek with 4 dyna jet shots per foot from 5700-06', 5708-22' EL and RL measurements. Ran 179 jts. 2-7/8" OD J-55 tubing with Baker C.G. Packer. Set tubing at 5742.82'. Packer at 5609.66'. Released rotary at 6:00 P.M. 5-19-59. Moved in Signal Well Service Unit. Set packer 5669'.

Established water load. Acidized perforations 5700-06 and 5708-22 with 1500 gallons western Co regular 15% acid. Maximum pressure 3400#, minimum pressure 2000#. 5-25-59. Treating rate 1.8 BPM. Flush rate 1.8 BPM. Tested. Flowed 11 barrels oil and salt water, 12% grindout in 2-1/2 hours and died. Pulled tubing, set Baker C.I. Bridge Plug at 5695' on wireline. Perforated Desert Creek (Welox) w/4 dyna jet shots per foot from 5574-98' EL & RL measurements. Ran tubing with Baker C.G. Packer. Set tubing at 5665'. Packer set at 5484.98'. Perforated Desert Creek perforations from 5574-98 with 2500 gallons 15% regular acid. Maximum pressure 3900#. Minimum pressure 2500#. Average treating rate 3.2 BPM. Average flush rate 3.9 BPM. Flowed 359 BO, no water in 24 hours through 12/16" annulus. COR 923. TP 100# 5-29-59.

PRINTED ON BEHAVIOR OF PROSPECT  
SERIAL NUMBER 10-48094-2  
U. S. GOVERNMENT PRINTING OFFICE

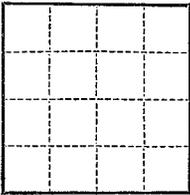
U.S. State

R.S.J

Form 9-331 b (April 1952)

(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

Table with 3 columns: Description of report/notice, a checkmark column, and a blank column for data.

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

Desert "A" Cortes, Colorado May 23, 1960 Well No. 30 is located 1900 ft. from [N] line and 1900 ft. from [E] line of sec. 20 SW, NE Sec. 20 41S 24E 91M Rutherford San Juan Utah ungraded ground

The elevation of the derrick floor above sea level is 4776.5 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)

Pull rods and tubing, run 3" tubing and fracture treat Desert Creek formation with 10,000 gallons jelled water and 15000 pounds sand. Return well to production. Previous production 60 BOPD, no water, GOR 623.

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 P. O. Drawer 1150 Cortes, Colorado By C. M. Boles Title District Superintendent

Handwritten initials and marks.

Form 9-331b  
(April 1952)

(SUBMIT IN TRIPLICATE)

Indian Agency Navajo


UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Tribal  
Allottee  
14-20-603-353  
Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	X
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 June 30, 19 60

Desert "A"

Well No. 30 is located 1980 ft. from N line and 1980 ft. from E line of sec. 20

SW NE Sec. 20 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 ~~center floor~~ ungraded ground above sea level is 4776.5

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)

Pulled rods and tubing. Ran 3-1/2" OD tubing with Brown Oil Tool 80S Packer at 5490'. Treated 5-1/2" casing perforations 5574-98 as follows (5/26/60); Loaded and pressured casing annulus to 1000# with 64 barrels salt water, and loaded tubing and broke formation with 80 barrels salt water with Dowell J101 LML and friction agent. Injection rate 27 BPM at 4350#. Treated with 3000 gallons treated salt water, 3/4# sand per gallon followed with 4000 gallons treated salt water with 1-1/4# sand per gallon, followed with 4000 gallons treated salt water with 2# sand per gallon. Flushed with 68 barrels treated water. Total treatment 11000 gallons treated water with 15,000# sand. Initial injection rate 27 BPM, final rate 16 BPM. Treating pressure gradually increased from 4350# to 5900#. Initial shut in pressure 4000#. 15 minute shut in pressure 2300#. Total load water used 477 barrels. (Pumping test 5/23/60 - 52 BO, - 0 water, GOR 731 - 24 hours)

(continued on reverse side)

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 Drawer 1150  
Cortez, Colorado

By C. M. Boles  
Title District Superintendent

0961 57

(Continued)

Pulled 3-1/2" tubing. Ran swab line. Checked top of sand at 5630'. (32' below bottom perforations). Ran 5509' of 2-7/8" OD EUE tubing with Baker tubing anchor and gas anchor. Set tubing at 5551'. Tubing anchor at 5488'. Ran rods and placed on pump 5-30-60. Potential Test 6/1/60: Pumped 69 BO, 7 BW, 719 GOR - 24 hours.

**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

**Nava jo-Tribal**

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

**Rutherford Unit**

9. WELL NO.

**20-32**

10. FIELD AND POOL, OR WILDCAT

**Greater Aneth**

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

**Sec. 20-T418-R24E**

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

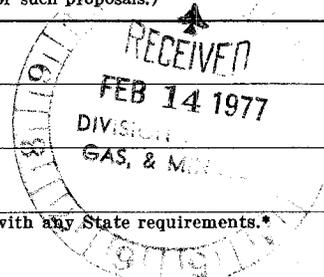
**Phillips Petroleum Company**

3. ADDRESS OF OPERATOR

**P. O. Box 2920, Casper, WY 82602**

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

**1980' FNL and 1980' FEL (SW NE)**



14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, 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\*

**Completed Zones I, II, III to new FID 5738'.**  
(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

SIGNED

**A. T. Crump**

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-USGS, Farmington, NM
- 2-Utah O&GCC
- 1-Superior Oil, Conroe, TX
- 1-File

\*See Instructions on Reverse Side

1-B'Ville 1-Patterson  
1-Denver 1-File

FI L REPORT INDIVIDUAL WELL STA7

Lease Ratherford Unit Well No. 20-32 Authorization No. Exp nse  
Summary of Work Performed:

December 19 through 22, 1977

Acidized Zones II & III w/2000 gal 15% HCL, followed w/3000 gal flush.  
Returned to pumping.

AVERAGE DAILY PRODUCTION

	Field and Formation	Oil	Gas	Water
	Commingled Zones			
Before Work	Greater Aneth - I, II & III	55	23	1
After Work	"	118	48	14
Before Work				
After Work				

DATE | P.T.D. | DAILY REPORT DETAILED

*Dec 19*

RATHERFORD UNIT NO. 20-32 PTD 5738. INITIAL REPORT.  
 12/14/77 - MI AND RU R AND R WS UNIT 12/13/77. PLD RODS. RELEASED ANCHOR. STARTED OOH W/TBG. SDON. 12/15/77 - FIN PLG TBG. WIH W/BAKER RETRIEVAMATIC PKR AND TBG TESTER. PRESS TSTD TBG TO 2400 PSI, OK. SET PKR AT 5665 FEET. PMPD 2000 GAL GELLED WTR W/50 LB/1000 GAL WG-6 AT 2 BPM INITIALLY, DROPPED TO 1 BPM WHEN HIT FORMATION. ACIDIZED W/2000 GAL 15 PERCENT HCL AT 1-2 BPM, 2400 PSI, FOLLOWED W/3000 GAL FLUSH AT 2-1/2 TO 3 BPM, 2400 PSI. JOB COMPLETE AT 4:03 PM, ISIP 2100 PSI, BLED OFF TO 0 PSI IN 15 MIN. STARTED OOH W/TBG. SDON. 12/16/77 - FIN COOH W/TBG. WIH W/TBG, RODS AND PUMP, HUNG BACK ON. RELEASED WS UNIT 12/15/77. PMPG ON TEST. 12/17/77 THRU 12/19/77 - 60 HR TEST, REC 140 BO, 198 BW, FL 4470 FEET FTF. 11 SPM, 54" X 1-3/4" PUMP. 42 BLW TO REC. NO AFE ISSUED TO ACIDIZE ZONE II AND III AND RETURN TO PUMPING. LOCATION - 1980 FEET FNL AND 1980 FEET FEL, SW NE, SEC. 20-T41S-R24E, GREATER ANETH FIELD, SAN JUAN CO., UTAH. ELEV. 4791 FEET RKB. SUB AREA CODE 626. DATE LAST PRODUCED 12/12/77. LAST TEST BEFORE JOB - 55 BOPD, 1 BWPD, 23 MCFGPD..

*20*

RATHERFORD UNIT NO. 20-32 PTD 5738. PMPG ON TEST. PMPD 24 HRS, REC 83 BO, 19 BLW, 11 X 54 X 1-3/4". PFL 4353 FEET. 23 BLW TO REC..

*21*

RATHERFORD UNIT NO. 20-32 PTD 5738. PMPG - NO TEST..

*22*

RATHERFORD UNIT NO. 20-32 PTD 5738. 12/21/77 - PMPD 29 HRS, REC 144 BO, 16 BLW. 12/22/77 - PMPD 24 HRS, REC 118 BO, 14 BLW. 12 BLW TO REC. FINAL REPORT SUMMARY. RETURNED TO A PUMPING OIL WELL FROM ZONE I, II AND III PERFS 5574-5722 FEET OA, IN THE PARADOX FORMATION, GREATER ANETH FIELD, SAN JUAN COUNTY, UTAH, WITH A FINAL TEST OF 118 BOPD, 14 BWPD, 48 MCFGPD. FINAL REPORT..

Original Signed By  
D. J. Fisher

February 23, 1973

Date Prepared

District Approval

FIELD REPORT INDIVIDUAL WELL STATIONS

Lease Ratherford Unit Well No. 20-32 Authorization No. Expense  
 Summary of Work Performed:

October 14, 1976 - WIH w/Baker Sand Line Drill. Drld sand and junk from 5690-5738', new PTD. Ran rods and tubing and returned to production from commingled Zones I, II, and III.

AVERAGE DAILY PRODUCTION				
	Field and Formation	Oil	Gas	Water
Before Work	Greater Aneth - Zone I	47 BPD	NR	0 BPD
After Work	" (commingled) - Zones I, II, III	109 BPD	NR	12 BPD
Before Work				
After Work				

DATE P.T.D.

DAILY REPORT OF WORK PERFORMED

- 1976  
Oct. 14  
RATHERFORD UNIT NO. 20-32 PTD 5695. /INITIAL REPORT/ PREP TO RUN TBG TO CO SD. MI AND RU R AND R WS UNIT 10/13/76. PLD RODS AND TBG. INSTLD BOP. NO AFE ISSUED TO CLEAN OUT FILL FROM 5606-95 FT, DRILL CIBP AT 5695 FT AND PUMP TEST ZONES I, II, AND III COMMINGLED. LOCATION - 1980 FT FNL AND 1980 FT FEL, SEC. 20-T41S-R24E, GREATER ANETH FIELD, SAN JUAN COUNTY, UTAH. ELEV. 4791 FT RKB. SUB AREA CODE 626. DATE LAST PRODUCED - 10/12/76. LAST TEST 47 BOPD, 0 BWPD..
- 15  
RATHERFORD UNIT NO. 20-32 PTD 5695. PREP TO DRILL CIBP W/BAKER SD LINE DRILL. RAN TBG W/BAKER HYDROSTATIC CLEANOUT TOOL. CO FRAC SD FROM 5604-5695 FT, TOP OF CIBP. COOH W/TBG..
- 16-18  
RATHERFORD UNIT NO. 20-32 PTD 5695. PREP TO RUN TBG TO RETURN WELL TO PMPG. 10/16/76 - WIH W/BAKER SD LINE DRILL. DRLD JUNK ON TOP OF BP FROM 5690-95 FT. DRLD ON BP AT 5695 FT. 10/17/76 - DRLD TO 5697 FT, BP FELL TO 5705 FT. DRLD FROM 5705-5710 FT. 10/18/76 - SD OVER SUNDAY..
- 19  
RATHERFORD UNIT NO. 20-32 NEW PTD 5738. PREP TO RUN RODS AND PUMP. DRLD SD AND JUNK FROM 5710-5738. RAN TBG, TBG INTAKE AT 5725, ANCHOR AT 5572..
- 20  
RATHERFORD UNIT NO. 20-32 PTD 5738. PMPG ON TEST. 1-3/4" PUMP, 11-54" SPM. RAN RODS AND TBG. RELEASED R AND R WS UNIT 10/19/76..
- 21  
RATHERFORD UNIT NO. 20-32 PTD 5738. PMPG ON TEST - NO GAUGE..
- 22  
RATHERFORD UNIT NO. 20-32 PTD 5738. WELL WOULD NOT PUMP. MI R AND R WS UNIT 10/21/76 TO SHAKE WELL UP..
- 23-25  
RATHERFORD UNIT NO. 20-32 PTD 5738. PMPG ON TEST. 10/23/76 - SHOOK WELL UP, STARTED PMPG. 10/24/76 - PMPD 24 HRS, REC 86 BO, 6 BW. 10/25/76 PMPD 24 HRS, REC 84 BO, 8 BW..

1-Bville E&P  
 1-Denver E&P  
 1-R.N. Hughes  
 1-File

Original Signed by  
 L. E. STAG

Date Prepared

District Approval

DAILY REPORT DETAILED

LEASE Ratherford Unit

WELL NO. 20-32

SHEET NO. 2

DATE TOTAL  
NATURE OF WORK DEPTH  
PERFORMED

1976  
OCT. 26 RATHERFORD UNIT NO. 20-32 PTD 5738. PMPG ON TEST. PMPD 24 HRS, REC 138  
BO, 27 BW. FL 2600 FT..

27 RATHERFORD UNIT NO. 20-32 PTD 5738. PMPG ON TEST. PMPD 24 HRS, REC  
103 BO, 13 BW. FL 2606 FT..

28 RATHERFORD UNIT NO. 20-32 PTD 5738. PMPD 24 HRS, REC 109 BO, 12 BW.  
/FINAL REPORT SUMMAR/ WELL RETURNED TO PMPG STATUS FROM ZONE I PERFS  
5574-98 FT OA AND ZONE II AND III PERFS 5700-22 FT OA, GREATER ANETH  
FIELD, SAN JUAN CO., UTAH. /FINAL REPORT/..

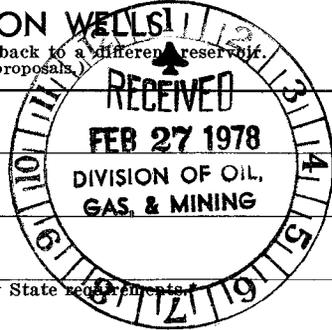
UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

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

Form approved.  
Budget Bureau No. 42-R1424.

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  
**1980' FNL & 1980' FEL, SW NE**

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  
**Ratherford Unit**

9. WELL NO.  
**20-32**

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

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
**Sec. 20-T19-R24E**

12. COUNTY OR PARISH  
**San Juan**

13. STATE  
**Utah**

14. PERMIT NO.

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

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"/>	<del>SHOOT OR ACIDIZE</del> ACIDIZING <input checked="" 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.)\*

**December 19 through 22, 1977**

**SEE ATTACHED FOR COMPLETE DETAILS.**

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

SIGNED D. J. Fisher TITLE Operations Superintendent DATE February 23, 1978

(This space for Federal or State office use)

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

CONDITIONS OF APPROVAL, IF ANY:

- 3 - USGS, Farmington, NM
- 2 - Utah O&G CC, Salt Lake City, UT
- 1 - Superior Oil Co., Conroe, TX
- 1 - File

\*See Instructions on Reverse Side

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

**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 Form 9-331-C for such proposals.)

1. oil well  gas well  other  Lease Road

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. See space 17 below.)  
AT SURFACE:  
AT TOP PROD. INTERVAL:  
AT TOTAL DEPTH:

5. LEASE 14-20-603-353  
14-20-603-407

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.

10. FIELD OR WILDCAT NAME  
Greater Aneth

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
Sec 20 and 29, T41S-R24E

12. COUNTY OR PARISH San Juan | 13. STATE Utah

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)

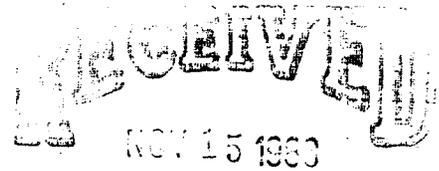
16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:		SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF	<input type="checkbox"/>	<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	<input type="checkbox"/>
PULL OR ALTER CASING	<input type="checkbox"/>	<input type="checkbox"/>
MULTIPLE COMPLETE	<input type="checkbox"/>	<input type="checkbox"/>
CHANGE ZONES	<input type="checkbox"/>	<input type="checkbox"/>
ABANDON*	<input type="checkbox"/>	<input type="checkbox"/>
(other) <u>road construction</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

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.)\*

Approval is requested, contingent on securing Archaeological clearance and residents approval, to construct an access road as shown on the attached Plat A-1A. Approximately 660' of new lease road will be built. The road construction will be of native soil, approximately 20' wide.



DIVISION OF  
OIL GAS & MINING

Subsurface Safety Valve: Manu. and Type \_\_\_\_\_ Set @ \_\_\_\_\_ Ft.

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

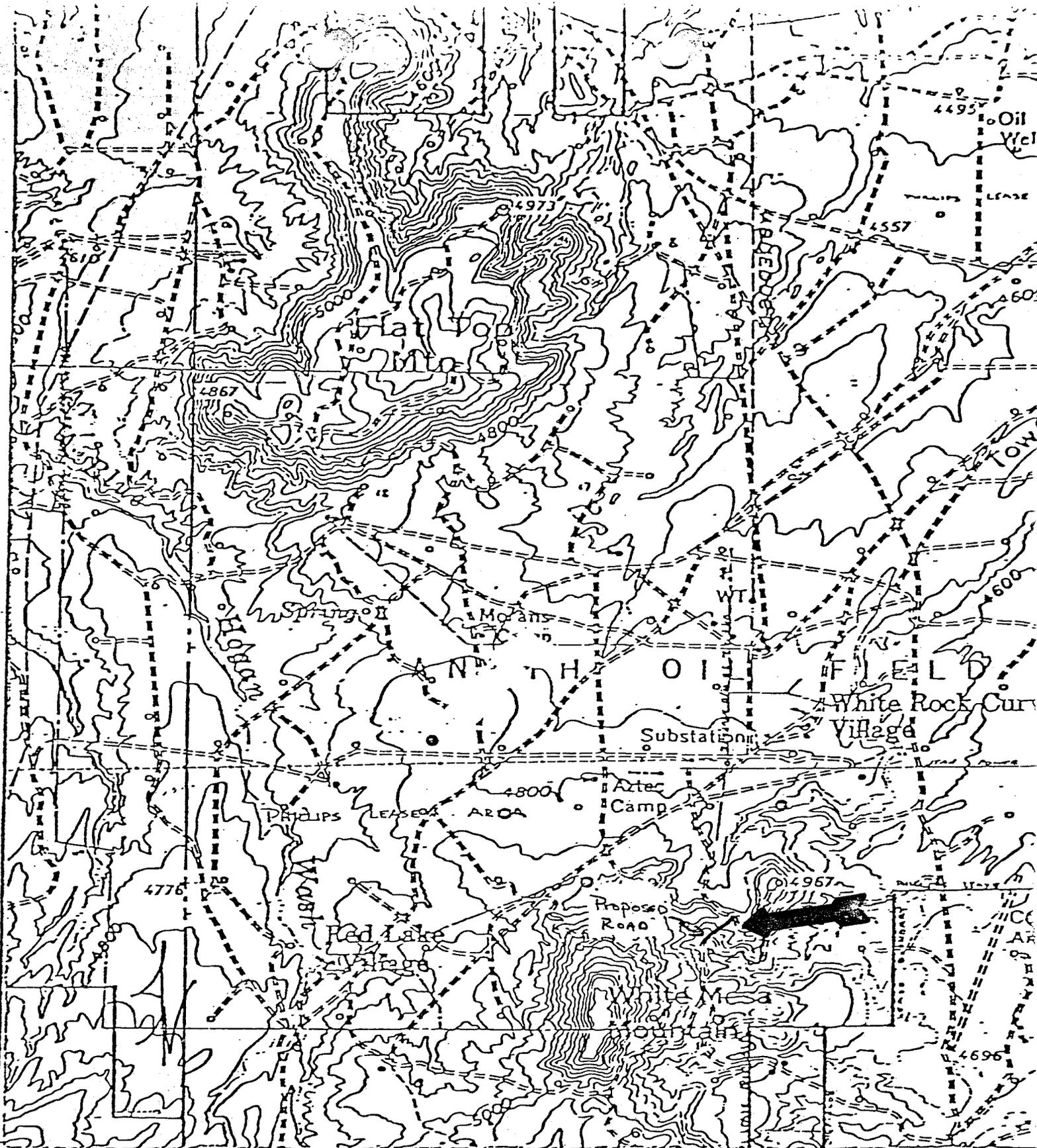
SIGNED A. E. Stewart TITLE Area Manager DATE November 10, 1983

(This space for Federal or State office use)

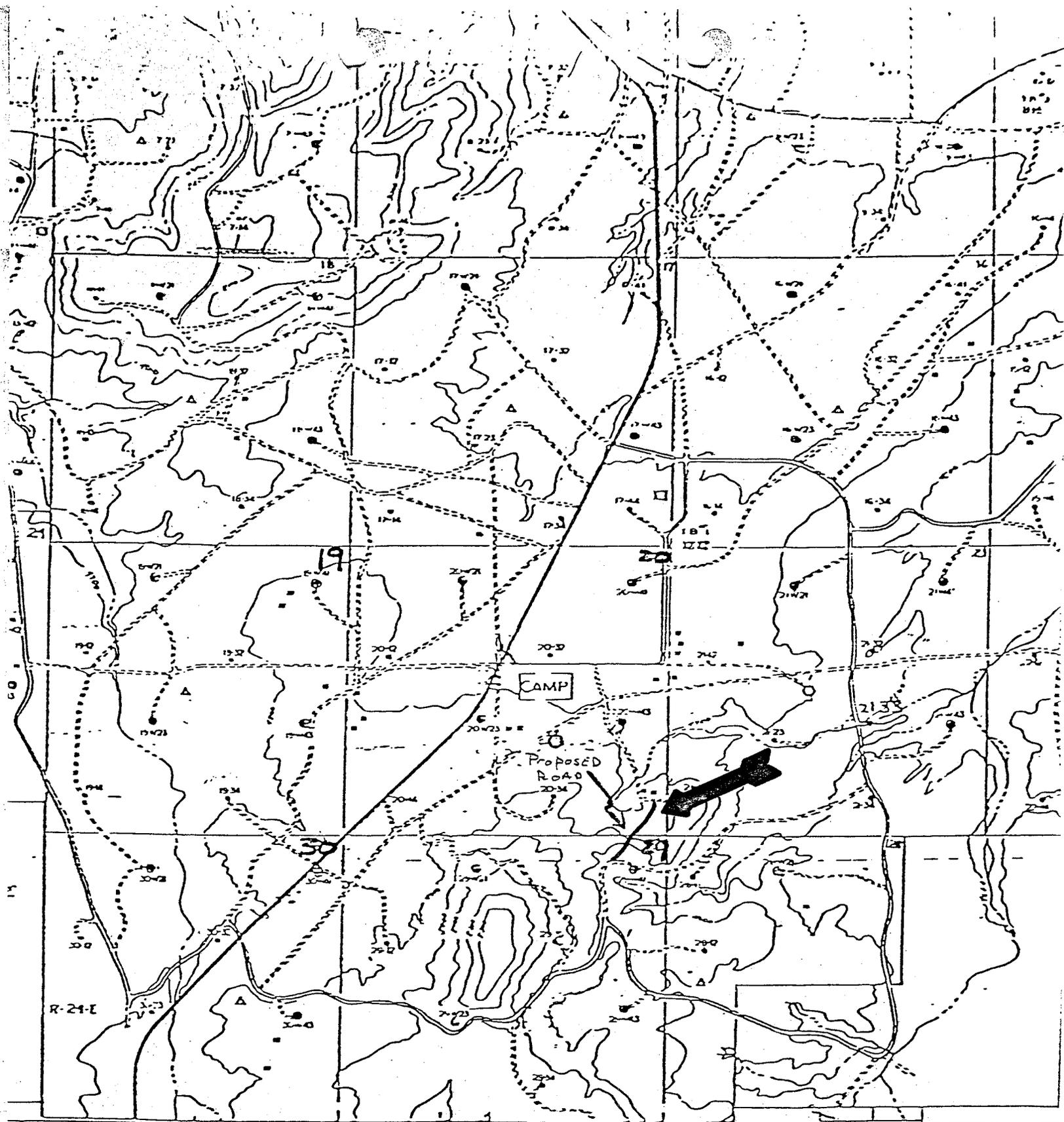
APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

- 5- BLM Farmington
- ✓ 1- Utah O&G CC SLC, Utah
- 1- J. L. Whitmire (r) T.C. Doughty
- 1- G. W. Berk
- 1- T. M. Isaacs
- 1- File

\*See Instructions on Reverse Side



NO.	REVISION	BY	DATE	CHKD	APP
FOR BIDS	PHILLIPS PETROLEUM COMPANY			JA NO.	FILE CC
FOR APPR				AFE NO.	SCALE
FOR CONST.	RATHERFORD UNIT PROPOSED ROAD T4IS-R24E SAN JUAN CO. UTAH			2 1/4" = 1 MI	
DRAWN				DWG NO.	
CHECKED				SH NO.	



REVISION		BY	DATE	CHKD	APP'D
BIDS	PHILLIPS PETROLEUM COMPANY		JA NO.	FILE CODE	
APPR	BARTLESVILLE, OKLAHOMA		AFE NO.	SCALE 2 1/4" = 1 mi	
CONST	RATHERFORD UNIT		DWG. NO.		
OWN	PROPOSED ROAD		SH NO.	A-1A	
CKED	T41S-R24E				
D	SAN JUAN CO., 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 <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

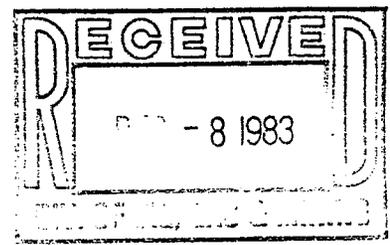
NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>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

(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.

*100 wells*  
*20-32*



- |                     |                       |                         |
|---------------------|-----------------------|-------------------------|
| 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* 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

WELL NO.WELL LOCATIONAPI NO.STATUS

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 OIL AND GAS PRODUCTION REPORT

OPERATOR NAME AND ADDRESS:

ACCOUNT NUMBER: N0772

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

RECEIVED

AUG 16 1993

REPORT PERIOD (MONTH/YEAR):

6 / 93

DIVISION OF  
OIL, GAS & MINING

AMENDED REPORT  (Highlight Changes)

Well Name API Number	Entity	Location	Producing Zone	Well Status	Days Oper	Production Volumes		
						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

LISNA  
8-18-93

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 Konkkel* Telephone Number: 505 599-3452

✓ 19W-21	43-037-15741	14-20-603-353	SEC. 19, T41S, R24E	NE/NW 660' FNL 1860' FWL
✓ 19-22	43-037-31046	14-20-603-353	SEC. 19, T41S, R24E	SE/NW 1840' FNL; 1980' FWL
✓ 19W-23	43-037-15742	14-20-603-353	SEC. 19, T41S, R24E	NE/SW 2080' FSL; 1860' FWL
✓ 19-31	43-037-31047	14-20-603-353	SEC. 19, T41S, R24E	NW/NE 510' FNL; 1980' FEL
✓ 19-32	43-037-15743	14-20-603-353	SEC. 19, T41S, R24E	SW/NE 1980' FNL; 1980' FEL
✓ 19-33	43-037-31048	14-20-603-353	SEC. 19, T41S, R24E	NW/SE 1980' FSL; 1980' FEL
✓ 19-34	43-037-15744	14-20-603-353	SEC. 19, T41S, R24E	SW/SE 660' FSL; 1980' FEL
✓ 19W-41	43-037-15745	14-20-603-353	SEC. 19, T41S, R24E	NE/NE 660' FNL; 660' FEL
✓ 19-42	43-037-30916	14-20-603-353	SEC. 19, T41S, R24E	SE/NE 1880' FNL, 660' FEL
✓ 19W-43	43-037-16420	14-20-603-353	SEC. 19, T41S, R24E	NE/SE 1980' FSL; 760' FEL
✓ 19-44	43-037-31081	14-20-603-353	SEC. 19, T41S, R24E	SE/SE 660' FSL; 660' FEL
✓ 19-97	43-037-31596	14-20-603-353	SEC. 19, T41S, R24E	2562' FNL, 30' FEL
✓ 20-11	43-037-31049	14-20-603-353	SEC. 20, T41S, R24E	NW/NW 500' FNL; 660' FWL
✓ 20-12	43-037-15746	14-20-603-353	SEC. 20, T41S, R24E	1980' FNL, 660' FWL
✓ 20-13	43-037-30917	14-20-603-353	SEC. 20, T41S, R24E	NW/SW 2140' FSL, 500' FWL
✓ 20-14	43-037-15747	14-20-603-353	SEC. 20, T41S, R24E	660' FSL; 660' FWL
✓ 20W-21	43-037-16423	14-20-603-353	SEC. 20, T41S, R24E	660' FNL; 1880' FWL
✓ 20-22	43-037-30930	14-20-603-353	SEC. 20, T41S, R24E	SE/NW 2020' FNL; 2090' FWL
✓ 20W-23	43-037-15748	14-20-603-353	SEC. 20, T41S, R24E	NW/SW 2080; 2120' FWL
✓ 20-24	43-037-30918	14-20-603-353	SEC. 20, T41S, R24E	SE/SW 820' FSL; 1820' FWL
✓ 20-31	43-037-31050	14-20-603-353	SEC. 20, T41S, R24E	NW/NE 660' FNL; 1880' FEL
✓ 20-32	43-037-15749	14-20-603-353	SEC. 20, T41S, R24E	SW/NE 1980' FNL, 1980' FEL
✓ 20-33	43-037-30931	14-20-603-353	SEC. 20, T41S, R24E	NW/SE 1910' FSL; 2140' FEL
✓ 20-34	43-037-15750	14-20-603-353	SEC. 20, T41S, R24E	660' FSL; 1850' FEL
✓ 20W-41	43-037-15751	14-20-603-353	SEC. 20, T41S, R24E	NE/NE 660' FNL; 660' FEL
✓ 20-42	43-037-31051	14-20-603-353	SEC. 20, T41S, R24E	SE/NE 1980' FNL; 660' FEL
✓ 20W-43	43-037-16424	14-20-603-353	SEC. 20, T41S, R24E	2070' FSL; 810' FEL
✓ 20-44	43-037-30915	14-20-603-353	SEC. 20, T41S, R24E	SE/SE 620' FSL; 760' FEL
✓ 20-66	43-037-31592	14-20-603-353	SEC. 20, T41S, R24E	SW/NW 1221' FWL; 1369' FNL
✓ 21-11	43-037-31052	14-20-603-355	SEC. 21, T41S, R24E	NW/NW 660' FNL; 660' FWL
✓ 21-12	43-037-15752	14-20-603-355	SEC. 21, T41S, R24E	2080' FNL; 660' FWL
✓ 21-13	43-037-30921	14-20-603-355	SEC. 21, T41S, R24E	NW/SW 2030' FSL; 515' FWL
✓ 21-14	43-037-15753	14-20-603-355	SEC. 21, T41S, R24E	SW/SW 660' FSL; 460' FWL
✓ 21W-21	43-037-16425	14-20-603-355	SEC. 21, T41S, R24E	NE/NW 660' FNL; 2030' FWL
✓ 21-32	43-037-15755	14-20-603-355	SEC. 21, T41S, R24E	SW/NE 1880' FNL; 1980' FEL
✓ 21-33	NA	14-20-603-355	SEC. 21, T41S, R24E	2000' FSL, 1860' FEL
✓ 21-34	43-037-15756	14-20-603-355	SEC. 21, T41S, R24E	SW/SE 660' FSL; 1980' FEL
✓ 21W-41	43-037-16426	14-20-603-355	SEC. 21, T41S, R24E	660' FNL; 810' FEL
✓ 21W-43	43-037-16427	14-20-603-355	SEC. 21, T41S, R24E	NE/NE 1980' FSL; 660' FEL
✓ 24-11	43-037-15861	14-20-603-247A	SEC. 24, T41S, R24E	510' FNL; 810' FWL
✓ 24W-21	43-037-16429	14-20-603-247	SEC. 24, T41S, R24E	4695' FSL; 3300' FEL
✓ 24W-43	43-037-16430	14-20-603-247	SEC. 24, T41S, R24E	2080' FSL; 660' FEL
✓ 24-31W	43-037-15862	14-20-603-247A	SEC. 24, T41S, R24E	NW/NE 560' FNL; 1830' FEL
✓ 24-32	43-037-31593	14-20-603-247A	SEC. 24, T41S, R24E	SW/NE 2121' FNL; 1846' FEL
✓ 24-41	43-037-31132	14-20-603-247A	SEC. 24, T41S, R24E	NE/NE 660' FNL; 710' FEL
✓ 24W-42	43-037-15863	14-20-603-247A	SEC. 24, T41S, R24E	660' FSL; 1980' FNL
✓ 28-11	43-037-30446	14-20-603-409	SEC. 28, T41S, R24E	NW/NW 520' FNL; 620' FWL
✓ 28-12	43-037-15336	14-20-603-409B	SEC. 28, T41S, R24E	SW/SE/NW 2121' FNL; 623' FWL
✓ 29-11	43-037-31053	14-20-603-407	SEC. 29, T41S, R24E	NW/NW 770' FNL; 585' FWL
✓ 29W-21	43-037-16432	14-20-603-407	SEC. 29, T41S, R24E	NE/NW 667' FNL; 2122' FWL
✓ 29-22	43-037-31082	14-20-603-407	SEC. 29, T41S, R24E	SE/NW 2130' FNL; 1370' FWL
✓ 29W-23	43-037-15338	14-20-603-407	SEC. 29, T41S, R24E	NE/SW 1846' FSL; 1832' FWL
✓ 29-31	43-037-30914	14-20-603-407	SEC. 29, T41S, R24E	NW/NE 700' FNL; 2140' FEL
✓ 29-32	43-037-15339	14-20-603-407	SEC. 29, T41S, R24E	1951' FNL; 1755' FEL
✓ 29-33	43-037-30932	14-20-603-407	SEC. 29, T41S, R24E	NW/SE 1860' FSL; 1820' FEL
✓ 29-34	43-037-15340	14-20-603-407	SEC. 29, T41S, R24E	817' FSL; 2096' FEL
✓ 29W-41	43-037-16433	14-20-603-407	SEC. 29, T41S, R24E	557' FNL; 591' FEL
✓ 29W-42	43-037-30937	14-20-603-407	SEC. 29, T41S, R24E	SE/NE 1850' FNL; 660' FEL
✓ 29W-43	43-037-16434	14-20-603-407	SEC. 29, T41S, R24E	NE/SE 1980' FSL; 660' FEL
✓ 30-21W	43-037-16435	14-20-603-407	SEC. 30, T41S, R24E	660' FNL; 1920' FWL
✓ 30-32	43-037-15342	14-20-603-407	SEC. 30, T41S, R24E	SW/NE 1975' FNL; 2010' FEL
✓ 30W-41	43-037-15343	14-20-603-407	SEC. 30, T41S, R24E	NE/NE 660' FNL; 660' FEL
✓ 9-34	NA 4303715711	NA 14206034043	NA Sec. 9, T. 41S, R. 24E	NA SW/SE 660' FSL 1980' FEL
✓ 12-43	43-307-31202	14-20-603-246	SEC. 12, T41S, R23E	2100' FSL; 660' FEL
✓ 12W31	43-037-15847	14-20-603-246	SEC. 12, T41S, R23E	661' FNL; 1981' FEL
✓ 13W24	43-037-15853	14-20-603-247	SEC. 13, T41S, R23E	SE/SW 660' FSL; 3300' FEL
✓ 15W23	43-037-16412	14-20-603-355	SEC. 15, T41S, R24E	2140' FSL; 1820' FWL
✓ 17-24	43-037-31044	14-20-603-353	SEC. 17, T41S, R24E	SE/SW 720' FSL; 1980' FWL
✓ 18-13	43-037-15734	14-20-603-353	SEC. 18, T41S, R24E	NW/NW 1980' FSL; 500' FWL
✓ 18W32	43-037-15736	14-20-603-353	SEC. 18, T41S, R24E	SW/NE 2140' FNL; 1830' FEL
✓ 20-68	43-037-31591	14-20-603-353	SEC. 20, T41S, R24E	NW/SW 1276' FWL; 1615' FSL
✓ 21-23	43-037-13754	14-20-603-355	SEC. 21, T41S, R24E	NE/SW 1740' FSL 1740' FWL
✓ 28W21	43-037-16431	14-20-603-409	SEC. 29, T41S, R24E	660' FNL; 2022' FWL

PAID

PAID

PAID

PAID

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)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON

CHANGE PLANS

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

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.)

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

REPAIRING WELL

ALTERING CASING

ABANDONMENT\*

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 Todd*

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

# MONTHLY OIL AND GAS DISPOSITION REPORT

OPERATOR NAME AND ADDRESS:

*L. B. SHEFFIELD*  
 BRIAN BERRY  
~~M. E. P. N. A. MOBIL~~  
 POB 249031 1807A RENTWR F.O. DRAWER G  
 DALLAS TX 75221-9031 CORTEZ, Co. 81321

UTAH ACCOUNT NUMBER: N7370

REPORT PERIOD (MONTH/YEAR): 7 / 93

AMENDED REPORT  (Highlight Changes)

*\*931006 updated. Jc*

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  
244.658.2528

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.

*2.6. Ratherford Unit (GC)*

RECEIVED  
BLM

JUL 27 11:44

070 FARMINGTON, NM

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

ARES/543

JUL 26 1993

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

MINERALS DEPARTMENT
NO. 188
DATE
BY
3
2
STATUS
GPS
ALL SUPV.
FILED

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,

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

100.000000

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  
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).

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

Routing:

1-VLC/87-S
2-DTS/58-R
3-VLC
4-RJF
5-IEP
6-PL

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>43037-15749</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 11-17 1993. If yes, division response was made by letter dated 11-17 1993.

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 11-17 1993, 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/Btm Approved 7-9-93.

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

<b>APPLICATION FOR PERMIT TO DRILL OR DEEPEN</b>		5. LEASE DESIGNATION AND SERIAL NO. <b>14-20-603-353</b>
1a. TYPE OF WORK <b>DRILL</b> <input type="checkbox"/> <b>DEEPEN</b> <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME <b>NAVAJO TRIBAL</b>
b. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>		7. UNIT AGREEMENT NAME <b>RATHERFORD UNIT</b>
2. NAME OF OPERATOR <b>MOBIL EXPLORATION &amp; PRODUCING U.S. INC</b>		8. FARM OR LEASE NAME, WELL NO. <b>RATHERFORD UN 20-32</b>
3. ADDRESS AND TELEPHONE NO. <b>P. O. BOX 633, MIDLAND, TEXAS 79702</b> <b>915-688-2585</b>		9. API WELL NO. <b>43-037-15749</b>
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*) At surface <b>1980' FNL, 1980' FEL SWNE</b> At proposed prod. zone <b>SAME</b>		10. FIELD AND POOL, OR WILDCAT <b>GREATER ANETH</b>
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* <b>5 MILES SSE OF MONTEZUMA CREEK, UTAH</b>		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA <b>SEC.20, T41S, R24E</b>
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)	16. NO. OF ACRES IN LEASE	17. NO. OF ACRES ASSIGNED TO THIS WELL
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.	19. PROPOSED DEPTH <b>HORIZONTAL</b>	20. ROTARY OR CABLE TOOLS
21. ELEVATIONS (Show whether DF, RT, GR, etc.) <b>GL 4780'</b>		22. APPROX. DATE WORK WILL START* <b>07-25-94</b>

23. **PROPOSED CASING AND CEMENTING PROGRAM**

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2	13-3/8	27.1	173	175
11	8-5/8	24	1534	730
7-7/8	5-1/2	14	5773	550 CU. FT.

\*\*\* SEE ATTACHED PROCEDURE FOR **HORIZONTAL** RE-ENTRY \*\*\*

JUL 19 1994

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

24. SIGNED Shelby Lord TITLE ENV. & REG. TECHNICIAN DATE 07/14/94

(This space for Federal or State office use)

PERMIT NO. 43-037-15749 APPROVAL DATE 7/28/94

Application approval 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.  
CONDITIONS OF APPROVAL, IF ANY: WELL CHANGES R649-2-3

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

## **Ratherford Unit #20-32 Horizontal Drilling Procedure**

The objective of this procedure is to prepare this wellbore for sidetracking, sidetrack the subject well and drill a short radius horizontal well with a 1000' lateral.

1. Prepare location and dig working pit.
2. MIRU DDPU (daylight workover rig), reverse unit and H2S equipment.
3. TOH and LD rods.
4. ND wellhead, release TAC, and NU BOPs.
5. TIH with 4 3/4" bit and casing scraper to PBTB. TOH with bit and scraper.
6. Attempt to load hole and establish an injection rate (if the injection pressure is > 500 psi, a packer should be run to establish an injection rate).
7. MIRU wireline truck. Run gauge ring and junk basket to PBTB. Run a gyro survey from PBTB to surface. Run and set a cement retainer  $\pm 5500'$ . RD wireline truck.
8. TIH with star guide @  $\pm 5450'$ . Circulate until well is static and free of oil and gas. Sting into cement retainer and establish injection rate. Pressure annulus to 500 psi. Squeeze cement the existing Desert Creek perforations. Pull out of retainer leaving 1 bbl of cement on top of the retainer and reverse out. TOH with star guide laying down tubing.
9. TIH with 4 3/4" bit and drill collars picking up 2 7/8" 10.40 ppf E-75 AOH workstring. Drill cement retainer and cement to 5739'. Circulate hole clean and them mud-up system until a yield point of 40-50 is obtained. TOH with bit.
10. TIH with 4 1/2" section mill dressed with cutter arms for 5 1/2" casing to 5574'. Mill section in casing from 5574' - 5604'. Circulate the hole clean and TOH with section mill.
11. TIH with 4 3/4" bit and clean out to TD. Circulate hole clean and TOH with bit.
12. TIH with 10 jts 2 3/8" tubing on 2 7/8" DP to TD. Circulate the well until static and free of oil and gas. Spot a balanced cement kick-off plug. TOH with workstring. WOC a minimum of 12 hours.
13. TIH and tag cement plug and re-spot plug if the top is too low. TOH and LD workstring. ND BOPs and NU wellhead. RDMO daylight workover rig.
14. MIRU 24 hour DDPU with drilling package. TIH with 4 3/4" MT bit, DCs, and 2 7/8", 10.4ppf, AOH drillpipe.
15. Dress off cement plug to the kick off point @  $\pm 5575'$ . Treat water and mud up with XC polymer and starch. POOH.

16. PU curve drilling assembly and TIH on 2 7/8" DP to PBTD.
17. RU power swivel and wireline. Latch into gyro tool and orient BHA.
18. Sidetrack wellbore using gyro orientation. Switch to Magnetic steering tool when free of magnetic interference from casing.
19. Drill curve section using steering tool for orientation. POOH and LD curve drilling motor.
20. PU lateral drilling motor and new bit.
21. TIH with lateral drilling assembly. Steer assembly as necessary with steering tool to reach target. Make bit trips as necessary. Circulate wellbore clean and POOH.
22. Complete well as per operations Engineering.

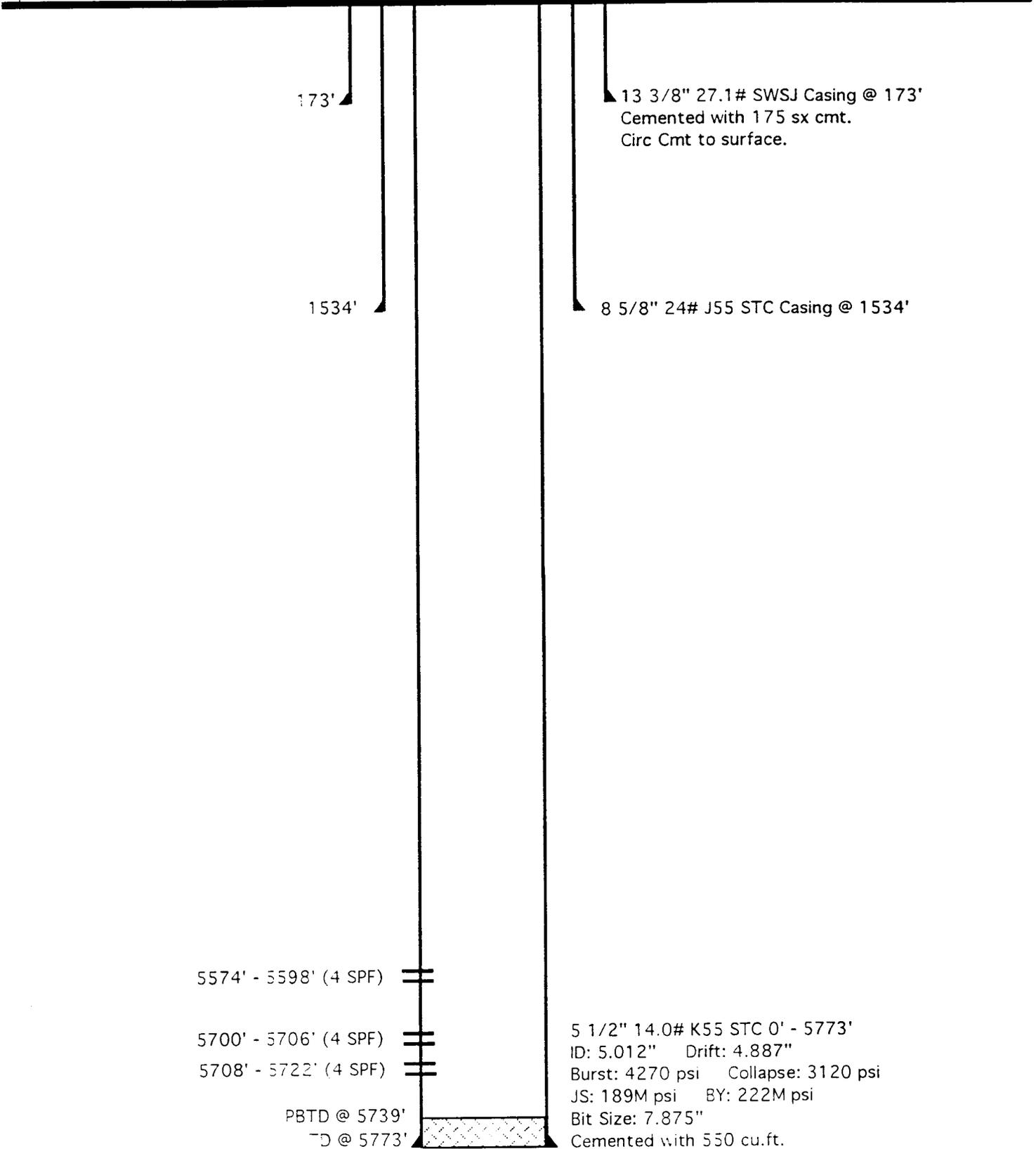
San Juan County, Utah  
Sec 20, TWP 41S, RNG 24E  
1980' FEL & 1980' FNL  
5 miles SSE of Montezuma Creek, Utah

# RATHERFORD UNIT No. 20-32 EXISTING WELLSKETCH

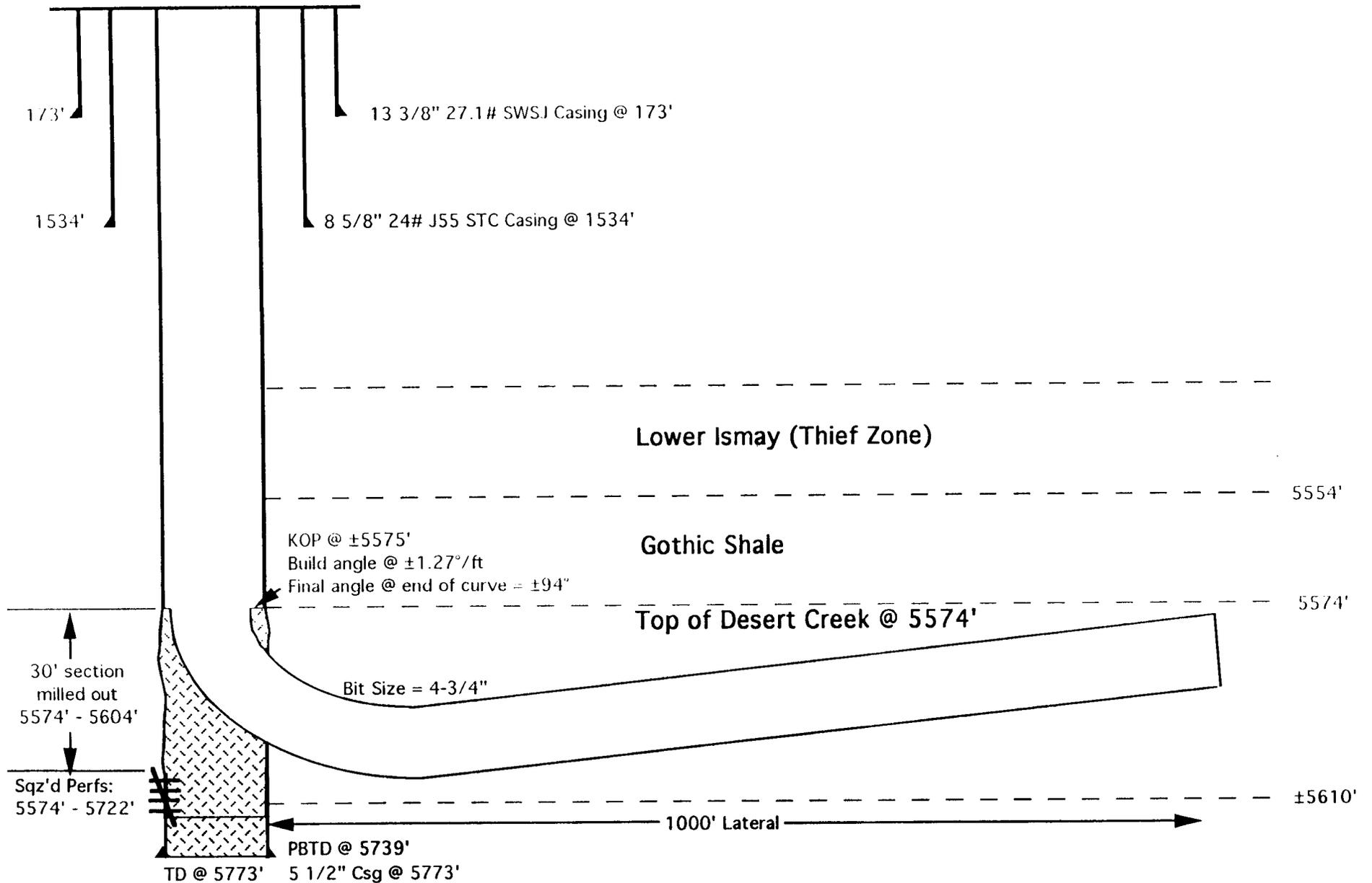
GL: 4780'  
KB: 4791'  
ZERO: 11' AGL

API No. 4303715749  
Latitude: 37.209738862  
Longitude: -109.3026508

Spud Date: 1959



# PROPOSED HORIZONTAL RATHERFORD UNIT #20-32 WIW



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**

7. If Unit or CA, Agreement Designation  
**Ratherford**

8. Well Name and No.  
**RU 20-32**

9. API Well No.  
**43-037-15749**

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  
**MEPUS for MPT&NM and MEPNA\* (915) 688-2114**

3. Address and Telephone No.  
**P.O. Box 633, Midland, Tx. 79702 Attn: Glen Cox**

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
**Surface: SWNE 20-41s-24e  
BHL: N/A**

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 Pipeline
- 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.)\*

\*Mobil Exploration & Producing U. S. Inc. as agent for Mobil Producing Texas & New Mexico Inc. and Mobil Exploration & Producing North America Inc.

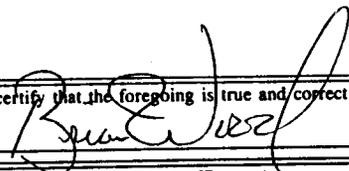
Will bury water injection pipeline ≈30" deep. (Application to convert well will be filed separately.) Pipeline will be ≈50' long and run north from well to an existing injection pipeline inside pad anchor. All in unit. All on Navajo Tribal Trust. All sites avoided.

Pipeline will be ≈3-1/2" OD coiled steel tubing. Wall thickness is 0.190". Pipe rated to API5LX42. Maximum operating pressure will be ≈500 psi. Hydrotested to ≈5800 psi. Burst pressure is ≈7200 psi. Tubing will be unreel from spool mounted on bulldozer.

cc: BIA, BLM, Cox, UDOGM

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

Signed



Title

Consultant **Accepted by the  
Utah Division of**

Date

**6-20-94**

(This space for Federal or State office use)

**Oil, Gas and Mining**

Approved by

Title

Date

Conditions of approval, if any:

**FOR RECORD ONLY**

WORKSHEET  
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 07/19/94

API NO. ASSIGNED: 43-037-15749

WELL NAME: RATHERFORD UNIT 20-32 RE-ENTRY ✓  
OPERATOR: MOBIL EXPL & PROD (N7370)

PROPOSED LOCATION:  
SWNE 20 - T41S - R24E  
SURFACE: 1980-FNL-1980-FEL  
BOTTOM:  
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 \_\_\_\_\_)

Potash (Y/N)

Oil shale (Y/N)

Water permit  
(Number \_\_\_\_\_)

RDCC Review (Y/N)  
(Date: \_\_\_\_\_)

LOCATION AND SITING:

R649-2-3. Unit: U74-68931A

R649-3-2. General.

R649-3-3. Exception.

Drilling Unit.  
Board Cause no:     

Date:     

COMMENTS: MULTI POINT SURVEY + BHL PLAT SHOULD  
BE REQUIRED

STIPULATIONS: 1 Directional Drilling

**RATHERFORD UNIT**  
**1993 FIELD REVIEW AND PLAN OF DEVELOPMENT FOR 1994**

The following construction and capital projects are anticipated to be initiated and/or completed in 1994.

1. Add additional pumps to water injection station.
2. Convert 13 wells from production injection.
3. Drill 1 injection well.
4. Upgrade production facilities at 3 satellites.

The status of 1993 projects are detailed as follows:

(Note Mobil did not submit the 1993 Development Plan. Phillips, the Operator in 1992 did.)

1. Drilled and completed 3 new wells.
2. Modified the water injection station.

(See attached 1993 Annual Report)



**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

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

July 28, 1994

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

Re: Ratherford Unit 20-32 Well, 1980' FNL, 1980' FEL, SW NE, Sec. 20, T. 41 S., R. 24 E., San Juan County, Utah

Gentlemen:

Pursuant to Utah Code Ann. § 40-6-18, (1953, as amended), Utah Admin. R. 649-2-3, Application of Rules to Unit Agreements and R. 649-3-4, Permitting of Wells to be Drilled, Deepened or Plugged-Back, approval to drill the referenced well is hereby granted.

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

1. In accordance with Utah Admin. R. 649-3-11, Directional Drilling, submittal of a complete angular deviation and directional survey report is required.
2. Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules.
3. Notification to the Division within 24 hours after drilling operations commence.
4. Submittal of Entity Action Form, Form 6, within five working days following commencement of drilling operations and whenever a change in operations or interests necessitates an entity status change.
5. Submittal of the Report of Water Encountered During Drilling, Form 7.



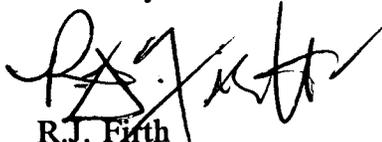
Page 2

Mobil Exploration & Producing U.S. Inc.  
Ratherford Unit 20-32 Well  
July 28, 1994

6. Prompt notification prior to commencing operations, if necessary, to plug and abandon the well. Notify Frank R. Matthews, Petroleum Engineer, (Office) (801)538-5340, (Home) (801)476-8613, or K. Michael Hebertson, Reclamation Specialist, (Home) (801)269-9212.
7. Compliance with the requirements of Utah Admin. R. 649-3-20, Gas Flaring or Venting, if the well is completed for production.

This approval shall expire one year after date of issuance unless substantial and continuous operation is underway or a request for an extension is made prior to the approval expiration date. The API number assigned to this well is 43-037-15749.

Sincerely,



R.J. Firth  
Associate Director

ldc

Enclosures

cc: San Juan County Assessor  
Bureau of Land Management, Moab District Office  
WO11

**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\***

1a. TYPE OF WELL: OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> DRY <input type="checkbox"/> Other _____		5. LEASE DESIGNATION AND SERIAL NO. <b>14-20-0603-353</b>	
b. TYPE OF COMPLETION: NEW WELL <input type="checkbox"/> WORK OVER <input checked="" type="checkbox"/> DEEP-EN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> DIFF. RESVR. <input type="checkbox"/> Other <b>SIDETRACK</b>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME <b>NAVAJO TRIBAL</b>	
2. NAME OF OPERATOR <b>Mobil Exploration &amp; Producing U.S. Inc. as Agent for Mobil Producing TX &amp; NM Inc.</b>		7. UNIT AGREEMENT NAME <b>RATHERFORD UNIT</b>	
3. ADDRESS AND TELEPHONE NO. <b>P.O. Box 633, Midland, TX 79702 (915) 688-2585</b>		8. FARM OR LEASE NAME, WELL NO. <b>RATHERFORD 20-32</b>	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface <b>1980' FNL, 1980' FEL</b> At top prod. interval reported below		9. API WELL NO. <b>43-037-15749</b>	
At total depth <b>BHL 725.37' FNL, 688.35' FWL</b>		10. FIELD AND POOL, OR WILDCAT <b>GREATER ANETH</b>	
14. PERMIT NO. <b>43-037-15749</b>		DATE ISSUED	12. COUNTY OR PARISH <b>SAN JUAN</b>
			13. STATE <b>UT</b>
15. DATE SPUN/DDED <b>9/12/94 N/A</b>	16. DATE T.D. REACHED <b>09/30/94</b>	17. DATE COMPL. (Ready to prod.) <b>10/12/94</b>	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* <b>4780' GL</b>
			19. ELEV. CASINGHEAD <b>N/A</b>
20. TOTAL DEPTH, MD & TVD <b>6165' /5773'</b>	21. PLUG, BACK T.D., MD & TVD <b>6165'</b>	22. IF MULTIPLE COMPL., HOW MANY* <b>NO</b>	23. INTERVALS DRILLED BY → <b>X</b>
			ROTARY TOOLS <b>X</b>
			CABLE TOOLS
24. PRODUCING INTERVAL(S), OF THIS COMPLETION - TOP, BOTTOM, NAME (MD AND TVD)* <b>5577-5619' 586' LATERAL SECTION</b>			25. WAS DIRECTIONAL SURVEY MADE <b>YES</b>
26. TYPE ELECTRIC AND OTHER LOGS RUN <b>GR/CCL; GR/NEU</b>			27. WAS WELL CORED <b>NO</b>

**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
<b>13-3/8"</b>	<b>27.1#</b>	<b>173'</b>		<b>175 SX TO SURFACE</b>	
<b>8-5/8"</b>	<b>24#</b>	<b>1534'</b>		<b>730 SX CL B TO SURFACE</b>	
<b>5-1/2"</b>	<b>14#</b>	<b>5773'</b>	<b>7.875"</b>	<b>550 CU FT TOC-2597'</b>	

29. LINER RECORD				30. TUBING RECORD		
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	PACKER SET (MD)
					<b>2.875"</b>	
					<b>SN @ 5519'</b>	
					<b>TAC @ 5516'</b>	

31. PERFORATION RECORD (Interval, size and number) <b>5579-6165' 586' LATERAL SECTION</b>		32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
		DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
		<b>5487'</b>	<b>SET CMT RET</b>
		<b>5574-5722'</b>	<b>SQZ DESERT CREEK PERFS W/100</b>
			<b>SX CL G, 2 PPS MICRO-BOND,</b>
			<b>0.15% HALAD 322, 0.1% CFR-3</b>

**33.\* PRODUCTION**

DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping - size and type of pump) <b>2.5 X 1.5 X 24</b>			WELL STATUS (Producing or shut-in) <b>POW</b>		
DATE OF TEST <b>10/19/94</b>	HOURS TESTED <b>24</b>	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL - BBL. <b>119</b>	GAS - MCF. <b>50</b>	WATER - BBL. <b>215</b>	GAS - OIL RATIO <b>420</b>
FLOW. TUBING PRESS. <b>32</b>	CASING PRESSURE <b>32</b>	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

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

SIGNED *D. J. for Shirley J. J. J.* TITLE **ENV. & REG. TECHNICIAN** DATE **10/25/94**

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

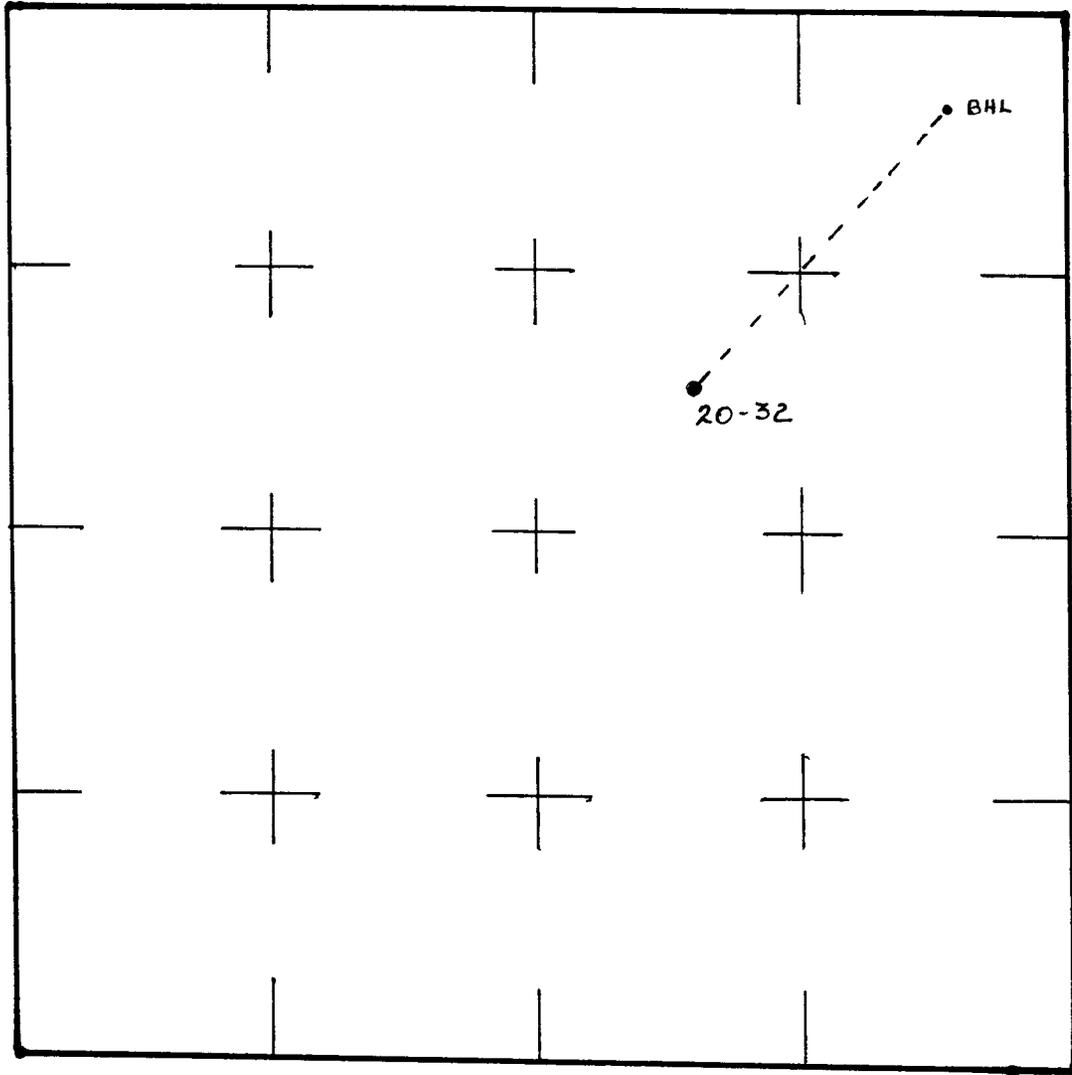
37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

38. GEOLOGIC MARKERS

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP	
					MEAS. DEPTH	TRUE VERT. DEPTH
			<p>ACID, SHOT, CEMENT SQUEEZE CONT'D:  MIXED @ 15.6#, YLD 1.21</p> <p>5729-5300' SET 55 SK CL G, 2.5# MICROBOND, 0.5% CFR-3  PLUG MIXED @ 17#, YLD 1.03</p> <p>5574' KOP</p> <p>5603' SPOT 50 SX CL G, 0.6% HALAD 322, 10% SSA1 -  YLD 1.03, 17#</p> <p>5790-6165' ACDZ OHZ W/10,000 GALS 15% NEFE HCL ACID</p>			



MOELL EXPLORATION & PRODUCING U.S. INC.  
as Agent for MEPNA & Mobil Oil Corp.



RATHERFORD UNIT #20-32  
1980' FNL, 1980' FEL SW NE  
SEC. 20, T41S, R24E  
BHL 49.60 FNL, 61 FEL

Scale 1" = 1,000'

SCIENTIFIC DRILLING INTERNATIONAL, INC.

CASPER, WYOMING

MOBIL OIL CORPORATION

Well Name : RATHERFORD UNIT #20-32  
Location : SAN JUAN COUNTY, UTAH  
SHL : RATHERFORD UNIT  
PBHL :  
ACTUAL BHL :  
Date Surveyed : 9/22/1994  
Job No. : 41FG0994095  
Survey Performed By : JOHN BECKNER

This survey is correct to the best of my knowledge  
and is supported by actual field data.

*John H. Beckner*..... COMPANY REPRESENTATIVE

SCIENTIFIC DRILLING INTERNATIONAL, INC.

Client : MOBIL OIL CORPORATION  
 Well Name : RATHERFORD UNIT #20-32  
 Location : SAN JUAN COUNTY, UTAH  
 SHL : RATHERFORD UNIT  
 PBHL :  
 ACTUAL BHL :

Page 1 of 2  
 Date 9/22/1994  
 Filename : RAT20-32

Height Of WELLSITE Datum Above Field Datum No Interpolation  
 0.00 ft

M. DEPTH	ANGLE	DIRCET'N	C\L	T V D	V/S	N/S-	E/W-	DLS
ft	deg	dm	ft	ft	ft	ft	ft	/100
0.00	0.00	0° 0'	0	0.00	0.00	0.00	0.00	0.00
100.00	0.75	333° 31'	100	100.00	0.63	0.59	-0.29	0.75
200.00	0.81	323° 32'	100	199.99	1.95	1.74	-1.00	0.15
300.00	0.81	308° 13'	100	299.98	3.35	2.75	-1.98	0.22
400.00	0.82	301° 25'	100	399.97	4.74	3.56	-3.15	0.10
500.00	0.81	300° 50'	100	499.96	6.12	4.29	-4.36	0.00
600.00	0.77	300° 12'	100	599.95	7.44	4.99	-5.55	0.04
700.00	0.77	298° 20'	100	699.94	8.72	5.65	-6.72	0.03
800.00	0.87	296° 55'	100	799.93	10.08	6.31	-7.99	0.10
900.00	1.07	296° 26'	100	899.91	11.67	7.07	-9.50	0.20
1000.00	1.20	293° 44'	100	999.90	13.51	7.91	-11.30	0.14
1100.00	1.46	288° 51'	100	1099.87	15.61	8.74	-13.46	0.28
1200.00	2.03	297° 28'	100	1199.82	18.41	9.97	-16.24	0.63
1300.00	1.93	298° 21'	100	1299.76	21.68	11.59	-19.29	0.10
1400.00	2.47	313° 1'	100	1399.69	25.44	13.86	-22.35	0.78
1500.00	2.67	308° 17'	100	1499.59	29.89	16.77	-25.75	0.29
1600.00	2.42	301° 16'	100	1599.49	34.23	19.31	-29.39	0.40
1700.00	2.05	302° 38'	100	1699.41	38.01	21.37	-32.70	0.37
1800.00	2.49	295° 45'	100	1799.33	41.78	23.28	-36.16	0.52
1900.00	2.34	295° 4'	100	1899.25	45.71	25.08	-39.97	0.15
2000.00	1.93	283° 36'	100	1999.18	49.02	26.34	-43.45	0.59
2100.00	1.87	289° 26'	100	2099.12	51.89	27.28	-46.63	0.20
2200.00	1.94	290° 14'	100	2199.07	54.86	28.41	-49.76	0.07
2300.00	1.94	289° 37'	100	2299.01	57.89	29.57	-52.94	0.02
2400.00	1.88	295° 41'	100	2398.95	60.93	30.84	-56.01	0.21
2500.00	1.93	300° 16'	100	2498.90	64.08	32.40	-58.94	0.16
2600.00	1.87	307° 31'	100	2598.84	67.31	34.25	-61.69	0.25
2700.00	1.73	325° 15'	100	2698.79	70.41	36.48	-63.85	0.57
2800.00	1.62	337° 31'	100	2798.75	73.22	39.03	-65.25	0.37
2900.00	1.45	336° 23'	100	2898.72	75.73	41.49	-66.30	0.17
3000.00	1.47	345° 32'	100	2998.69	78.04	43.89	-67.12	0.23
3100.00	1.09	351° 44'	100	3098.66	79.94	46.08	-67.58	0.40
3200.00	0.89	359° 31'	100	3198.65	81.29	47.79	-67.72	0.24
3300.00	0.73	2° 29'	100	3298.64	82.30	49.21	-67.70	0.17
3400.00	0.58	0° 29'	100	3398.63	83.10	50.35	-67.67	0.15
3500.00	0.51	3° 46'	100	3498.62	83.77	51.30	-67.64	0.08
3600.00	0.43	12° 4'	100	3598.62	84.28	52.11	-67.53	0.10
3700.00	0.30	32° 47'	100	3698.62	84.56	52.70	-67.31	0.18
3800.00	0.32	34° 7'	100	3798.62	84.68	53.15	-67.01	0.02
3900.00	0.32	38° 16'	100	3898.61	84.78	53.60	-66.68	0.02

SCIENTIFIC DRILLING INTERNATIONAL, INC.

Client : MOBIL OIL CORPORATION  
 Well Name : RATHERFORD UNIT #20-32  
 Location : SAN JUAN COUNTY, UTAH  
 SHL : RATHERFORD UNIT  
 PBHL :  
 ACTUAL BHL :

Page 2 of 2  
 Date 9/22/1994  
 Filename : RAT20-32

Height Of WELLSITE Datum Above Field Datum No Interpolation  
 0.00 ft

M. DEPTH	ANGLE	DIRCET'N	C\L	T V D	V/S	N/S-	E/W-	DLS
ft	deg	dm	ft	ft	ft	ft	ft	°/100
4000.00	0.37	59° 16'	100	3998.61	84.75	53.98	-66.23	0.14
4100.00	0.39	73° 4'	100	4098.61	84.53	54.25	-65.63	0.09
4200.00	0.40	82° 1'	100	4198.61	84.17	54.40	-64.96	0.06
4300.00	0.43	103° 46'	100	4298.61	83.65	54.36	-64.25	0.16
4400.00	0.39	127° 22'	100	4398.60	83.00	54.06	-63.61	0.17
4500.00	0.39	125° 56'	100	4498.60	82.33	53.65	-63.06	0.00
4600.00	0.34	129° 11'	100	4598.60	81.70	53.27	-62.56	0.05
4700.00	0.41	133° 26'	100	4698.60	81.05	52.83	-62.07	0.07
4800.00	0.43	136° 4'	100	4798.60	80.32	52.32	-61.55	0.03
4900.00	0.33	141° 56'	100	4898.59	79.65	51.82	-61.11	0.11
5000.00	0.31	141° 54'	100	4998.59	79.10	51.38	-60.77	0.02
5100.00	0.23	154° 53'	100	5098.59	78.64	50.99	-60.51	0.10
5200.00	0.20	175° 41'	100	5198.59	78.31	50.63	-60.42	0.08
5300.00	0.11	212° 7'	100	5298.59	78.15	50.37	-60.45	0.13
5400.00	0.27	216° 18'	100	5398.59	78.09	50.10	-60.64	0.16
5500.00	0.27	228° 20'	100	5498.59	78.05	49.76	-60.96	0.06
5550.00	0.19	176° 2'	50	5548.59	77.99	49.60	-61.04	0.43

Origin of Bottom Hole Closure WELLSITE CENTRE  
 Bottom Hole Closure 79 ft 309° 6'

FINDER GYRO SURVEY REPORT

SCIENTIFIC DRILLING INTERNATIONAL, INC.

Client : MOBIL OIL CORPORATION  
Well Name : RATHERFORD UNIT #20-32 Date 9/22/1994  
Location : SAN JUAN COUNTY, UTAH Filename : RAT20-32  
SHL : RATHERFORD UNIT  
PBHL :  
ACTUAL BHL : No Interpolation  
Height Of WELLSITE Datum Above Field Datum 0.00 ft

Plane of Vertical Section : 316°30'  
Latitude & Departure relate to : WELLSITE CENTRE  
Vertical Section Originates at : WELLSITE CENTRE  
Slot Coordinates : Lat 0.000ft  
: Dep 0.000ft  
Directions Referenced To : GRID NORTH  
Depth at Drill Floor : 0.00 ft

Calculation Method : MINIMUM CURVATURE

Magnetic Declination : +12.38°  
WELLSITE North : +0° 0' 0'' (T)  
Grid convergence : +0.0000°

FINDER GYRO SURVEY REPORT

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OCT 28 1994

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

**SUBMIT IN TRIPLICATE**

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other	5. Lease Designation and Serial No. <b>14-20-0603-353</b>
2. Name of Operator <b>Mobil Exploration &amp; Producing U.S. Inc. as Agent for Mobil Producing TX &amp; NM Inc.</b>	6. If Indian, Allottee or Tribe Name <b>NAVAJO TRIBAL</b>
3. Address and Telephone No. <b>P.O. Box 633, Midland, TX 79702   (915) 688-2585</b>	7. If Unit or CA, Agreement Designation <b>RATHERFORD UNIT</b>
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) <b>1980' FNL, 1980' FEL; SEC. 20, T41S, R24E</b>  <b>BHL 725.37' FNL, 688.35' FWL</b>	8. Well Name and No. <b>RATHERFORD UNIT 20-32</b>
	9. API Well No. <b>43-037-15749</b>
	10. Field and Pool, or exploratory Area <b>GREATER ANETH</b>
	11. County or Parish, State <b>SAN JUAN   UT</b>

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

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment
<input 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 type="checkbox"/> Other <b>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.)\*

- 09-13-94 MIRU. POOH W/RODS & PUMP. ND WELLHEAD, NU BOP. POOH W/PROD TBG.
- 09-14-94 RIH W/CMT RET & SET @5487'.
- 09-15-94 PRESS TEST TO 3000#, HELD OK. STUNG INTO CMT RET & PRESS ANNULUS TO 500#, HELD OK. SQZ DESERT CREEK PERFS 5574-5722 W/100 SX CLASS G, 2 PPS MICRO-BOND, 0.15% HALAD 322, 0.1% CFR-3, MIXED @ 15.6#, YLD 1.21. REV OUT 4 SX CMT.
- 09-16-94 DRILLED OUT CMT RET & FIRM CMT FROM 5487-5505, CIRC CLEAN.
- 09-17-94 DRILLED OUT HARD CMT FROM 5505-5722. CIRC OUT FRAC SAND FROM 5729-5739 PBTD, CIRC CLEAN.
- 09-18-94 RAN GR/CCL. OPENED SECTION MILL AND MILLED OUT CSG FROM 5574-5605. CIRC HOLE CLEAN W/MUD.
- 09-19-94 DISPLACED DRILLING MUD W/120 BFW & SET 55 SX CLASS G, 2.5# MICRO-BOND, 0.5% CFR-3, CMT PLUG, MIXED @ 17#, YLD 1.03, FROM 5729-5300. REV CIRC CLEAN, NO CMT.
- 09-20-94 TAG CMT @ 5350. DRLG MOUSE HOLE. DRLG CMT F/5350-5560
- 09-21-94 DRLG CMT F/5360-5605 - CMT DRLG SOFT F/5574-5605. TOO SOFT TO KICKOFF. SPOT 50 SX CL G, 0.6% HALAD 322, 10% SSA1 - 1.03 YLD - 17#/GAL @ 5603. KOP @ 5574'.
- 09-22-94 TAG CMT @ 5277; DRLG CMT F/5277-5579. CIRC CLEAN & DISPLACE HOLE W/MUD. RUN GYRO SURVEY.

14. I hereby certify that the foregoing is true and correct  
Signed *D. J. for Shirley Dodd* Title ENV. & REG. TECHNICIAN Date 10/25/94

(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.

09-23-94 RUN GYRO SURVEY - BOTTOM HOLE LOC = MD 5550 - HOR DISP  
78.65 - CLOSURE DIR=309.093. DRLG 5579-5645'. CIRC. CURVE  
F/5590-5645'. DRLG F/5645-5654.

09-24-94 DRLG F/5654-5659. DRLG F/5659-5666 - 20% CHERT IN LAST  
SAMPLES.

09-25-94 REAM 3' TO BTM. DRLG 5666-5749.

09-26-94 DRLG 5749-5865.

09-27-94 DRLG 5865-6032. CIRC.

09-28-94 DRLG W/SRAH MTR F/6032-6102.

09-29-94 DRLG W/SRAB MTR F/6102-6147 - 110.9 DEG

09-30-94 DRLG 6147-6165. CIRC.

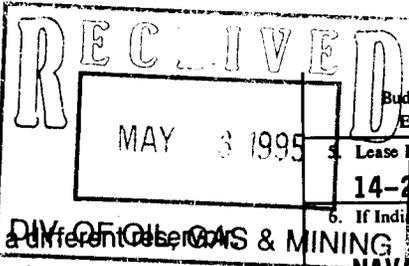
10-01-94 RUN GR/NEU TD=6165. LOG TO 5400. SET PKR @ 5533 - LOAD AND  
TST PKR TO 500.

10-04-94 JETTED OHZ W/PERF CLEAN TOOL & CIRC OUT DRLG MUD W/2%  
KCL FW. ACDZ OHZ W/10,000 GALS 15% NEFE HCL F/6165-6120. RAN  
3000# & 4000# 7-DAY BHP BOMBS & SET @ 5570.

10-11-94 POOH W/BHP BOMBS. RIH W/PROD TBG. ND BOP. SET PRESS  
BOMBS @ 5584.

10/12/94 RIH W/PUMP & RODS. LOADED & PRESS TESTED TBG TO 500#,  
HELD OK. RDMO.

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

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5. Lease Designation and Serial No.  
**14-20-0603-353**

6. If Indian, Allottee or Tribe Name  
**NAVAJO TRIBAL**

SUBMIT IN TRIPLICATE

7. If Unit or CA, Agreement Designation  
**RATHERFORD UNIT**

1. Type of Well

Oil Well  Gas Well  Other **INJECTOR**

8. Well Name and No.

**RATHERFORD 20-32**

2. Name of Operator

**Mobil Exploration & Producing U.S. Inc.  
as Agent for Mobil Producing TX & NM Inc.**

9. API Well No.

**43-037-15749**

3. Address and Telephone No.

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

10. Field and Pool, or exploratory Area

**GREATER ANETH**

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

**1980' FNL, 1980' FEL; SEC. 20, T41S, R24E**

11. County or Parish, State

**BHL 725.37' FNL, 688.35' FWL**

**SAN JUAN UT**

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
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	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input type="checkbox"/> Other _____
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input checked="" 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.)\*

**WORK WILL COMMENCE UPON APPROVAL OF AREA WIDE PERMIT FROM THE EAP.**

**SEE ATTACMENT**

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

Signed Shelley Robertson Title ENV. & REG. TECHNICIAN Date 4-25-95

(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.

Ratherford Unit 20-32  
Injection Well Conversion

AFE # 4AD8

1. Lock and tag out all power sources. Clamp off polish rod. Remove horse head. RU pump and pump lines to casing annulus and kill well with lease water.
2. MI workover rig. ND pump tee. NU and PT BOP's. POH with sucker rods and rod pump laying down same. Release tubing anchor and POH standing back production tubing.
3. RIH with 4-3/4" rock bit without nozzles and casing scraper for 5-1/2", 14 lb/ft casing on 2-7/8" tubing to 5550'. POH.
4. RIH with squeeze packer on 2-7/8" tubing and set at 5540'. PT casing to 1000 psi. If PT fails, locate and squeeze casing leak using a RBP with sand dumped on top to isolate completion interval, and 100 sxs of class B cement containing 2 percent calcium chloride. Clean out cement and retest casing string to 1000 psi. Resqueeze as necessary. Wash sand off RBP and retrieve same. POH laying down workstring.
5. RIH with a Guiberson G-6 injection packer on new 2-7/8", 6.5 lb/ft J-55 KCTS (Threadmasters Torque Ring) Fluorolined Tubing to 5524'. Reverse circulate fresh water packer fluid containing 1 percent by volume of Tretolite CRW137 corrosion inhibitor/oxygen scavenger. Set packer at 5524'. PT backside to 1000 psi. ND BOP's. NU injection head (Ken Britton with Big Red Tool at 505/325-5045).

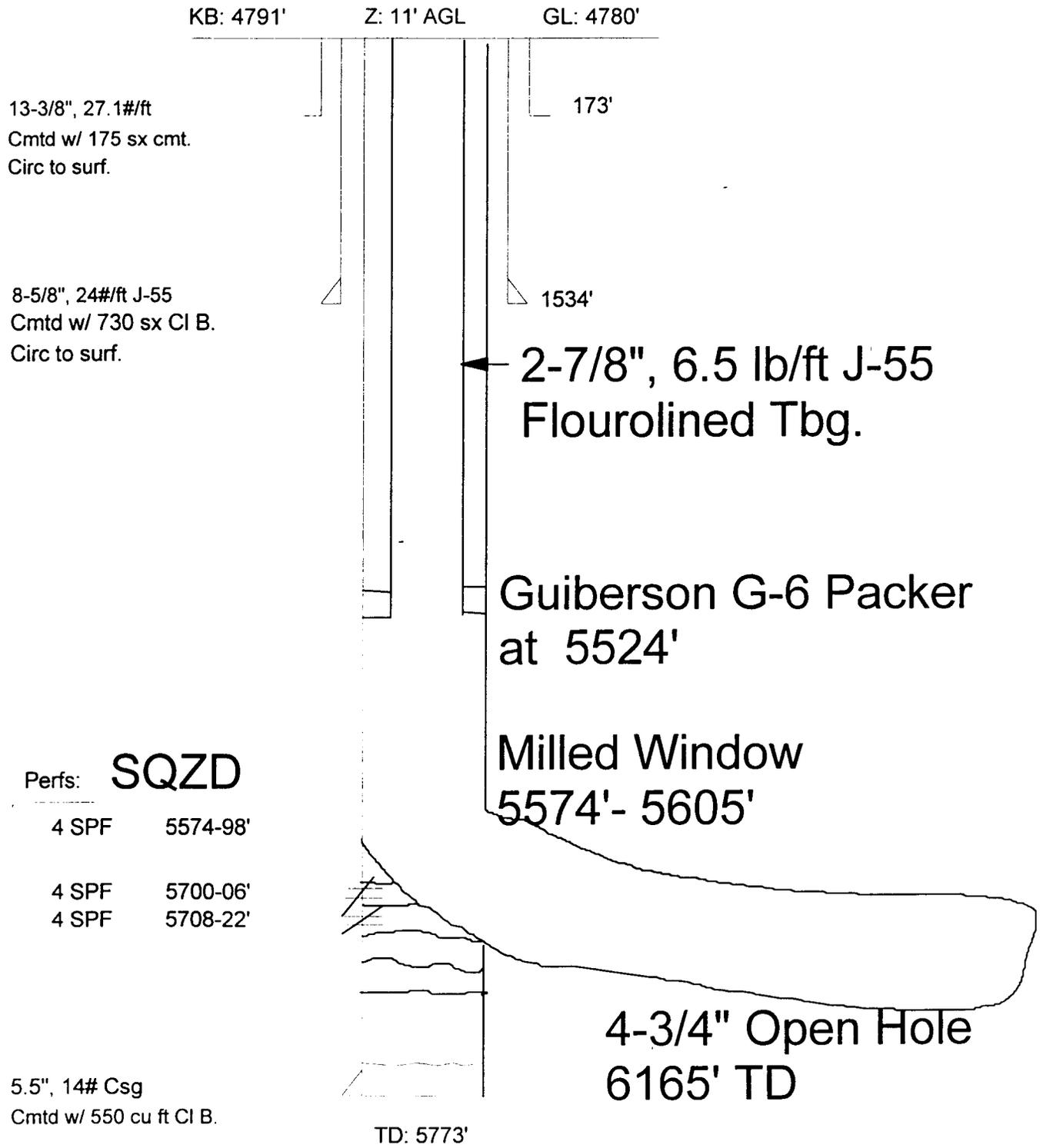
NOTE: A. All new KCTS tubing to be torque turned to 2250 ft-lbs (Tong Rentals at 512/668-9774). All connections of seal assembly and tubing to be made up using permiserts, permetek, and Baker Super B thread compound. Supervision of make-up/running KCTS tubing from Bill Allman with Permian Enterprises at 505/632-8702.

B. Rabbit tubing with 2.0" O.D. rabbit.

6. Perform Mechanical Integrity Test (MIT) for EPA. Contact Jim Walker of the Navajo EPA in Shiprock at 505/368-1040 to witness. Use chart recorder to record test. Send copies of chart to Shirley Todd, Midland - 1206 MOB, Ed Barber, Aneth, and Ratherford files. After obtaining an acceptable MIT, place well on water injection at 500 BWPD.

4AD8

# Ratherford Unit 20-32 Proposed



**STATE OF UTAH**  
**DIVISION OF OIL, GAS AND MINING**  
 355 West North Temple, 3 Triad, Suite 350, Salt Lake City, UT 84180-1203

## MONTHLY OIL AND GAS PRODUCTION REPORT

OPERATOR NAME AND ADDRESS:

C/O MOBIL OIL CORP  
 M E P N A  
 PO DRAWER G  
 CORTEZ CO 81321

UTAH ACCOUNT NUMBER: N7370

REPORT PERIOD (MONTH/YEAR): 6 / 95

AMENDED REPORT  (Highlight Changes)

Well Name	Producing Zone	Well Status	Days Oper	Production Volumes		
API Number      Entity      Location				OIL(BBL)	GAS(MCF)	WATER(BBL)
#18-13 4303715734 06280 41S 24E 18	PRDX					
#19-12 4303715739 06280 41S 24E 19	PRDX					
#19-14 4303715740 06280 41S 24E 19	DSCR					
RATHERFORD UNIT 19-32 (RE-ENTRY) 4303715743 06280 41S 24E 19	DSCR					
RATHERFORD UNIT 19-34 (RE-ENTRY) 4303715744 06280 41S 24E 19	DSCR					
RATHERFORD 20-12 (RE-ENTRY) 4303715746 06280 41S 24E 20	DSCR					
RATHERFORD UNIT 20-14 (RE-ENTRY) 4303715747 06280 41S 24E 20	DSCR					
RATHERFORD UNIT 20-32 (RE-ENTRY) 4303715749 06280 41S 24E 20	DSCR					
RATHERFORD 20-34 (RE-ENTRY) 4303715750 06280 41S 24E 20	DSCR					
#21-12 4303715752 06280 41S 24E 21	DSCR					
RATHERFORD UNIT 21-14 (RE-ENTRY) 4303715753 06280 41S 24E 21	DSCR					
#21-32 4303715755 06280 41S 24E 21	DSCR					
#21-34 4303715756 06280 41S 24E 21	DSCR					
<b>TOTALS</b>						

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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

UTA OIL AND GAS CONSERVATION COMMISSION

REMARKS: 931006 Phillips to MEPNA # 7-1-93: ~~RE-ENTRY~~ "Horizontal DRL"  
 Pr. Report - may ~~12-5-99~~  
 Well Log - 8-27-59 950805 OPER UNDER MEPNA  
 \* Subsequent Report of Shooting or Acidizing - 7-5-60  
 12-1-83 Operator Name Change ~~950888~~ COMMENCED INS. 7-6-95

(None Fals) Well Log - & 2 Electric Logs

DATE FILED 3-25-59 ~~7-19-94~~ 14-20-603-  
 LAND: FEE & PATENTED STATE LEASE NO. PUBLIC LEASE NO. INDIAN 353  
 DRILLING APPROVED: 3-25-59 ~~7-88-94~~  
 SPUDDED IN: 4-19-59 ~~9-13-94~~  
 COMPLETED: 5-29-59 \* 6-1-60 ~~10-12-94~~ POW  
 INITIAL PRODUCTION: 359 BOPD 42/64" ch \* 69 BOPD, 7 BWPD \* 119 BOPD; 50 MCF, 215 BOPD  
 GRAVITY A. P. I.  
 GOR: 923 ~~420~~ \* 719  
 PRODUCING ZONES: 5574-5598' (DSCR) ~~5577-5619~~ (DSCR)  
 TOTAL DEPTH: 5973' ~~6110~~ / 5773'  
 WELL ELEVATION: 4776.5 Un Gr. 4789 D.F. ~~4780 GR~~  
 DATE ABANDONED:  
 FIELD OR DISTRICT: ~~Rutherford~~ Aneth  
 COUNTY: San Juan  
 WELL NO. DESERT A - 30 (Rutherford 20-32) API 43-037-15749

LOCATION: 1980 FT. FROM (N) ~~XX~~ LINE, 1980 FT. FROM (E) ~~XX~~ LINE. SW NE QUARTER - QUARTER SEC. 20  
~~2 BAL 72.5' ENL~~ ~~MOBIL EXPLOR EPROD LOSS~~ ~~FWL~~ 7

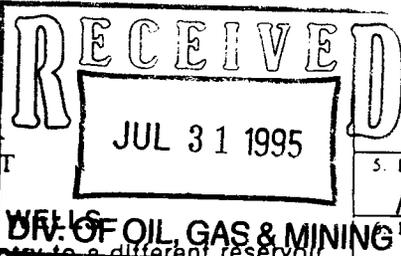
TWP.	RGE.	SEC.	OPERATOR	TWP.	RGE.	SEC.	OPERATOR
			<del>MEPNA</del>				

30 PHILLIPS FRENCH CO.

## GEOLOGIC TOPS:

QUATERNARY	Star Point	Sinbad	Brazer
Recent	Wahweap	PERMIAN	Pilot shale
Alluvium	Masuk	Kaibab	Madison
Lake beds	Colorado	Coconino	Leadville
Pleistocene	Mancos	Cutler	Redwall
Lake beds	Upper	Hoskinnini 2577'	DEVONIAN
TERTIARY	Middle	DeChelly 2637'	Upper
Pliocene	Lower	White Rim	Middle
Humboldt	Emery	Organ Rock 2722'	Lower
Salt Lake	Blue Gate	Cedar Mesa	Ouray
Miocene	Ferron	Halgaite 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	<del>Paradox</del> <del>Monaka</del> Trail 4573'	Eureka quartzite
Upper	San Rafael Gr.	Weber	Pogonip limestone
Middle	Summerville	Morgan	CAMBRIAN
Lower	Bluff sandstone	Hermosa	Lynch
Wasatch	Curtis	Upper	Bowman
Colton	Entrade	Lower	Tapeats
Flagstaff	Moab tongue	Molas	Ophir
Almy	Carmel	Paradox (Desert Creek) 4560'	Tintic
Paleocene	Glen Canyon Gr.	A	PRE-CAMBRIAN
Current Creek	Navajo	B	
North Horn	Kayento	C	
CRETACEOUS	Wingate	Manning Canyon	
Montana	TRIASSIC	Mississippian	
Mesaverde	Chinle 1518'	Chainman shale	
Price River	Shinarump 2332'	Humbug	
Blackhawk	Moenkapi 415'	Joana limestone	

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT



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

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5. Lease Designation and Serial No.  
14-20-603-353  
If Indian, Allottee or Tribe Name

NAVAJO Tribal  
7. If Unit or CA, Agreement Designation

Ratherford Unit  
8. Well Name and No.

2032  
9. API Well No.

43-037-15749  
10. Field and Pool, or Exploratory Area

Greater Aneth  
11. Country or Parish, State

San Juan, Ut.

SUBMIT IN TRIPLICATE

1. Type of Well  
 Oil Well  Gas Well  Other Injector

2. Name of Operator  
MOBIL OIL CORPORATION

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)  
1980' FNL, 1980' FEL  
BHL 725' FNL, 688' FWL  
Sec. 20, T41S, R24E

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	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input type="checkbox"/> Other <u>Commence Inj</u>
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
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Commenced Injection on 7-6-95.

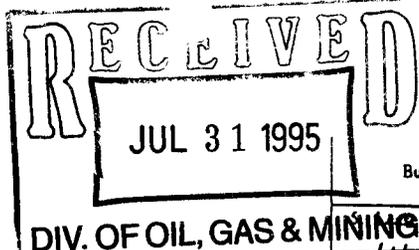
14. I hereby certify that the foregoing is true and correct

Signed Shirley Robertson Title Env. & Technician Date 7-27-95

(This space for Federal or State office use)

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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT



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

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14-20-603-353

6. If Indian, Allottee or Tribe Name

NAVAJO Tribal

7. If Unit or CA, Agreement Designation

Rutherford Unit

8. Well Name and No.

2032

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Greater Aneth

11. Country or Parish, State

San Juan, Ut.

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Oil Well  Gas Well  Other Injector

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MOBIL OIL CORPORATION

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(915)688-2585

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	<input type="checkbox"/> Dispose Water

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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.)\*

Commenced Injection on 7-6-95.

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

Signed

Shirley Robertson

Title

Env. & Technician

Date

7-27-95

(This space for Federal or State office use)

Approved by

Conditions of approval, if any:

Title

Date



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

Attn: R. J. Firth  
Associate Director

RECEIVED  
MAY 16 1986

DIVISION OF  
OIL, GAS & MINING

## 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,



CNE/rd  
CNE8661

R. D. Baker  
Environmental Regulatory Manager

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

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

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 20-32

9. API Well No.  
43-037-15749

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 Exploration & Producing U.S. Inc.  
as Agent for Mobil Producing TX & NM Inc.

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.20, T41S,R24E  
1980' FNL, 1980' FEL  
BHL - 725' N,688' W FROM SURF. LOCATION

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

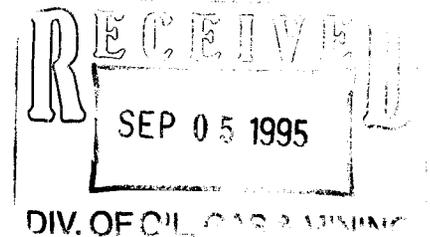
TYPE OF ACTION

- Abandonment  
 Recompletion  
 Plugging Back  
 Casing Repair  
 Altering Casing  
 Other \_\_\_\_\_
- 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.)\*

- 6-19-95 POOH W/TBG.
- 6-20-95 SET RBP. LOAD CSG W/FW, CIRC CLEAN. PRESS TEST TO 1000 PSI/30 MIN/OK.
- 6-21-95 CUT OFF CSG & ADD TO 5 1/2 CSG 8" X 11" X 3000# DOUBLE STUDDED ADAPTOR, 11" X 3" X 1 1/16 X 3000# CSG HEAD W/2 2" LPO, 7" X 2 7/8" KTH ATTACHMENT. TEST TO 1000 PSI/30 MIN/OK
- 6-22-95 GIH W/174 JTS 2 7/8" KTC TBG. SET PKR AT 5522'. FILL CSG W/PKR FLUID. PRESS. TEST 1000#/30 MIN/OK
- 6-23-95 CLEAN LOCATION RDMO.



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

Signed Shuley Robertson Title ENV. & REG. TECHNICIAN Date 8-30-95

(This space for Federal or State office use)

Approved by \_\_\_\_\_ Title \_\_\_\_\_ Date Tax Credit  
Conditions of approval, if any: 6/23/95

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

SUNDRY NOTICES AND REPORTS ON WELLS

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Use "APPLICATION FOR PERMIT - " for such proposals

5. Lease Designation and Serial No.

14-20-603-353

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NAVAJO TRIBAL

7. If Unit or CA, Agreement Designation

RATHERFORD UNIT

8. Well Name and No.

RATHERFORD 20-32

9. API Well No.

43-037-15749

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 Exploration & Producing U.S. Inc.  
as Agent for Mobil Producing TX & NM Inc.

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. 20, T41S, R24E  
1980' FNL, 1980' FEL  
BHL - 725' N, 688' W FROM SURF. LOCATION

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

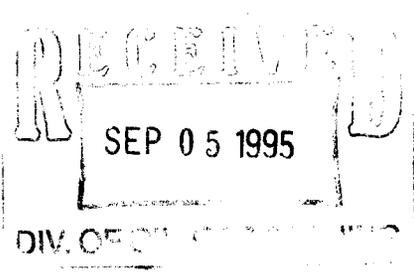
TYPE OF ACTION

- Abandonment  
 Recompletion  
 Plugging Back  
 Casing Repair  
 Altering Casing  
 Other \_\_\_\_\_
- 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.)

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6-21-95 CUT OFF CSG & ADD TO 5 1/2 CSG 8" X 11" X 3000# DOUBLE STUDDED ADAPTOR, 11" X 3" X 1 1/16 X 3000# CSG HEAD W/2 2" LPO, 7" X 2 7/8" KTH ATTACHMENT. TEST TO 1000 PSI/30 MIN/OK  
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6-23-95 CLEAN LOCATION RDMO.



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

Signed Shelby Robertson Title ENV. & REG. TECHNICIAN Date 8-30-95

(This space for Federal or State office use)

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

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

Routing:	
1- LEC	7-PL
2- LWP	8-SJ
3- <del>DT</del> 9-FILE	
4- VLC	
5- RJF	
6- LWP	

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

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

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

TO (new operator) <u>MOBIL EXPLOR &amp; PROD</u>	FROM (former operator) <u>M E P N A</u>
(address) <u>C/O MOBIL OIL CORP</u>	(address) <u>C/O MOBIL OIL CORP</u>
<u>PO DRAWER G</u>	<u>PO DRAWER G</u>
<u>CORTEZ CO 81321</u>	<u>CORTEZ CO 81321</u>
phone <u>(303 ) 564-5212</u>	phone <u>(303 ) 564-5212</u>
account no. <u>N7370</u>	account no. <u>N7370</u>

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

Name: <u>** SEE ATTACHED **</u>	API: <u>037 15749</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.
- lec 5. Changes have been entered in the Oil and Gas Information System (Wang/IBM) for each well listed above. (8-3-95)
- LWP 6. Cardex file has been updated for each well listed above. 8-21-95
- inf 7. Well file labels have been updated for each well listed above. 9-28-95
- lec 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)
- lec 9. A folder has been set up for the Operator Change file, and a copy of this page has been placed there for reference during routing and processing of the original documents.

ENTITY REVIEW

- Lee* 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/ Lee* 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

- 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 6 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!*

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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

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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 20-32**

9. API Well No.  
**43-037-15749**

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. 20, T41S, R24E**  
**SW/NE 1980' FNL & 1980' FEL**  
**LATERAL #1 BHL: 725' FNL & 688 FWL**

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 <b>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

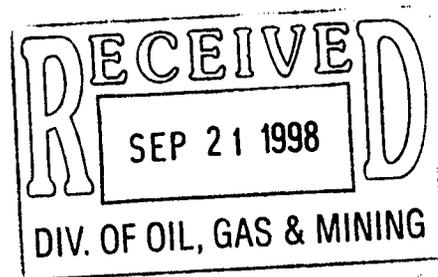
(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

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: 351 - 339  
**LATERAL #2; 1151' SOUTH & 1111' EAST FROM SURFACE SPOT (ZONE 1a).**

SEE ATTACHED PROCEDURE.

COPY SENT TO OPERATOR  
Date: 10/9/98  
Initials: CHD



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

Signed *Shirley Houchins* Title **SHIRLEY HOUCHINS/ENV & REG TECH** Date **9-16-98**

(This space for Federal or State office use)

Approved by *Bradley G. Hill* Title **BRADLEY G. HILL RECLAMATION SPECIALIST III** Date **9/29/98**

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.

## **Ratherford Unit Well #20-32 Horizontal Drilling Procedure**

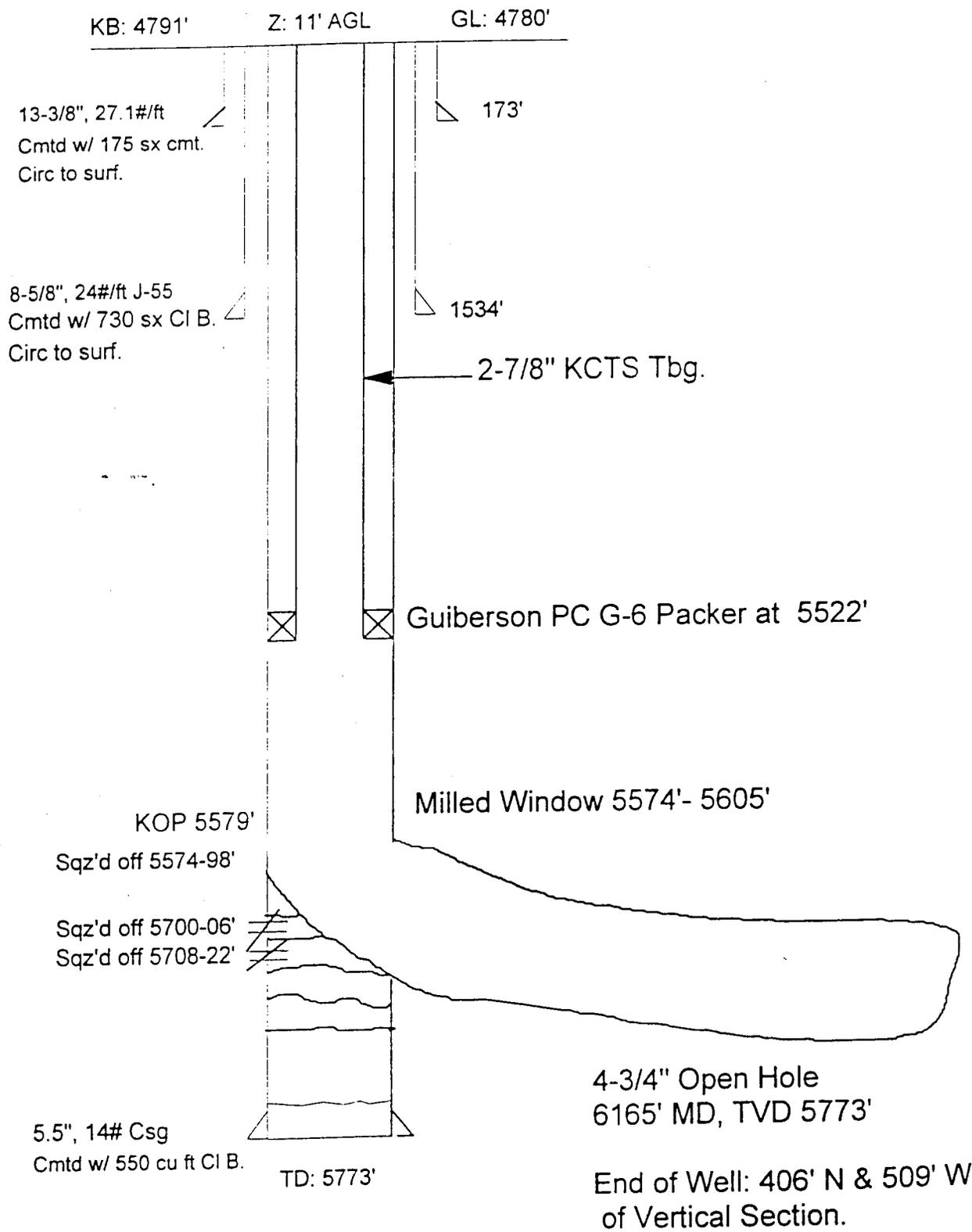
The objective of this procedure is to prepare this wellbore for sidetracking, sidetrack the subject well and drill an additional short radius horizontal lateral (1600 feet).

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 retrievable bridge plug and pressure test casing to 1000 psi.
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 drillpipe with UBHO sub and whipstock and starter mill
11. Run gyro and obtain orientation of whipstock face. Set whipstock. POH w/gyro.
12. Shear pilot mill bolt and start milling window.
13. POH w/ starter mill and pick up window mill and watermelon mill and continue to mill window. Drill 1-2 ft of formation
14. POH w/ mills and PU curve building assembly and drill string with UBHO sub in string and RIH.
15. RU gyro to assist in time drilling and starting out of the casing window. POH w/ gyro when inclination dictates it must be pulled.
16. Finish drilling the curve using the MWD.
17. POH once curve is finished and PU lateral motor to drill the lateral using MWD.
18. Once lateral TD is reached, POH w/ directional equipment.
19. PU RTBP and set at 5400' RDMO.

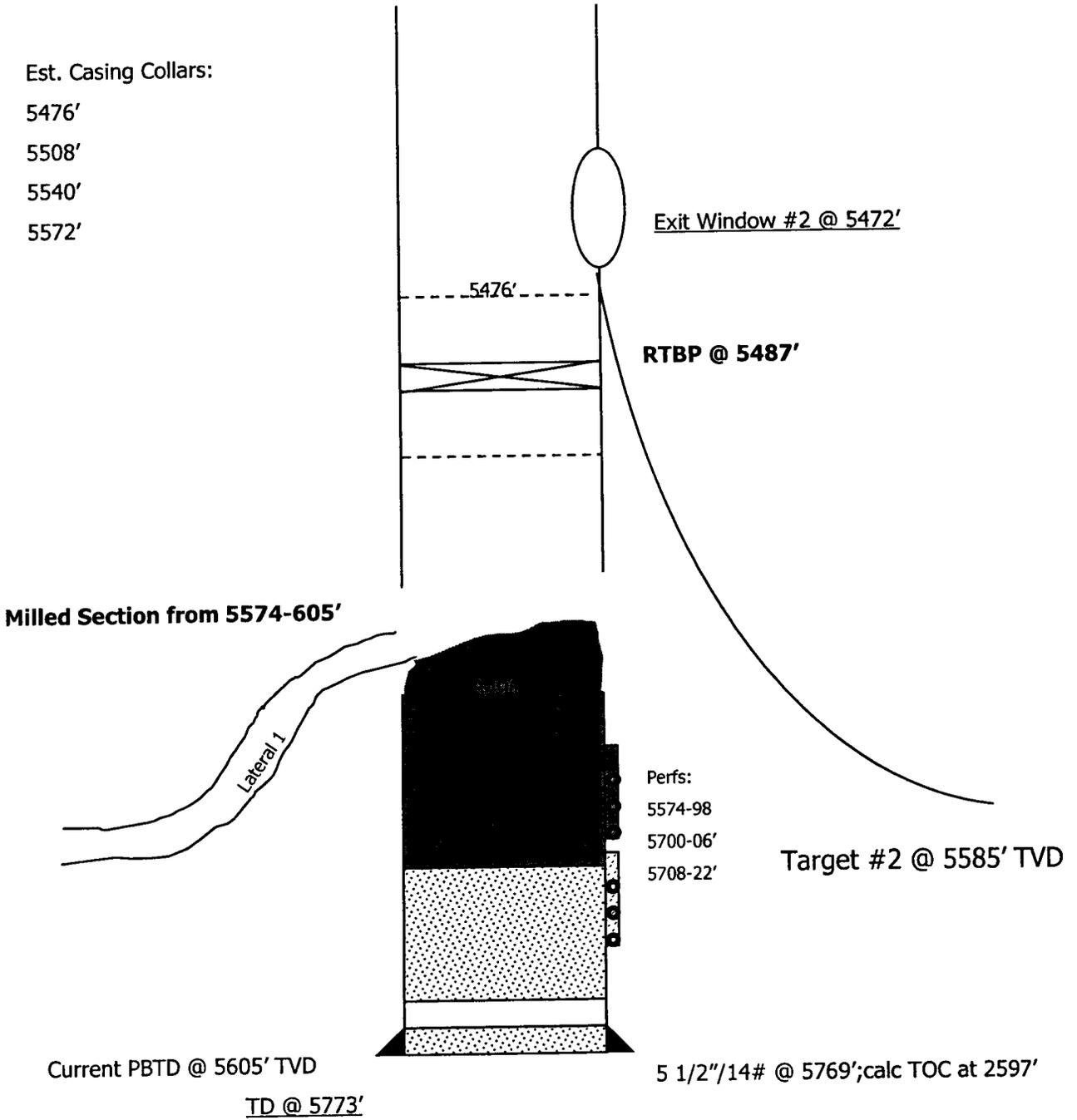
# Ratherford Unit #20-32

Greater Aneth Field  
1980' FNL, 1980' FEL Surface Location  
BHL: 725' FNL, 688' FWL  
Sec. 20, T41S, R24E  
San Juan County, Utah

API # 43-037-15749  
Prism ID 0043100

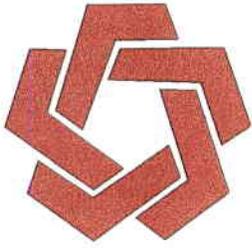


# Ratherford Unit #20-32



<u>Window</u>	<u>Btm-Top of Window</u>	<u>Ext length</u>	<u>Curve Radius</u>	<u>Bearing</u>	<u>Horiz Displ</u>
2	5472-66	----	113	136	1600





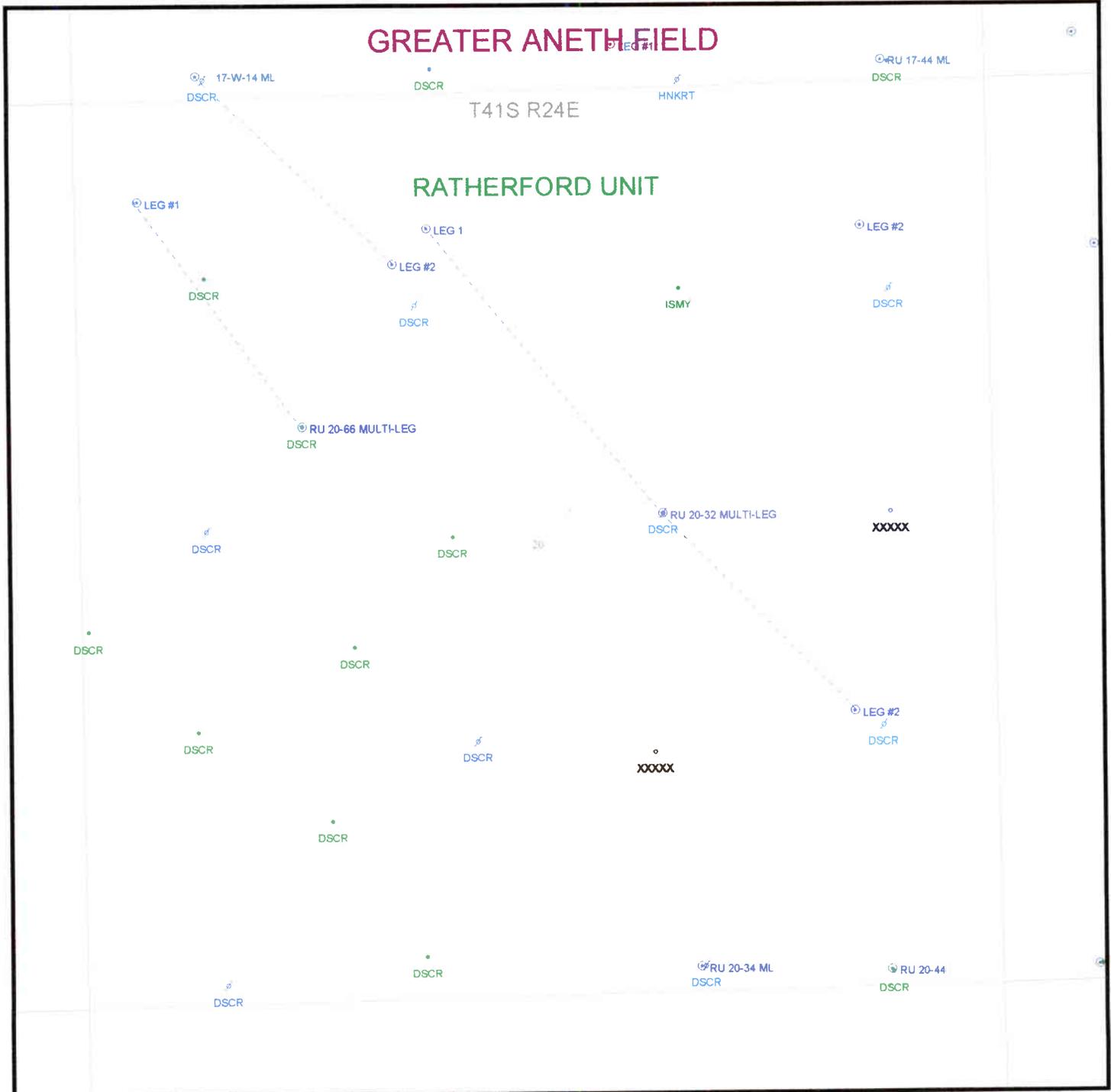
DIVISION OF OIL, GAS & MINING

OPERATOR: MOBIL EXPL & PROD INC (N7370)

FIELD: GREATER ANETH (365)

SEC. 20, TWP 41S, RNG 24E

COUNTY: SAN JUAN UNIT: RATHERFORD UNIT



DATE PREPARED:  
28-SEP-1998

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: MOBIL E & P

Well Name: RATHERFORD UNIT 20-32 (RE-ENTRY)

API No. 43-037-15749 Lease Type: INDIAN

Section 20 Township 41S Range 24E County SAN JUAN

Drilling Contractor BIG "A" RIG# 25

SPUDDED:

Date 10/20/98

Time \_\_\_\_\_

How ROTARY

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

Reported by BENNY BRIGGS

Telephone # 435-651-3473

Date: 10/20/98 Signed: JLT



# ROCKY MOUNTAIN GEO-ENGINEERING

Electronic Rig Monitoring Systems • Well Logging • Consulting Geology • Coal Bed Methane Services

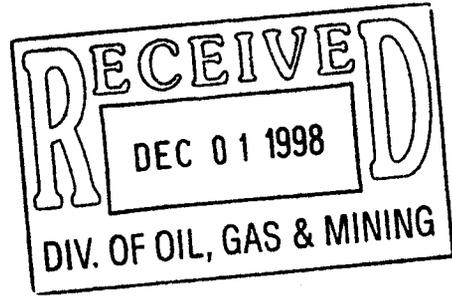
**PASON ROCKY MOUNTAIN GEO-ENGINEERING CORP.**

2450 INDUSTRIAL BLVD. • GRAND JUNCTION, CO 81505

**(970) 243-3044 • (FAX) 241-1085**

Tuesday, November 24, 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 #20-23 Leg #2  
Sec. 20, T41S, R24E  
San Juan County, Utah

*43-039-15949*

Dear Sirs:

Enclosed is the final computer colored log and geology report for the above referenced well.  
*Final 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.

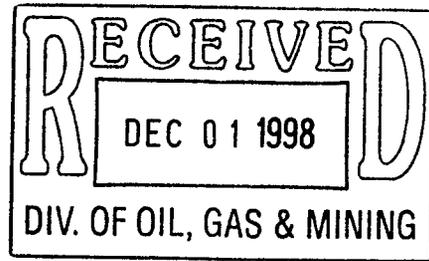
Sincerely,

Bill Nagel  
Senior Geologist

BN/dn

Enc. 1 Final Computer Colored Log and Geology Report

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



**MOBIL**

**RATHERFORD UNIT #20-32  
SE HORIZONTAL LATERAL LEG #2  
UPPER 1-A POROSITY BENCH  
DESERT CREEK MEMBER  
PARADOX FORMATION  
SECTION 20, T41S, R24E  
SAN JUAN, UTAH**

**GEOLOGY REPORT  
prepared by  
J.L. TITUS  
PASON/ROCKY MOUNTAIN GEO-ENGINEERING CORP.  
GRAND JUNCTION, COLORADO  
(970) 243-3044**

## TABLE OF CONTENTS

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WELL PLOTS.....	20

**WELL SUMMARY**

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

**NAME:** RATHERFORD UNIT #20-32 SE HORIZONTAL LATERAL  
LEG #2 IN 1-A POROSITY ZONE OF DESERT CREEK

**LOCATION:** SECTION 20, T41S, R24E

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

**ELEVATION:** KB:4791' GL:4780'

**SPUD DATE:** 10/22/98

**COMPLETION DATE:** 10/26 /98

**DRILLING ENGINEER:** SIMON BARRERA / BENNY BRIGGS

**WELLSITE GEOLOGY:** LUKE TITUS / MARVIN ROANHORSE

**MUDLOGGING  
ENGINEERS:** LUKE TITUS / MARVIN ROANHORSE

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

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

**CASING RECORD:** SIDETRACK IN WINDOW AT 5441' MEASURED DEPTH

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

**DIRECTIONAL  
DRILLING CO:** SPERRY-SUN

**ELECTICAL LOGGING:** NA

**TOTAL DEPTH:** 7094' MEASURED DEPTH; TRUE VERTICAL DEPTH-5571.9'

**STATUS:** PREPARING WELL FOR RIG MOVE

**DRILLING CHRONOLOGY**  
**RATHERFORD UNIT #20-32**  
**1-A SE HORIZONTAL LATERAL LEG #2**

DATE	DEPTH	DAILY	ACTIVITY
10/19/98	7190'	790'	CIRC. & DISPLACE 19-33 HOLE W/BRNE-L.D. DRLG STRG-NIPPLE DOWN BOP-RIG DOWN
10/20/98	0'	0'	TEAR DOWN-MOVE & RIG UP @ RU #20-32-NIPPLE UP BOP & TEST
10/21/98	0'	0'	RIG UP-UNLOAD PIPE BASKET & TALLEY-REPAIR HYDROMATIC-P.U. 20 DRLG COLLARS & 156 JNTS AOH FROM RACK
10/22/98	0'	0'	P.U. D.P. OFF RACK & MAKE UP WHIPSTOCK #2-TIH-R.U. GYRO-TAG BTM-21' OF FILL-TOOH W/GYRO-TOOH W/WHIPSTOCK-NO WHIPSTOCK-TIH W/REGULAR HOOK-FISH-CIRC @ TOP OF WHIPSTOCK-CATCH-TOOH-NO WHIPSTOCK-TIH W/BOX TRAP-FISH-TOOH-L.D BOX TRAP-M.U. HOOK-TIH
10/23/98	MILLING F/5434'- T/5441'	7'	TIH W/HOOK-TAG & FISH-TOOH W/WHIPSTOCK-L.D. WHIPSTOCK & M.U. SLICK SUB-TIH-BRK CIRC. & WASH ON TOP OF PACKER-CIRC. BTMS UP-TOOH-L.D. SLICK SUB-P.U. WHIPSTOCK #2-TIH & BRK CIRC-RUN GYRO-SET WHIPSTOCK @ 5434'-SHEAR @ 15K-PULL GYRO-SWIVEL UP-BRK CIRC-M.U. STR MILL-TIH-MILL F/F434' T/5436'-TOOH-L.D. STR MILL-P.U. WATERMELON MILLS-TIH-MILL F/5436' T/5441'
10/24/98	5441'	184'	PMP SWEEP & CIRC. OUT-TOOH-L.D. MILLS-M.U. CRVE ASSEM.-TEST & ORIENT-TIH-BRK CIRC-SWIVEL UP-R.U. GYRO & RUN GYRO DATA-TIME DRLG F/5441' T/5443-DIR DRLG F/5443' T/5472'-R.D. GYRO DATA-DIR DRLG & SRVYG F/5472' T/5625
10/25/98	5625'	872'	DIR DRLG & SRVYG F/5625' T/5681'-TD CRVE @ 1:30 AM (MST)-PMP SWEEP & CIRC OUT SMPLS-TOOH-L.D. CRVE ASSEM.-P.U. LAT ASSEM.-TEST & ORIENT-TIH-DIR DRLG & SRVYG F/5681' T/6497'
10/26/98	6497'	TD	DIR DRLG & SRVYG F/6497' T/7094'-TD LATERAL @ 9:45 AM (MST)-PMP SWP-CIRC OUT SMPLS-PMP 20 BBLs BRINE-TOOH TO WINDOW-PMP 20 BBLs BRINE-TOOH

**DAILY ACTIVITY**

**Operator: MOBIL**

**Well Name: RATHERFORD UNIT #20-32 SE 1-A HORIZONTAL LATERAL LEG #2**

DATE	DEPTH	DAILY	DATE	DEPTH	DAILY
10/19/98	7190'	790'			
10/20/98	0'	0'			
10/21/98	0'	0'			
10/22/98	0'	0'			
10/23/98	MILLING F/5434' T/5441	7'			
10/24/98	5441'	184'			
10/25/98	5625'	872'			
10/26/98	6497'	TD			

**BIT RECORD**

**OPERATOR: MOBIL**

**WELL NAME: RATHERFORD UNIT #20-32 SE 1-A HORIZONTAL LATERAL LEG #2**

RUN	SIZE	MAKE	TYPE	IN/OUT	FTG	HRS	FT/HR
#1 (RR)	4 3/4"	STC	MF-3P	5441'/ 5681'	240'	15	16'
#2	4 3/4"	STC	MF-37P	5681'/ 7094'	1413'	21	70'

**MUD REPORT**

**OPERATOR: MOBIL**

**WELL NAME: RATHERFORD UNIT #20-32 SE 1-A HORIZONTAL LATERAL LEG #2**

DATE	DEPT H	WT	VIS	PLS	YLD	GEL	PH	WL	CK	CHL	CA	SD	OIL	WTR
10/22/98	5454'	8.4	26	1	1	0/0	8.0	NC	NC	1100	120	0%	0%	100%
10/23/98	5454'	8.5	26	1	1	0/0	8.0	NC	NC	19000	120	0%	0%	100%
10/24/98	5445'	8.5	26	1	1	0/0	8.0	NC	NC	19000	120	0%	0%	100%
10/25/98	5705'	8.5	26	1	1	0/0	12.0	NC	NC	17000	120	0%	0%	100%
10/26/98	6990'	8.5	27	1	1	0/0	10.5	NC	NC	12000	1400	1%	0%	99%

SPERRY-SUN DRILLING SERVICES  
SURVEY DATA

Customer ... : Mobil (Utah)  
Platform ... : RATHERFORD UNIT  
Slot/Well .. : BA25/20-32, 2A1

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
5400.00	0.27	216.30	5398.59	50.10 N	60.64 W	-78.16	0.00
5434.00	0.27	220.37	5432.59	49.98 N	60.74 W	-78.14	0.06
5441.00	4.50	130.00	5439.58	49.79 N	60.54 W	-77.87	64.43
5451.00	9.00	135.60	5449.51	48.98 N	59.69 W	-76.70	45.43
5461.00	13.60	137.50	5459.31	47.55 N	58.35 W	-74.74	46.14
5471.00	17.90	138.50	5468.94	45.53 N	56.54 W	-72.02	43.08
5481.00	22.20	139.10	5478.33	42.95 N	54.28 W	-68.60	43.05
5491.00	25.40	145.60	5487.48	39.75 N	51.83 W	-64.60	41.33
5501.00	29.50	144.20	5496.35	35.98 N	49.18 W	-60.05	41.50
5511.00	33.50	138.30	5504.88	31.92 N	45.90 W	-54.85	50.46
5521.00	38.20	137.20	5512.98	27.59 N	41.96 W	-49.00	47.44
5531.00	41.20	141.00	5520.67	22.76 N	37.78 W	-42.62	38.58
5541.00	43.60	146.40	5528.06	17.33 N	33.80 W	-35.94	43.59
5551.00	46.90	141.70	5535.10	11.59 N	29.63 W	-28.92	46.92
5561.00	50.30	137.40	5541.72	5.89 N	24.76 W	-21.43	46.85
5571.00	54.50	137.40	5547.82	0.06 N	19.40 W	-13.52	42.00
5581.00	58.90	135.80	5553.31	6.01 S	13.65 W	-5.16	45.99
5591.00	61.50	134.90	5558.27	12.18 S	7.56 W	3.52	27.15
5601.00	63.70	138.60	5562.88	18.65 S	1.48 W	12.39	39.53
5611.00	65.40	142.70	5567.18	25.63 S	4.24 E	21.39	40.73
5621.00	67.90	141.70	5571.14	32.89 S	9.87 E	30.51	26.63
5631.00	71.40	144.10	5574.62	40.36 S	15.52 E	39.82	41.61
5641.00	75.70	142.30	5577.45	48.04 S	21.27 E	49.33	46.33
5651.00	80.00	140.60	5579.55	55.68 S	27.36 E	59.06	46.10
5681.00	86.50	141.00	5583.08	78.76 S	46.18 E	88.73	21.71
5735.00	89.80	136.10	5584.82	119.19 S	81.89 E	142.63	10.94
5766.00	90.00	136.60	5584.88	141.62 S	103.29 E	173.63	1.74
5798.00	90.10	136.80	5584.85	164.91 S	125.24 E	205.62	0.70
5830.00	90.00	136.80	5584.82	188.24 S	147.14 E	237.62	0.31
5861.00	89.90	137.50	5584.85	210.97 S	168.22 E	268.61	2.28
5893.00	89.90	137.30	5584.90	234.52 S	189.88 E	300.60	0.62
5925.00	90.40	137.60	5584.82	258.09 S	211.52 E	332.59	1.82
5957.00	90.60	137.10	5584.54	281.63 S	233.20 E	364.58	1.68
5989.00	91.50	137.10	5583.95	305.07 S	254.98 E	396.57	2.81
6020.00	91.70	136.80	5583.09	327.71 S	276.14 E	427.56	1.16
6051.00	92.70	136.20	5581.90	350.18 S	297.46 E	458.53	3.76
6083.00	93.20	135.90	5580.25	373.19 S	319.64 E	490.49	1.82
6115.00	93.30	135.90	5578.44	396.13 S	341.87 E	522.44	0.31

SPERRY-SUN DRILLING SERVICES  
SURVEY DATA

Customer ... : Mobil (Utah)  
Platform ... : RATHERFORD UNIT  
Slot/Well .. : BA25/20-32, 2A1

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
6147.00	90.10	136.10	5577.49	419.14 S	364.09 E	554.42	10.02
6179.00	90.20	136.10	5577.40	442.20 S	386.28 E	586.42	0.31
6210.00	90.40	136.90	5577.24	464.68 S	407.62 E	617.42	2.66
6242.00	90.80	136.20	5576.91	487.91 S	429.62 E	649.41	2.52
6274.00	91.10	136.80	5576.38	511.12 S	451.65 E	681.41	2.10
6305.00	90.00	136.40	5576.08	533.64 S	472.94 E	712.40	3.78
6337.00	88.10	136.60	5576.61	556.85 S	494.97 E	744.40	5.97
6368.00	88.10	135.90	5577.64	579.23 S	516.39 E	775.38	2.26
6400.00	88.40	135.90	5578.61	602.20 S	538.65 E	807.36	0.94
6432.00	89.30	135.50	5579.26	625.10 S	561.00 E	839.36	3.08
6463.00	90.10	135.40	5579.42	647.19 S	582.74 E	870.36	2.60
6495.00	90.40	134.80	5579.28	669.85 S	605.33 E	902.35	2.10
6527.00	91.10	134.30	5578.86	692.30 S	628.13 E	934.34	2.69
6559.00	91.50	134.30	5578.13	714.65 S	651.03 E	966.32	1.25
6591.00	93.10	134.50	5576.85	737.02 S	673.87 E	998.28	5.04
6622.00	93.40	134.80	5575.09	758.77 S	695.89 E	1029.22	1.37
6654.00	92.10	135.50	5573.56	781.43 S	718.43 E	1061.18	4.61
6686.00	92.70	135.90	5572.22	804.31 S	740.76 E	1093.15	2.25
6718.00	93.40	136.40	5570.51	827.35 S	762.90 E	1125.10	2.69
6750.00	91.30	137.30	5569.20	850.68 S	784.76 E	1157.07	7.14
6781.00	91.20	137.80	5568.53	873.55 S	805.68 E	1188.05	1.64
6813.00	91.20	138.70	5567.86	897.41 S	826.99 E	1220.02	2.81
6845.00	90.80	139.60	5567.30	921.62 S	847.91 E	1251.96	3.08
6877.00	89.60	138.30	5567.19	945.75 S	868.93 E	1283.92	5.53
6909.00	89.90	138.00	5567.32	969.58 S	890.28 E	1315.90	1.33
6940.00	89.40	136.40	5567.51	992.33 S	911.34 E	1346.89	5.41
6972.00	89.10	135.50	5567.93	1015.33 S	933.58 E	1378.89	2.96
7004.00	87.90	134.50	5568.77	1037.94 S	956.20 E	1410.87	4.88
7035.00	88.20	134.50	5569.83	1059.66 S	978.30 E	1441.84	0.97
7060.00	87.90	136.80	5570.68	1077.53 S	995.77 E	1466.82	9.27
* 7094.00	87.90	136.80	5571.92	1102.29 S	1019.03 E	1500.80	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 136.00 (TRUE).  
CALCULATION METHOD: MINIMUM CURVATURE.

\* 7094 EXTRAPOLATED TO BIT

## SAMPLE DESCRIPTIONS

**OPERATOR: MOBIL**

**WELL NAME: RATHERFORD UNIT #20-32 SE 1-A HORIZONTAL LATERAL LEG #2**

DEPTH	LITHOLOGY
5441.00 5450.00	"LS crm-tn-ofwht, crypt-mic xln, dns-tt sl dol mtx, cln/chlky, v sl rthy, tr microsuc ltgy-gy DOL-occ dkbn, rr blk dd o STN res, v scat dul-mbi yelgld FLOR, no CUT, compact xln POR"
5450.00 5460.00	"LS AA, tr ANHY xls-occ anhy to chlky ip, scat ofwht chlky mat, sme buf CHT frgs, sl plty, v rr foss frgs, v spty mbri yel FLOR, v rr dd o STN res, no CUT, compact xln fab POR"
5460.00 5470.00	"LS ltbn-tn-crm, crypt-mic xln, dns-tt mtx, sl dol w/occ DOL cmt, sl rthy, rr blk carb SH, scat ltbn CHT frgs, tr dkgybn-dkbn microsuc DOL strgrs"
5470.00 5480.00	"LS, incr in rthy to arg mtx, crypt-mic xln, dns-tt mtx, abunt smky-ltbn-bn CHT frgs, pred compact xln fab POR, NFSOC"
5480.00 5490.00	"LS dkbn-mbn-ltbn-dkgybn, mic xln-scat tt-crypt xln, sl rthy ip, occ arg grd to MRLY LS ip, scat dkbn-mbn CHT frgs, rr ANHY xls, rr blk-dkbn sl plty carb SH prtgs; pred p-intrxln w/sl rthy fab POR to compact xln"
5490.00 5500.00	"LS AA, sl incr in MRLY LS, tr dkbn-mbn DOL frgs- microsuc, scat dkbn CHT frgs, sl slty ip, occ sft-arg/rthy, v sl chlky/ anhy, NFSOC, rthy/ intrxln/ compact fab POR"
5500.00 5510.00	"LS dkbn-mbn-ltbn-crm-ofwht, crypt-vf xln, mdns-tt mtx, sl plty, sl dolo, scat dkbn CHT frgsscat chlky slty sft LS, v rr blk SH prtgs, rr mrly ls"
5510.00 5520.00	"LS dkbn-mbn-ltbn-tn-crm-occ ofwht, crypt-vf xln, occ plty, occ rthy to arg ip, occ cln, pred mdns-tt, sl dolo, dkbn MRLY LS grd to blk-dkbn carb SH, v rr ANHY xls, occ chlky-sft, NFSOC, p-intrxln fab POR"
5520.00 5530.00	"LS AA, scat dkbn-blk carb SH prtgs, scat ofwht ARG LS grd to sft-slty MRLY LS, NFSOC, pred interxln to compact w/sme rthy fab POR"
5530.00 5550.00	"LS ltgy-gybrn, crm-off wh-tan, occ ltbrn-brn, tr dkbrn, crpxl- micxl/tr vfxl, cln-sl mot, pred dns/tr chky-mrly strks, sl chky-anhy, sl mrly grdg to MRLST, sl dol-occ grd to calc DOL, tr dk brn CHT & blk, carb SH frag, tt-tr intxl POR, NFSOC"

DEPTH	LITHOLOGY
5550.00 5560.00	"LS ltgybrn-ltbrn,occ ltbrn-brn-tan,ltgy-off wh,tr dkbrn,crpxl-micxl,occ vfxl,bcmg rthy-slty/tr sdy strk,occ grdg to vf gr SS/lmy mtx & LS incl,cln-sl mot,sl chky-ahny,sl dol,tt-tr intxl POR,NFSOC,w/tr DOL dkbrn-brn,crpxl,arg,sl calc,tt,NFSOC"
5560.00 5570.00	"LS ltgybrn-ltbrn-ltgy,occ brn,off wh,rr dkbrn,micxl-crpxl,vfxl,rthy-slty/tr sdy strk,grdg to SS AA,incr chky-mrly-anhy,tr mic fos,rr xln ANHY & tan CHT,tt-tr intxl POR,NFSOC,rr DOL AA"
5570.00 5590.00	"LS ltbrn-brn-tan,occ crm-ltgybrn,off wh,tr dkbrn,crpxl-micxl,decr sdy,bcmg dns,sl chky-anhy/tr prtgs-rr xln ANHY,tr mic fos,v sl dol ip,tt-tr intxl POR,NFSOC w/tr-incr SH,dkbrn-blk-blk,carb,calc,sooty "
5590.00 5600.00	"SH blk-dkbrnblk-occ choc,plty-sbplty-sbblky,tr fis,mfrm-sft-occ mhd,carb,calc-sl dol,pp mica incl,sooty,scat LS AA/rr DOL AA"
5600.00 5610.00	"SH AA,carb,pp mica incl,calc-sl dol,sooty,w/scat LS wh-tan-ltbrn,crpxl-tr micxl,thn-tr dns frag,tt,NFSOC"
5610.00 5620.00	"LS tan-crm-wh,occ ltbrn,rr brn,crpxl-micxl,occ vfxl-grdg to gran ip,tr scat sl dol ool-ool GRNST frag,chky-sl anhy/tr thn plty prtgs-rr xln ANHY,tt-tr inxl-rr ool POR,no vis FLOR,NSOC,w/ scat SH AA"
5620.00 5630.00	"LS AA,micxl-crpxl-vfxl,tr gran strk,sl ool-ool GRNST/scat dns PKST,incr chky/tr scat thn-plty prtgs,sl anhy/rr xln ANHY incl,sl agl/tr agl mat & mic fos,tr ool-intxl-rr oom-agl POR,tr scat dull-mod bri yel FLOR,rr ltbrn-blk STN,fr slow dif res ring CUT"
5630.00 5650.00	"ltbrn-brn STN,mg slow stmg mlky CUT"
5630.00 5650.00	"LS ltbrn-tan,tr crm-wh,tr brn,vfxl-gran-micsuc,occ micxl-crpxl,ool-sl oom GRNST,tr scat-occ intbd dns sl ool-ool PKST,chky-sl anhy/tr POR fl-rr plty prtgs & xln ANHY,mg ool-sl agl/intxl POR,mg-fr scat spty bri-mod bri yel FLOR,mg-g"
5650.00 5660.00	"LS bcmg brn-ltbrn & decr tan-crm/depth,AA,ool-sl oom GRNST/PKST AA,bcmg dol/tr DOL cmt,POR-FLOR AA,incr brn-dkbrn/tr blk dd o STN,g slow-mod fast stmg mlky CUT"
5660.00 5670.00	"LS AA,ool-oom GRNST/tr PKST AA,POR-FLOR-STN-CUT AA"
5670.00 5681.00	"LS brn-ltbrn,tr tan,crm,rr wh,vfxl-gran-micsuc,occ micxl,tr crpxl,GRNST AA/rr PKST AA,sl chky/tr thn plty prtgs,sl anhy,dol/tr DOL cmt,POR AA,mg spty bri-mod bri yel FLOR,g brn-ltbrn/incr blk dd o STN,g fast-sl blooming mlky CUT"

## DEPTH

## LITHOLOGY

5681.00 5700.00 "LS,ltbn-tn,mott,vf xln,mdns mtx ip,pred ool oom/ooc GRNST,scat blk carb SH prtgs,microsuc-suc mtx-grn mtx,v sl dol,sl ANHY;pred oom/ooc to intrxln fab POR ip,m-mf slo strmg sl dif CUT,spty dul-mbri yelgld FLOR,pred m-mf ltbn o STN"

5700.00 5720.00 "LS AA,pred m-mf ltbn o STN tr blk dd o STN,dul-mbri yelgld FLOR,m-slo strmg sl dif CUT,pred mf-f to reduced oom/ooc fab PORw/an intrxln fab POR"

5720.00 5740.00 "LS, ltbn-tn-crm,mott,mic-pred vf xln,mdns mtx ip-grn-microsuc mtx,sl dol,tr ANHY xls,rr carb mat,ool rich;pred oom/ooc fab POR,dul-spty mbri yelgld FLOR,m-slo strmg CUT.m-ltbn o STN"

5740.00 5760.00 "LS AA,pred ool oom/ooc GRNST w/v rr dns sl ool PCKST,pred m-mf ltbn o STN w sme blk dd o STN flg casts,dul-spty mbri yelgld FLOR,m-slo strmg CUT;mf-f oom w/sme reduced oom fab POR"

5760.00 5780.00 "LS AA,pred oom ool GRNST,fri,micrsu-grn mtx,v rr dns sl ool PKST,tr pel;FLOR AA,o STN AA, CUT AA,pred mf-f oom/ooc w/imntrxln fab POR ip"

5780.00 5800.00 "LS,ltbn-tn-rr bn,mott,mic-pred vf xln,mdns mtx ip-grn mtx,pred ool oom/ooc GRNST,rr ANHY xls-v sl anhy/chlky,v sl dol,rr buf CHT frgs;pred oom/ooc w/intrxln fab POR ip,spty mbri-even dul yel FLOR,m-slo strmg CUT,m-mf ltbn o STN w/tr blk dd o STN res"

5800.00 5830.00 "LS,mbn-ltbn,mott,pred vf xln,microsuc-grn,pred ool ric oom/ooc GRNST,v rr carb mat,v rr ANHY xls;pred mf-mg oom/ooc w/intrxln fab POR ip,pred mf-f mbn-bn mtx o STN,mbri yelgld FLOR,m-slo strmg sl dif CUT"

5830.00 5860.00 "LS,mbn-bn-occ ltbn,mott,mic-pred vf xln,pred ool oom/ooc GRNST;mf-mg oom/ooc fab POR w/an intrexln fab POR ip,mf-f mbn-bn o STN w/scat blk dd o STN res fld casts,dul-mbri yelgld FLOR,mf-slo strmg sl dif CUT"

5860.00 5890.00 "LS AA,pred mf-mg oom/ooc fab POR w/an intrxln fab ip,mf-f mbn mtx o STN,dul-spty mbri-bri yelgld FLOR,mf-slo strmg sl dif CUT, v sl dol ip"

5890.00 5930.00 "LS, bn-mbn-ltbn,mott,mic-pred vf xln,mdns mtx ip,grn-microsuc mtx,pred ool rich oom/ooc GRNST,v rr calc xls, v rr carb SH, v rr ANHY xls;pred mf-mg oom/ooc fab POR w/an intrxln fab POR ip,mf-mg mbn-bn o STN w/blk dd o STN flg casts,fst-mg slo strmg CUT"

5930.00 5940.00 "LS AA,GRNST AA,sl chky-anhy/tr POR fl-v rr ANHY xl,dol/tr DOL cmt,v rr SH cvgs,mg -fr oom-ool/ooc fab POR w/tr intxl fab POR ip,mg-g brn-ltbrn/mg blk dd o STN,g fast stmg-sl blooming mlky CUT"

5940.00 5960.00 "POR,mg-fr scat spty bri-mod bri yel FLOR,mg-fr ltbrn-brn/fr blk dd o STN,CUT AA"

DEPTH	LITHOLOGY
5940.00 5960.00	"LS brn-ltbrn/tr crm-off wh incl, tr tan-crm- & wh frag, vfxl-gran-micsuc, tr micxl-crppl, ool-oom GRNST, rr scat-intbd dns sl ool PKST, sl chky/tr plty prtgs-rr POR fl, v rr xln ANHY & ltbrn-dk brn CHT, dol/fr DOL cmt, g-mg ool-oom/tr intxl"
5960.00 5990.00	"LS ltbrn-brn/tr off wh incl, tr tan-crm, rr wh, vfxl-gran-micsuc, tr micxl-crppl, ool-oom GRNST, tr PKST AA, sl chky/tr plty prtgs-rr POR fl, v rr xln ANHY, dol/fr-mg DOL cmt, g-mg ool-oom/tr intxl POR, mg-fr even FLOR AA, mg-fr ltbrn-brn/tr blk dd o STN, CUT AA"
5990.00 6020.00	"LS brn-ltbrn/tr crm-off wh incl, tr tan, AA, ool-oom GRNST, rr scat-intbd dns sl ool PKST, sl chky/rr plty prtgs & POR fl, sl anhy/v rr xln ANHY, dol/fr-mg DOL cmt, POR AA, mg-fr even mod bri/spty bri yel FLOR, STN AA, g fast stmg-blooming mlky CUT"
6020.00 6050.00	"LS AA/decr crm-off wh incl, tr tan, vfxl-gran-micsuc, tr micxl-crppl, GRNST AA, rr scat-intbd dns sl ool PKST, sl chky/rr plty prtgs-POR fl, sl anhy/v rr xln ANHY, dol/fr-mg DOL cmt, POR-FLOR-STN AA, g fast stmg-blooming mlky CUT"
6050.00 6080.00	"LS AA, ool-oom-sl ooc GRNST, rr scat-intbd dns sl ool PKST, v sl chky/v rr plty prtgs & POR fl, v sl anhy/v rr xln ANHY, dol/mg DOL cmt, g-mg ool-oom/tr intxl-rr pp vug POR, mg-g even mod bri-spty bri yel FLOR, g brn-ltbrn/tr blk dd o"
6050.00 6080.00	"STN, g fast stmg-blooming mlky CUT"
6080.00 6130.00	"LS AA, ool-oom-sl ooc GRNST, rr scat-intbd dns sl ool PKST, sl chky/rr plty prtgs-POR fl, sl anhy/v rr xln ANHY, dol/mg DOL cmt, POR-FLOR-STN AA, g fast stmg-blooming mlky CUT"
6130.00 6150.00	"g-mg brn-ltbrn/tr blk dd o STN, g fast-sl blooming mlky CUT, w/rr blk carb SH cvgs"
6130.00 6150.00	"LS brn-ltbrn/tr tan-crm incl, rr wh, vfxl-gran-micsuc, tr micxl-rr crppl, ool-oom-sl ooc GRNST/rr scat-intbd dns sl ool PKST, v sl chky/v rr POR fl-plty frag, v sl anhy/v rr xln ANHY, dol/mg DOL rich cmt, POR AA, mg-g even mod bri-bri yel FLOR, "
6150.00 6170.00	"LS AA, ool-oom-sl ooc GRNST, sl incr scat-intbd dns sl ool ooc PKST, sl chky/rr POR fl, sl anhy/v rr xln ANHY, dol/mg DOL cmt, POR-FLOR AA, mg-g brn-ltbrn/decr blk dd o STN, g fast stmg-sl blooming mlky CUT"
6170.00 6190.00	"LS ltbrn-tan-occ brn, tr crm-off wh, AA, ool-oom-sl ooc GRNST, tr scat-intbd dns sl ool PKST, chky/tr POR fl-rr plty prtgs, sl anhy/v rr xln ANHY, dol/mg DOL cmt, POR AA, mg -g even mod bri-spty bri yel FLOR, mg-g ltbrn-brn/tr pp blk dd o STN, g fast stmg mlky CUT "

DEPTH	LITHOLOGY
6190.00 6210.00	"rr agal mat fl POR,g even mod bri-spty bri yel FLOR,mg-fr ltbrn-scat brn/fr blk dd o STN,g fast stmg-sl blooming mlky CUT"
6190.00 6210.00	"LS ltbrn-tan-crm,occ brn,tr off wh incl,vfxl-gran-micsuc,micxl-crpxl,sl suc,pred ool-sl ool-oc GRNST,scat-occ intbd dns sl ooc PKST/tr gran tex & rr agal mat,chky-sl anhy/tr POR fl-rr xln ANHY,sl dol/rr DOL cmt,fr-mg ool-oom/fr intxl-"
6210.00 6240.00	"LS AA,pred ool-sl oom-oc GRNST,tr scat-tr intbd dns sl ooc-ool PKST,chky-sl anhy/tr POR fl-v rr plty prtgs,sl anhy/rr xln ANHY,sl dol/tr DOL cmt,POR-FLOR-STN AA,g fast-mod fast stmg mlky CUT"
6240.00 6300.00	"mg even mod bri/scat spty bri yel FLOR,mg-fr ltbrn-brn/tr-fr blk dd o STN,g fast stmg-sl blooming mlky CUT"
6240.00 6300.00	"LS ltbrn-tan/tr crm-off wh incl,tr brn,vfxl-gran-micsuc,micxl-crpxl,pred ool-sl oom-oc GRNST,tr scat-occ intbd dns sl ool-oc PKST,chky-sl chky/tr POR fl,sl anhy/v rr xln ANHY,bcmg incr dol/tr DOL cmt,mg ool-oom/tr intxl-rr pp vug POR,"
6300.00 6310.00	"LS AA,pred ool-oom-sl ooc GRNST,tr PKST AA,sl-occ v chky/tr POR fl-rr plty prtgs,sl anhy/v rr xln ANHY,dol/fr-mg DOL cmt,POR-FLOR-STN-CUT AA"
6310.00 6350.00	"mg-g even modbri-spty bri yel FLOR,g-mg ltbrn-fr brn/tr blk dd o STN,g fast stmg-blooming mlky CUT"
6310.00 6350.00	"LS ltbrn-tan/tr crm-off wh incl,tr brn,vfxl-gran-micsuc,micxl-crpxl,pred ool-sl oom-oc GRNST,tr scat-occ intbd dns sl ool-oc PKST,sl-occ v chky/tr POR fl,sl anhy/rr xln ANHY,bcmg decr dol/rr DOL cmt,mg ool-oom/tr intxl-rr pp vug POR,"
6350.00 6380.00	"LS AA,gran-vfxl-micsuc,micxl-crpxl,pred ool-sl oom-oc GRNST,tr scat-occ intbd dns sl ool-oc PKST/tr gran tex,chky/tr POR fl,sl anhy/rr xln ANHY,sl dol/rr DOL cmt,mg ool-oom/tr intxl POR,mg-fr ool-sl oom/tr intxl POR,mg-fr mod"
6350.00 6380.00	"bri-scat spty bri yel FLOR,mg-g ltbrn-fr scat brn/tr blk dd o STN,g mod fast stmg mlky CUT"
6380.00 6410.00	"LS ltbrn-tan/tr crm-off wh incl,tr brn,AA,pred ool-sl oom-oc GRNST,tr PKST AA,incr chky/tr-fr POR fl,sl anhy/rr xln ANHY,sl dol/rr DOL cmt,POR-FLOR-STN-CUT AA"
6410.00 6430.00	"LS AA,vfxl-gran-micsuc,micxl-crpxl,pred ool-sl oom-oc GRNST,tr scat-occ intbd dns sl ool-oc PKST/occ gran tex,sl-occ v chky/tr-fr POR fl,sl anhy/rr xln ANHY,sl dol/tr DOL cmt,mg ool-sl oom/tr intxl POR,mg-g even mod bri-spty bri yel FLOR,STN-CUT AA"

DEPTH	LITHOLOGY
6430.00 6460.00	"LS ltbrn-tan-brn/tr crm-off wh incl,vfxl-gran-micsuc,micxl-crpxl,tr xln,ool-sl oom-oc GRNST/tr scat-occ intbd PKST AA,sl-occ v chky/tr POR fl,sl anhy/rr xln ANHY,bcmg incr dol/tr DOL cmt,POR AA,g even mod bri-spty bri yel FLOR,g-"
6430.00 6460.00	"mg ltbrn-fr scat brn/tr blk dd o STN,g fast-mod fast stmg mlky CUT"
6460.00 6490.00	"LS AA,vfxl-gran-micsuc,micxl-crpxl,pred ool-sl oom-oc GRNST,tr scat-occ intbd dns sl ool-oc PKST,sl chky-anhy/tr POR fl-rr xln ANHY,sl dol/rr DOL cmt,POR-FLOR-STN AA,g mod fast stmg mlky CUT"
6490.00 6520.00	"mod bri-spty bri yey FLOR,mg ltbrn-fr brn/tr blk dd o STN,g fast stmg-blooming mlky CUT"
6490.00 6520.00	"LS ltbrn-tan-brn/tr crm-off wh incl,vfxl-gran-micsuc,micxl-crpxl,sl suc,ool-sl oom-oc GRNST/tr scat-occ intbd PKST AA,sl chky/tr POR fl-rr plty frag,sl anhy/v rr xln ANHY,bcmg incr dol/tr-fr DOL cmt,mg-g ool-oom/tr intxl POR,g even"
6520.00 6560.00	"LS AA,pred ool-oom-sl ooc GRNST,tr PKST AA,sl-occ v chky/tr POR fl-rr plty prtgs,sl anhy/v rr xln ANHY,dol/fr-mg DOL cmt,POR-FLOR-STN-CUT AA"
6560.00 6600.00	"LS ltbrn-tan-brn/tr crm-off wh incl,vfxl-gran-micsuc,micxl-crpxl,sl suc,ool-sl oom-oc GRNST/tr scat-occ intbd PKST AA,sl chky/tr POR fl-rr plty frag,sl anhy/v rr xln ANHY,sl dol/tr DOL cmt,POR AA,mg even mod bri-spty bri yel FLOR,STN-CUT AA"
6600.00 6620.00	"LS AA,vfxl-gran-micsuc,micxl-crpxl,sl suc,ool-sl oom-oc GRNST,tr scat-occ intbd dns sl ooc-ool PKST,sl chky/tr POR fl-rr plty frag,sl anhy/v rr xln ANHY,sl dol/rr DOL cmt,mg-g ool-oom/tr intxl POR,FLOR AA,mg ltbrn-brn/tr blk dd o STN,CUT AA"
6620.00 6650.00	"LS AA,ool-sl oom-oc GRNST,tr scat-occ intbd PKST AA,incr chky/tr-fr POR fl-rr plty frag,sl anhy/v rr xln ANHY,bcmg dol/tr DOL cmt,POR AA,g even mod bri-spty bri yel FLOR,mg-g ltbrn-brn/tr blk dd o STN,g fast stmg-blooming mlky CUT"
6650.00 6680.00	"LS ltbrn-tan/tr crm-off wh incl,tr brn,rr wh,vfxl-gran-micsuc,micxl-crpxl,sl suc,pred GRNST AA,tr scat-occ intbd PKST AA,chky/tr POR fl-plty frag,sl anhy/v rr xln ANHY,dol/tr DOL cmt,POR-FLOR AA,mg ltbrn-tr brn & rr blk dd o STN,g fast-mod fast stmg CUT"
6680.00 6710.00	"LS ltbrn-tan-brn/tr crm-off wh incl,vfxl-gran-micsuc,micxl-crpxl,sl suc,ool-sl oom-oc GRNST/tr scat-occ intbd PKST AA,sl chky/tr POR fl-rr plty frag,sl anhy/v rr xln ANHY,sl dol/tr DOL cmt,POR AA,mg even mod bri-spty bri yel FLOR,STN-CUT AA"

DEPTH	LITHOLOGY
6710.00 6740.00	"LS AA, vfxl-gran-micsuc, micxl-crxpl, sl suc, ool-sl oom-oc GRNST, tr scat-occ intbd dns sl ool-oc PKST, sl chky/tr POR fl, sl anhy/v rr xln ANHY, dol/tr-fr DOL cmt, POR AA, mg even mod bri-spty bri yel FLOR, mg ltbrn-incr brn/rr blk dd o STN, CUT AA"
6740.00 6770.00	"LS ltbn-tn, mott, mic-pred vf xln, gr-microsuc mtx, occ mdns mtx ip, pred ool oom GRNST, sl anhy, sl dolo to occ DOL cmt, sme calc/anhy fld casts; pred mf-mg oom fab POR w/an intrxln fab POR, slo dif CUT, mf-f ltbn o STN, mbri yelgld FLOR"
6770.00 6800.00	"LS, ltbn-tn-occ bn, mott, mic-pred vf xln, mdns mtx ip, pred grn-microsuc mtx, scat dns ool PKST w/pred ool rich oom to occ ooc GRNST, rr ANHY xls, v sl anhy/chlky; mf-g even-dul-mbri yelgld FLOR, fst to mf-slo dif mlky ring CUT, mf-f ltbn-mbn o STN, tr blk d o STN"
6800.00 6830.00	"LS, mbn-ltbn, mott, mic-pred vf xln, mdns mtx ip, grn-microsuc mtx, pred ool rich oom/ooc GRNST, v rr calc xls, v rr carb SH, v rr ANHY xls; pred mf-mg oom/ooc fab POR w/an intrxln fab POR ip, mf-mg mbn o STN w/blk dd o STN flg casts, fst-mg slo strmg CUT"
6830.00 6860.00	"LS, mbn-ltbn, mott, pred vf xln, microsuc-grn, pred ool oom GRNST, v rr carb mat, v rr ANHY xls; pred mf-mg oom w/intrxln fab POR ip, pred mf-f mbn-bn mtx o STN, mbri yelgld FLOR, m-slo strmg sl dif CUT"
6860.00 6890.00	"LS AA ltbn-bn, vfxl-gran-micsuc, tr micxl-crxpl, GRNST AA, rr scat-intbd dns sl ool PKST, sl chky/rr plty prtgs, sl anhy/v rr xln ANHY, dol/tr DOL cmt, POR-FLOR-STN AA, mg fast stmg-to f-slo blmng mlky CUT"
6890.00 6920.00	"LS, ltbn-mbn-occ bn & tn, mott, mic-pred vfxln, scat mic xln, pred ool oom occ ooc GRNST, v sl dol, tr blk carb SH prtgs, microsuc-grn mtx, mdns mtx ip, rr chlky mat; pred mf-mg oom to occ ooc fab POR, m-slo strmg CUT, even dul-mbri yelgld FLOR, mf-f ltbn-mbno STN"
6920.00 6950.00	"LS AA, mf-fst to mg-slo strmg blmg milky ring CUT, pred mf-mg ltbn-mbn o STN w/tr blk dd o STN flg casts, even dul-mbri-spty bri yelgld FLOR"
6950.00 6980.00	"LS, mbn-ltbn-rr bn, mic-pred vf xln, frimdns mtx ip, grn-microsuc mtx, pred ool GRNST, rr dns sl ool v rr plty PKST, sl dol, rr ANHY xls, POR AA, FLOR AA, o STN AA"
6980.00 7010.00	"LS, mbn-ltbn, mott, mic-pred vf xln, grn-microsuc mtx, pred ool rich oom/ooc GRNST, v rr calc xls, v rr carb SH, v rr ANHY xls; pred mf-mg oom/ooc fab POR w/an intrxln fab POR ip, mf-mg mbn o STN w/blk dd o STN flg casts, tr-fst-mg slo strmg CUT"

DEPTH	LITHOLOGY
7010.00 7040.00	"LS AA, mbn-ltbn,mott,pred vf xln,microsuc-grn,pred ool oom GRNST,v rr carb mat,v rr ANHY xls;pred mf-mg oom w/intrxn fab POR ip,pred mf-f mbn-bn mtx o STN,mbri yelgld FLOR,m-slo strmg sl dif CUT"
7040.00 7070.00	"LS ltbn-tn-occ mbn/bn,mott,pred vf xln,gr-microsuc mtx,occ mdns mtx ip,pred ool oom GRNST,sl anhy,sl dolo to occ DOL cmt,sme calc/anhy fld casts,fri;pred mf-mg oom fab POR w/an intrxn fab POR,slo dif CUT,mf-f ltbn o STN,even mbri yelgld FLOR"
7070.00 7095.00	"LS AA,m-fst to mf-slo strmg blmg milky ring CUT,pred mf-f ltbn-mbn o STN w/rr blk dd o STN flg casts,even dul-mbri yelgld FLOR"

### FORMATION TOPS

**OPERATOR: MOBIL**

**WELL NAME: RATHERFORD UNIT #20-32 SE 1-A HORIZONTAL LATERAL LEG #2**

<b>FORMATION NAME</b>		<b>SAMPLES</b>	<b>SAMPLES</b>	<b>DATUM</b>
		<b>MEASURED DEPTH</b>	<b>TRUE VERTICAL DEPTH</b>	<b>KB:4791'</b>
LOWER ISMAY		5517'	5510'	-719'
GOTHIC SHALE		5587'	5556'	-765'
DESERT CREEK		5606'	5565'	-774'
UPPER DC 1-A ZONE		5614'	5568'	-777'

## GEOLOGICAL SUMMARY

### AND

### ZONES OF INTEREST

The Mobil Exploration and Production U.S., Inc., Rutherford Unit #20-32 Southeast Horizontal Lateral Leg #2 was a re-entry of the Mobil Rutherford Unit #20-32 located in Section 20, T41S, R24E, and was sidetracked in a southeasterly direction from 5441' measured depth, 5439.5' true vertical depth, on October 24, 1998. The lateral reached a measured depth of 7094', true vertical depth of 5572' at total depth, with a horizontal displacement of 1500' and true vertical plane of 137 degrees on October 26, 1998. The lateral was terminated in the 1-A porosity zone in the Upper Desert Creek Member of the Paradox Formation. The curve and lateral were drilled with fresh water and brine water with polymer sweeps as the drilling fluid. The proposed target line was used as a reference point throughout the lateral. The curve and lateral sections were drilled with no significant mechanical problems. There was no measurable flow or loss of fluid throughout the lateral and curve sections.

The purpose of the Rutherford Unit #20-32 southeast lateral leg #2 was to penetrate and drill 1500' horizontally in the Desert Creek 1-A porosity bench. An evaluation of effective porosity and permeability, hydrocarbon and gas potential, thickness, carbonate facies and lithology was defined. In this southeasterly direction, the 1-A porosity bench appeared to have a very consistent, well-developed thickness and porosity. The curve kicked-off in the Upper Ismay carbonate cycle on October 24, 1998 before encountering the typical stratigraphic sections of the Lower Ismay carbonate cycle, Gothic Shale, Desert Creek transition zone and the Desert Creek 1-A porosity bench of the Upper Paradox Formation.

The curve section began at a measured depth of 5441', true vertical depth 5440' in the Upper Ismay carbonate cycle of the Upper Paradox Formation. The first 30' of the Upper Ismay was dense to tight, light brown, tan, cream to off-white platy limestone. This facies was slightly dolomitic, chalky and anhydritic, infrequently earthy to argillaceous and cryptocrystalline to microcrystalline. Associated with this facies was trace off-white chalky matter, anhydrite crystals, very rare fossil fragments, scattered buff to light brown chert fragments, rare black carbonaceous soft shale and trace light gray, gray to dark gray brown microsugrosic thinly interbedded lenses of dolomite. A facies change occurred at or approximately 5460' true vertical depth. This facies change was to an earthy/argillaceous, occasionally grading to a marly lime, moderately dense to dense limestone. This "dirty" limestone was dark brown, brown, light brown, tan to cream, slightly platy, microcrystalline to very fine crystalline, trace cryptocrystalline, rarely silty, soft-firm, very seldom chalky to anhydritic, slightly dolomitic, sporadically clean and from time to time dolomitic in part. Along with this facies was trace to abundant dark brown to brown chert fragments, soft silty chalky matter, rare calcite fracture fill and very rare anhydrite crystals. Thin streaks of rare to trace black to dark brown carbonaceous shale partings, rare to trace off-white argillaceous limestones that graded to a marly limestone and dark gray brown to gray dolomite cuttings were associated with this carbonate facies. The Upper Ismay carbonate cycle exhibited no visible cut, very rare black dead oil stain resin, and seldom dull to very scattered yellow fluorescence. Overall, the carbonates had a poor intercrystalline, compact crystalline to earthy fabric porosity development.

The top of the Lower Ismay carbonate cycle of the Upper Paradox Formation was picked at a measured depth of 5517', true vertical depth 5510', based primarily on sample identification and a very slight decrease in the rate of penetration as the bit penetrated into the Hovenweep Shale member. This shale member was represented by a dark brown to trace black, soft, silty, calcareous cuttings and was approximately two feet thick. The carbonate cycle for the Upper Ismay was a light gray, gray, light gray

brown, brown, light brown, tan to off-white, and cryptocrystalline to microcrystalline limestone. This limestone facies was moderately dense to tight, rarely silty, slightly dolomitic, uncommonly chalky to anhydritic, occasionally silty too sandy or simply microsugrosic to sugrosic, slightly earthy to argillaceous and occasionally marly. Interbedded in this limestone facies were quiet water black to dark brown shale lenses, cream to off-white marly limestone's, trace dark brown calcareous dolomites, micro-fossil fragments, scattered dark brown, brown, light brown to tan chert fragments, trace anhydrite crystals, off-white chalky matter and calcite fracture fill. A dominant compact crystalline to poor slightly earthy intercrystalline fabric porosity was developed for this carbonate cycle at this location. No visible oil stain or oil stain resin, cut and fluorescence were apparent in the cycle as well.

The Gothic Shale was penetrated at a measured depth of 5587', true vertical depth 5556', and was a gradational contact with the Lower Ismay carbonate cycle. A gradual decrease then a sharp decrease in the penetration rate and a significant increase in the amount of black carbonaceous shale in the cuttings picked the top of the shale member. This shale member of the Upper Paradox Formation was nine feet thick in this southeasterly direction. The Gothic Shale was black to dark brown, carbonaceous, occasionally grainy to silty, soft to slightly firm, sooty, slightly fissile, subblocky to subplaty, calcareous to slightly dolomitic and slightly micaceous. Very thin partings of dense, very slightly argillaceous, occasionally dolomitic limestones and clean to very argillaceous limey dolomites were noted in this shale member.

The top of the Desert Creek Member of the Upper Paradox Formation was picked at a measured depth of 5606', true vertical depth 5565', indicated by a sharp increase in penetration rate, decrease in shale partings, an increase in the amount of limestone cuttings. This transition zone had a true vertical thickness of approximately three feet locally. The transition zone between the Gothic Shale and the top of the Upper Desert Creek 1-A porosity bench was predominately a tan, cream, off-white to occasionally light brown to brown limestone. This packstone facies was slightly platy; cryptocrystalline to microcrystalline, occasionally very fine crystalline grading to a grainstone facies, moderately dense to tight, chalky, slightly earthy and very slightly mottled. Associated with this transition zone were thin lenses of oolitic slightly dolomitic granstones that had a slight algal development, fossil fragments, rare to trace crystalline anhydrite and rare buff chert fragments. A predominate compact crystalline, poor intercrystalline to rare oolitic and algal fabric porosity was developed for the packstone facies. No visible to rare light brown to black bitchimum oil stain, a scattered dull to moderately bright yellow fluorescence and trace slow diffused cut represented a very poor show for the Desert Creek transition zone.

The top of the Desert Creek Upper 1-A porosity bench was encountered at a measured depth of 5614', true vertical depth of 5568', with a horizontal displacement of approximately 28'. The top was picked by a significant increase in the penetration rate and by the typical oolitic to oomoldic limestone grainstone facies associated with the bench. This grainstone facies was brown, light brown, tan to occasionally cream, mottled, microcrystalline to very fine crystalline with some scattered cryptocrystalline, moderately dense in part with a predominate grainy to microsugrosic matrix, slightly dolomitic, very slightly chalky and anhydritic and had a slight algal development. Associated with this grainstone facies was thinly interbedded dense slightly oolitic platy packstones, abundant oolites and their casts, fossil fragments, rare anhydrite crystals and rare black carbonaceous shale partings. The Ratherford Unit well #20-32 provides injection to stimulate oil movement in the field, so when the bit initially penetrated the bench, the shows appeared flushed. Shows overall were poor to moderately fair light brown to brown with the analogous black dead oil stain filling casts and coating calcite fracture fill. A moderately fair scattered to even dull to moderately bright fluorescence and moderately fair fast to fair slow streaming diffused cut was observed for this portion of the Desert Creek 1-A porosity bench.

The curve portion of the lateral was completed at a measured depth of 5681', true vertical depth 5583', at a horizontal displacement of 88', bearing 141 degrees, with an inclination of 86.5°, on October 25, 1998. The bit landed near the middle of the 1-A porosity zone and two foot high of the proposed target line. At this point a trip was made to lay down the curve assembly and pickup the lateral assembly.

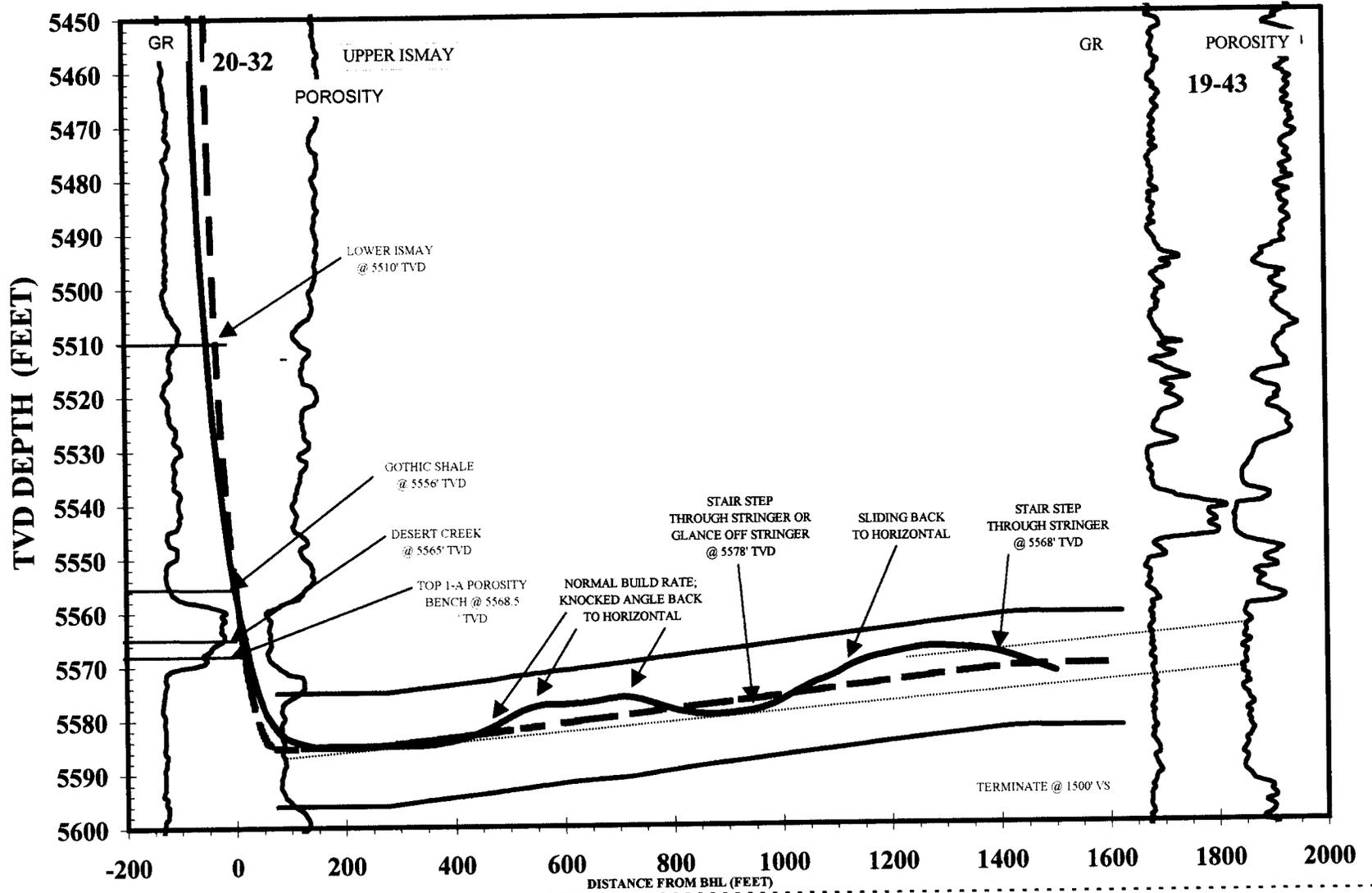
Drilling of the southeast lateral was resumed also on October 25, 1998, near the middle of the Upper Desert Creek 1-A porosity zone of the Upper Paradox Formation. The lateral was slid for the first 73' in order to control the vertical depth, horizontal plane direction and to put the lateral assembly out far enough to begin rotating. During the course of drilling the Desert Creek 1-A southeast lateral leg #1 the rate of penetration was consistently below less than one minute to fifteen seconds-a-foot. The bench at this location was approximately ten feet thick and the termination point at the Ratherford Unit well #20-43 had an approximate thickness of forty feet. The bit never encountered the top or the bottom of the bench as expected, but periodically would stair step through or deflect slightly away from associated diagenic packstone stringers. The horizontal had a sin-wave appearance once it was terminated which may help stimulate the bench better because of its tremendous thickness. The lateral was begun in the good oolitic to oomoldic limestone grainstone facies that was contaminated with Gothic Shale partings. This homogenous grainstone was light brown, tan to cream and occasionally brown to dark brown. This facies was microcrystalline to very fine crystalline, moderately dense in part to microcrystalline and grainy, slightly chalky and infrequently anhydritic, very slightly dolomitic to uncommonly dolomitic in part. Associated oolites and pellets, fossil fragments, buff chert cuttings, anhydrite crystals, carbonaceous shale partings, scattered packstones, off-white chalky matter, anhydrite/calcite filled casts, calcite and gypsum fracture fill and very scattered *Ivanovia* algal development were observed throughout the entire length of the lateral in this predominate facies. The less predominate intercrystalline packstone facies was tan to cream, moderately dense to dense, cryptocrystalline to microcrystalline, slightly chalky to anhydritic and very slightly dolomitic in part. The grainstone facies had a reduced to moderately good oomoldic to oolitic with an intercrystalline fabric porosity development in part. The packstone facies had a compact crystalline to fair intercrystalline fabric porosity development.

The Ratherford Unit well #20-32 is an injection well and as anticipated, the shows, once the Desert Creek 1-A porosity bench was penetrated, were poor to moderate and overall flushed. It was thought that shows would stay somewhat flushed, but as the lateral moved out and away from the well bore shows increased, gas increased and the well began to produce. Oil staining was moderately fair to moderately good, light brown, brown to dark brown with associated black bitchimum resin that filled oolite, pellet, fossil casts and coated calcite or gypsum fracture fill. A moderate to good blooming to trace to moderately good slow streaming diffused cut and a moderately fair even dull to moderately bright yellow-gold fluorescence was typical for this bench. Background gas averaged 6000 units and an intermittent 6 to 12-foot flares was noted throughout the length of this lateral.

The Ratherford Unit injection well #20-32 southeast lateral leg #2 was terminated on October 26, 1998, at a measured depth of 7094', true vertical depth 5572', at a horizontal displacement of 1500' bearing 137 degrees. The Desert Creek 1-A porosity bench was the typical homogenous grainstone with a reduced to moderately good oomoldic to oolitic with an intercrystalline fabric porosity development in part. A minor amount of dense packstone with compact crystalline to fair intercrystalline fabric porosity development was the only other facies defined at this location. Oil staining was moderately fair to moderately good and background gas was fair. During the course of drilling this lateral the top and bottom were never encountered. The thickness of the bench, based on gamma-neutron logs, suggested the bench to be approximately ten feet to forty feet thick. Although this well is an injector, the well produced overall good shows and should contribute to the overall performance of the Ratherford Unit. After stimulation through acidization and returned to water flood, effective movement of hydrocarbon and gas will benefit Mobil Exploration and Production, Inc.

\*The black residual staining has been called by Dr. Dave Eby & others as "bitchimum" and is also known as "dead oil" ("dd o stn" on mud logs). This staining is associated with the movement of oil over long periods of time and is a good indicator of producible hydrocarbons when associated with productive porosities, but can also be found in porosities that have been filled by anhydrites and other material at later dates.

### MOBIL, Ratherford #20-32, Southeast Lateral Leg #2



ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RG	COUNTY		
E			43-037-15749	RATHERFORD 20-32	SW/NE	20	41S	24E	SAN JUAN	10-12-98	12-02-98
WELL 1 COMMENTS: <b>DRILLED LATERAL #2</b>											
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)

Signature SHIRLEY HOCHINS  
 ENV & REG TECHNICIAN  
 Title \_\_\_\_\_ Date 1-11-99  
 Phone No. ( 915 ) 688-2584

OPERATOR MOBIL PRODUCING TX & NM INC.  
 ADDRESS P. O. BOX 633  
MIDLAND, TX 79702

OPERATOR ACCT. N<sup>o</sup> 7370

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RG	COUNTY		
E	U280 →		43-037-15749	RATHERFORD 20-32	SW/NE	20	41S	24E	SAN JUAN	10-12-98	12-02-98
WELL 1 COMMENTS: <i>990325 entity already added. KSR</i> DRILLED LATERAL #2											
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.

Signature SHIRLEY HOCHINS  
 ENV & REG TECHNICIAN 1-11-99  
 Title \_\_\_\_\_ Date \_\_\_\_\_  
 Phone No. ( 915 ) 688-2584

**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\***

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

b. 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  
**SW/NE 1980' FNL & 1980' FEL**  
At top prod. interval reported below  
**LAT 1 BHL:725' FNL & 688' FWL/SURF**  
At total depth  
**LAT 2 BHL:1102' FSL & 1019' FEL/SURF**

15. DATE SPUDDED **10-12-98** 16. DATE TESTED **10-**

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

24. PRODUCING INTERVAL(S), OF THIS  
**LATERAL #2 (5441-7094'**

26. TYPE ELECTRIC AND OTHER LOGS RUN  
**NO**

CASING SIZE/GRADE	WEIGHT, LB
<b>13 3/8"</b>	<b>27.1#</b>
<b>8 5/8"</b>	<b>24#</b>
<b>5 1/2"</b>	<b>14#</b>
<b>ORIGINAL</b>	<b>CASING</b>

SIZE	TOP (MD)

31. PERFORATION RECORD (Interval, size and number)  
**LATERAL #1 5579-6165' TMD.(OCT. 94) 586' LAT. SEC.**

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
<b>5650-6165'</b>	<b>LAT #1 ACIDIZE W/13020 GALS 15% HCL ACID</b>
<b>5681-7094'</b>	<b>LAT #2 ACIDIZE W/19600 GA:S 15% HCL ACID</b>

33.\* **PRODUCTION**  
DATE FIRST PRODUCTION **12-03-98** PRODUCTION METHOD (Flowing, gas lift, pumping - size and type of pump) WELL STATUS (Producing or shut-in) **INJECTING**

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL - BBL.	GAS - MCF.	WATER - BBL.	GAS - OIL RATIO
<b>12-30-98</b>						<b>8531</b>	
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL - BBL.	GAS - MCF.	WATER - BBL.	OIL GRAVITY - API (CORR.)	
<b>2200</b>							

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 **1-11-99**

\*(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.

*Steph  
Copy  
all pages.*

**OIL AND GAS**

JRB	
1 RJK	✓
SLS	
GLH	✓
DTS	
2014	✓
4 DIC	✓
5 MICROFILM	✓
6 FILE	✓

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 20-32**

9. API WELL NO.  
**43-037-15749**

10. FIELD AND POOL, OR WILDCAT  
**GREATER ANETH**

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
**SEC. 20, T41S, R24E**

12. COUNTY OR PARISH  
**SAN JUAN**

13. STATE  
**UT**

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

17. ACTIONS (DF, RKB, RT, GR, ETC.)\*  
**0" GR**

19. ELEV. CASINGHEAD

23. INTERVALS DRILLED BY  
ROTARY TOOLS **X** CABLE TOOLS

25. WAS DIRECTIONAL SURVEY MADE  
**YES**

27. WAS WELL CORED  
**NO**

AMOUNT OF CEMENT, CEMENTING RECORD	AMOUNT PULLED
<b>XS SURFACE</b>	
<b>'S CIRC SURFACE</b>	
<b>FT 2597' TOC</b>	

30. TUBING RECORD			
SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
	<b>2 7/8"</b>	<b>5354'</b>	<b>5354'</b>

**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\***

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 20-32**

9. API WELL NO.  
**43-037-15749**

10. FIELD AND POOL, OR WILDCAT  
**GREATER ANETH**

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
**SEC. 20, T41S, R24E**

12. COUNTY OR PARISH  
**SAN JUAN**

13. STATE  
**UT**

14. PERMIT NO. \_\_\_\_\_ DATE ISSUED \_\_\_\_\_

15. DATE SPUNDED **10-12-98** 16. DATE T.D. REACHED **10-28-98** 17. DATE COMPL. (Ready to prod.) **12-02-98** 18. ELEVATIONS (DF, RKB, RT, GR, ETC.)\* **4780' GR** 19. ELEV. CASINGHEAD \_\_\_\_\_

20. TOTAL DEPTH, MD & TVD **\*#24** 21. PLUG, BACK T.D., MD & TVD **\*#24** 22. IF MULTIPLE COMPL., HOW MANY\* **NO** 23. INTERVALS DRILLED BY **X** ROTARY TOOLS **X** CABLE TOOLS \_\_\_\_\_

24. PRODUCING INTERVAL(S), OF THIS COMPLETION - TOP, BOTTOM, NAME (MD AND TVD)\*  
**LATERAL #2 (5441-7094' TMD)(5440-5571'TVD)** 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#	173'		175 SXS SURFACE	
8 5/8"	24#	1535'		730 SXS CIRC SURFACE	
5 1/2"	14#	5769'	7.875	550 CU FT 2597' TOC	
ORIGINAL	CASING	UNDISTURBED			

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2 7/8"	5354'	5354'

31. PERFORATION RECORD (Interval, size and number)  
**LATERAL #1 5579-6165' TMD.(OCT, 94) 586' LAT. SEC.**

DEPTH INTERVAL (MD)	ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.
5650-6165'	LAT #1 ACIDIZE W/13020 GALS 15% HCL ACID
5681-7094'	LAT #2 ACIDIZE W/19600 GALS 15% HCL ACID

33.\* PRODUCTION

DATE FIRST PRODUCTION **12-03-98** PRODUCTION METHOD (Flowing, gas lift, pumping - size and type of pump) \_\_\_\_\_ WELL STATUS (Producing or shut-in) **INJECTING**

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL - BBL.	GAS - MCF.	WATER - BBL.	GAS - OIL RATIO
12-30-98						8531	

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL - BBL.	GAS - MCF.	WATER - BBL.	OIL GRAVITY - API (CORR.)
2200						

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 **1-11-99**

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

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

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. 20, T41S, R24E**  
**SW/NE 1980' FNL & 1980' FEL**  
**LATERAL #1 BHL: 725' FNL & 688 FWL(10/94)**

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 20-32**

9. API Well No.

**43-037-15749**

10. Field and Pool, or exploratory Area

**GREATER ANETH**

11. County or Parish, State

**SAN JUAN UT**

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 #2; 1102' SOUTH & 1019' EAST FROM SURFACE SPOT (ZONE 1a).

SEE ATTACHED PROCEDURE.

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

Signed

*Shirley Houchins*

Title **SHIRLEY HOUCHINS/ENV & REG TECH**

Date **1-11-99**

(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

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

Unit, Well Name:                   Ratherford Unit, Well 20-32  
API Well #:                         43-037-15749  
Well Completion:                 Horizontal, Injector, 2 Laterals, 1 New

First leg description:	Lateral #1
KOP MD:	5434.00
EOL MD:	7094.00
Footage drilled:	1660.00
Max. TVD Recorded	5584.90

<b>Total Footage Drilled (MD):</b>	<b>1660.00</b>
<b>Deepest point (TVD):</b>	<b>5584.90</b>

**ATTACHMENT – FORM 3160-5**  
**RATHERFORD UNIT – WELL #20-32**  
**14-20-603-355**  
**NAVAJO TRIBAL**  
**SAN JUAN, UTAH**

10-12-98 MIRU MONTEZUMA WS RIG #15, DIG PIT AND LINE, PRESS TEST 5 ½" CSG TO 1000# ½ HR OK, NOTIFIED CHARMAINE HESTON W/ NAVAJO EPA OF INTENT TO DIG A PIT AND LINE, 08:45 10/12. SWIFN.

10-13-98 SI 12 HRS TP 1200#, FLOW 200 BBLS PROD WTR, PUMP 24 BBLS MUD AND KILL TBG, ND WELL HEAD NU BOP, REL. PKR, WORK PKR ATTEMPT TO PUMP AROUND PKR W/ NO SUCCESS, TBG START TO FLOW KILL W/ 24 BBLS, WAIT ON WL TO PERF CIRC HOLES, BASIN WL CO RIH AND PERF 4 CIRC HOLES @ 5504', POH RD SWIFN.

10-14-98 SI 12 HRS TP 200#, CSG PSI 1300#, BLED DOWN, FLOWING RU AND CIRC WELL W/ 15.5# KILL MUD, POH W. 2.875" CMT LINED TBG AND GUIB PKR, HOWCO WL CO RAN GAUGE RING TO 5510', RIH W/ GUIB 5 ½" RBP AND SET @5454'.

10-15-98 SI 12 HRS TP 0, CSG PSI 0, ND BOPS AND ND WELL HEAD, SPEAR 5 ½" CSG, PULL SLIPS, CUT OFF 8 5/8" BRADEN HEAD AND WELD ON 11" BRADEN HEAD, TEST OK, SWIFN.

10-16-98 ND WELL HEAD FLANGE, NU BOPS FLOOR AND TONGS, RIH W/ TBG, TO 2500', RU AND CIRC 15.8# MUD W/ FW, FIN RIH W/ TBG, TAG GUIB SHORTY RBP, CIRC 15.8# MUD, CIRC CLEAN, LAID DOWN 25 JTS 2.875" TBG, SWIFN.

10-17-98 FIN POH AND LD CMT LINE TBG, LOAD CSG AND TEST TO 500# OK, ND BOPS, NU WELLHEAD FLANGE, RD AND REL MONTEZUMA WS.

10-20-98 MI MONTEZUMA WELL SERVICE 25 DRILLING LATERAL 2A1,. NOTIFIED JIM THOMPSON W/ STATE UTAH ABOUT STARTING DRILLING OPERATIONS @ 4:30 PM 10-20-98.

10-21-98 FINISHED RU, NU BOP, HYD CHOKE, SEPERATOR, FLARE LINE SINGLE JACK PRESS TEST 2000# HIGH, 250# LOW, HELD OK.

10-22-98 RIH W/ WEATHERFORD WHIPSTOCK, RU GYRO DATA, RIH W/ GYRO ORIENT WHIPSTOCK @ 136, SET DOWN @ 5433', 21' FILL, RIH W/ HOOK, TAGGED WHIPSTOCK @ 4850', PUSHED TO BOTTOM, UNABLE TO LATCH INTO WHIPSTOCK POH W/ HOOK.

10-22-98 REPLACE HYDROMATIC ON RIG.

10-23-98 RIH W/ HOOK CAUGHT WHIPSTOCK @ 5423', POH W/ HOOK, RECOVERED WHIPSTOCK, RIH W/ GUIBERSON RBP WEATHERFORD WHIPSTOCK, STARTER MILL & 2.875" AOHP, RIH W/ GYRO DATA GYRO, ORIENT WHIPSTOCK SET BOTTOM ON WHIPSTOCK ON RBP @ 5454' W/ TOP OF WHIPSTOCK @ 5434' W/ FACE @ 136 DEG.

10-24-98 POH W/ GYRO CUT WINDOW W/ STARTER MILL FROM 5434'-5436', POH W/ MILL, RIH W/ WINDOW & WATERMELLON MILLS, CUT WINDOW FROM 5434'-5440' & FORMATION TO 5441', PUMPED SWEEP & CIRC HOLE CLEAN, POH W/ MILLS FINAL REPORT FOR LATERAL 2.

10-24-98 RIH W/ MUD MOTOR & W.875" AOHP, RU GYRO DATA, SLIDE DRILLED CURVE 2 W/ GYRO FROM 5440'-5489'.

10-25-98 LATERAL 2A1 SLIDE DRILLED CURVE 5489', LANDED CURVE 5681' TMD, 5583' TVD, PUMPED SWEEP & CIRC HOLE CLEAN, POH & LD CURVE ASSEMBLY, RIH W/ MUD MOTOR, PH6 TBG & AOHP, DRILLED LATERAL 2A1 FROM 5681'-5770'.

10-26-98 DRILLED LATERAL 2A1 FROM 5770-7094' TD TMD, 5571' TVD, 136 AZ 87.9, 1500 VS PUMPED SWEEP & CIRC HOLE CLEAN PULLED TO TOP OF WINDOW @ 5433' POH W/ AOHP.

10-27-98 POH & LD MWD MUD MOTOR, RIH W/ PH6 TBG, GUIBERSON UNI-6 PKR W/ ON/OFF TOOL, PH6 & AOHP SET EOT @ 5690', PKR @ 5348' PRESS TESTED PKR TO 500#. OK, CIRC HOLE CLEAN PITS, RD MONTEZUMA #25.

10-28-98 FINISH RIGGING DOWN ROTARY RIG. FINAL DRLG. REPORT PENDING COMPLETION.

**ATTACHMENT - FORM 3160-5**  
**RATHERFORD UNIT - WELL #20-32**  
**14-20-603-355**  
**NAVAJO TRIBAL**  
**SAN JUAN, UTAH**  
**PAGE 2**

**COMPLETION**

11-19-98 MI RU MONTEZUMA 36 & EQP.  
11-20-98 0# TP ND WH & NU BOP, LATCH ON TO ON/OFF TO PKR. TEST CSG TO 600# OK.  
TEFITELLER WL RIH EQUALIZE PLUG, RETRIEVE PLUG SI & SDFN.  
11-21-98 SPOT ACID TANKS FIN HOOKING EQUIP, SI & SDFN + SUNDAY.  
11-23-98 MIRU DS CT SITP 1350#. RIH W CT TO 7094'. ACIDIZED LATERAL 2A1 FROM 7094' TO  
5681' W/ 19,600 GALS 15% HCL ACID, WELL SI, RDMO DS CT.  
11-24-98 FLOW WELL KILL TBG RLSE PKR, POH RIH W/ RETRIEVING HEAD, JARS & TBG SI &  
SDFN.  
11-25-98 RIH WTBG LATCH ON TO RBP/RLSE POH W/ TBG & RBP RIH PH-6 TBG GUIBERSON  
UNI-VI PKR SET @ 5332', EOT @ 5690'. SI & SDFN, THANKSGIVING & FRIDAY.  
11-27-98 SI WAITING ON ACID JOB.  
11-28-98 RU DS ACIDIZED LATERAL 1A1 FORM 6165' TO 5650' W/ 13, 020 GALS 15% HCL.  
11-29-98 13.5 HR SITP 1200#, KILL TBG, RLSE PKR & POH, RIH W/ GUIBERSON IPC UNI-VI PKR  
SET @ 5354'. SN & SDFN.  
11-30-98 WAIT ON MWS TO SET FLOAT, POH & LD ON/OFF TOOL, WAIT ON CMT LINED TBG.  
RIH W/ ON/OFF TOOL CMT LINED TBG, HAVING TROUBLE DRIFTING, SWI & SDFN.  
12-1-98 FIN RIH W/ CMT LINED TBG, ND BOP, NU INJECTION HEAD, DISPLACED HOLE W/ 200  
BBL FW PKR FLUID, NOTIFIED NAVAJO EPA @ 3:00 PM 11/30/98, ABOUT MIT,  
CHARMAINE HESTEEN W/ NAVAJO EPA, CAME @ 12:00 NOON 12/1/98. WE HAD  
PROBLEMS DRIFTING TBG, SHE WOULD BE BACK @ 8:30 AM 12/2/98 & WE WOULD  
RUN TEST THEN. SWI & SDFN.  
12-2-98 PRESS TESTED CSG & PKR TO 1050# & RAN MIT, WELL PASSED MIT & WAS  
WITNESSED BY PRESTENE GARNENEZ W/ NAVAJO EPA, PRESS TESTED TBG TO  
3000#, RD UNIT & REL WELL TO PRODUCTION.

**Mobil**

**San Juan County  
Utah  
Ratherford Unit  
RU 20-32 - MWD Leg #2**

# **SURVEY REPORT**

**17 December, 1998**

**sperry-sun**  
**DRILLING SERVICES**  
A DIVISION OF AMEREN INDUSTRIES, INC.

**Survey Ref: svy3381**

# Sperry-Sun Drilling Services

## Survey Report for RU 20-32



**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	
100.00	0.750	333.517	100.00	0.59 N	0.29 W	-0.62	0.750
200.00	0.810	323.533	199.99	1.74 N	1.00 W	-1.95	0.148
300.00	0.810	308.217	299.98	2.75 N	1.98 W	-3.35	0.216
400.00	0.820	301.417	399.97	3.56 N	3.15 W	-4.74	0.097
500.00	0.810	300.833	499.96	4.29 N	4.36 W	-6.12	0.013
600.00	0.770	300.200	599.95	4.99 N	5.55 W	-7.45	0.041
700.00	0.770	298.333	699.94	5.65 N	6.72 W	-8.73	0.025
800.00	0.870	296.917	799.93	6.31 N	7.99 W	-10.09	0.102
900.00	1.070	296.433	899.91	7.07 N	9.50 W	-11.69	0.200
1000.00	1.200	293.733	999.90	7.91 N	11.30 W	-13.54	0.141
1100.00	1.460	288.850	1099.87	8.74 N	13.46 W	-15.64	0.283
1200.00	2.030	297.467	1199.82	9.97 N	16.24 W	-18.45	0.626
1300.00	1.930	298.350	1299.76	11.59 N	19.29 W	-21.74	0.105
1400.00	2.470	313.017	1399.69	13.86 N	22.35 W	-25.49	0.776
1500.00	2.670	308.283	1499.59	16.77 N	25.75 W	-29.95	0.291
1600.00	2.420	301.267	1599.49	19.31 N	29.39 W	-34.30	0.399
1700.00	2.050	302.633	1699.41	21.37 N	32.70 W	-38.08	0.374
1800.00	2.490	295.750	1799.33	23.28 N	36.16 W	-41.86	0.517
1900.00	2.340	295.067	1899.25	25.08 N	39.97 W	-45.81	0.153
2000.00	1.930	283.600	1999.18	26.35 N	43.45 W	-49.14	0.590
2100.00	1.870	289.433	2099.12	27.28 N	46.63 W	-52.02	0.202
2200.00	1.940	290.233	2199.07	28.41 N	49.76 W	-55.00	0.075
2300.00	1.940	289.617	2299.01	29.57 N	52.94 W	-58.04	0.021
2400.00	1.880	295.683	2398.95	30.85 N	56.01 W	-61.10	0.211
2500.00	1.930	300.267	2498.90	32.40 N	58.94 W	-64.26	0.160
2600.00	1.870	307.517	2598.84	34.25 N	61.69 W	-67.49	0.248
2700.00	1.730	325.250	2698.80	36.48 N	63.85 W	-70.59	0.572
2800.00	1.620	337.517	2798.75	39.03 N	65.25 W	-73.40	0.374
2900.00	1.450	336.383	2898.72	41.49 N	66.29 W	-75.90	0.173
3000.00	1.470	345.533	2998.68	43.89 N	67.12 W	-78.20	0.234
3100.00	1.090	351.733	3098.66	46.08 N	67.58 W	-80.09	0.404
3200.00	0.890	359.517	3198.64	47.80 N	67.72 W	-81.42	0.241
3300.00	0.730	2.483	3298.63	49.21 N	67.70 W	-82.43	0.165
3400.00	0.580	0.483	3398.63	50.35 N	67.67 W	-83.23	0.152
3500.00	0.510	3.767	3498.62	51.30 N	67.64 W	-83.89	0.077
3600.00	0.430	12.067	3598.62	52.11 N	67.53 W	-84.40	0.105
3700.00	0.300	32.783	3698.62	52.70 N	67.31 W	-84.66	0.183
3800.00	0.320	34.117	3798.62	53.15 N	67.01 W	-84.78	0.021
3900.00	0.320	38.267	3898.61	53.60 N	66.68 W	-84.88	0.023

Continued...

# Sperry-Sun Drilling Services

Survey Report for RU 20-32



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)
4000.00	0.370	59.267	3998.61	53.99 N	66.23 W	-84.84	0.135
4100.00	0.390	73.067	4098.61	54.25 N	65.63 W	-84.61	0.093
4200.00	0.400	82.017	4198.61	54.40 N	64.96 W	-84.25	0.062
4300.00	0.430	103.767	4298.61	54.36 N	64.25 W	-83.73	0.159
4400.00	0.390	127.367	4398.60	54.06 N	63.61 W	-83.07	0.172
4500.00	0.390	125.933	4498.60	53.65 N	63.06 W	-82.40	0.010
4600.00	0.340	129.183	4598.60	53.27 N	62.56 W	-81.77	0.054
4700.00	0.410	133.433	4698.60	52.83 N	62.07 W	-81.12	0.075
4800.00	0.430	136.067	4798.59	52.32 N	61.55 W	-80.39	0.028
4900.00	0.330	141.933	4898.59	51.82 N	61.11 W	-79.73	0.107
5000.00	0.310	141.900	4998.59	51.38 N	60.77 W	-79.17	0.020
5100.00	0.230	154.883	5098.59	50.99 N	60.51 W	-78.71	0.100
5200.00	0.200	175.683	5198.59	50.63 N	60.42 W	-78.39	0.083
5300.00	0.110	212.117	5298.59	50.37 N	60.45 W	-78.23	0.129
5400.00	0.270	216.300	5398.59	50.10 N	60.64 W	-78.17	0.160

## MWD Leg #2

5434.00	0.270	220.370	5432.59	49.98 N	60.74 W	-78.15	0.056
5441.00	4.500	130.000	5439.58	49.79 N	60.54 W	-77.87	64.426
5451.00	9.000	135.600	5449.51	48.98 N	59.70 W	-76.70	45.426
5461.00	13.600	137.500	5459.31	47.55 N	58.35 W	-74.74	46.144
5471.00	17.900	138.500	5468.93	45.53 N	56.54 W	-72.03	43.084
5481.00	22.200	139.100	5478.33	42.95 N	54.28 W	-68.61	43.049
5491.00	25.400	145.600	5487.48	39.75 N	51.83 W	-64.60	41.334
5501.00	29.500	144.200	5496.35	35.98 N	49.18 W	-60.05	41.502
5511.00	33.500	138.300	5504.88	31.92 N	45.90 W	-54.85	50.460
5521.00	38.200	137.200	5512.98	27.59 N	41.96 W	-49.00	47.438
5531.00	41.200	141.000	5520.67	22.76 N	37.79 W	-42.62	38.579
5541.00	43.600	146.400	5528.06	17.33 N	33.81 W	-35.95	43.594
5551.00	46.900	141.700	5535.10	11.59 N	29.63 W	-28.92	46.921
5561.00	50.300	137.400	5541.71	5.89 N	24.76 W	-21.44	46.852
5571.00	54.500	137.400	5547.81	0.06 N	19.40 W	-13.52	42.000
5581.00	58.900	135.800	5553.30	6.01 S	13.66 W	-5.16	45.985
5591.00	61.500	134.900	5558.27	12.18 S	7.56 W	3.51	27.147
5601.00	63.700	138.600	5562.88	18.65 S	1.48 W	12.39	39.532
5611.00	65.400	142.700	5567.17	25.63 S	4.24 E	21.38	40.735
5621.00	67.900	141.700	5571.14	32.88 S	9.87 E	30.51	26.632
5631.00	71.400	144.100	5574.62	40.36 S	15.52 E	39.82	41.607
5641.00	75.700	142.300	5577.45	48.04 S	21.27 E	49.33	46.334
5651.00	80.000	140.600	5579.55	55.68 S	27.36 E	59.06	46.098
5681.00	86.500	141.000	5583.08	78.76 S	46.18 E	88.73	21.707
5735.00	89.800	136.100	5584.82	119.19 S	81.89 E	142.62	10.935

Continued...

# Sperry-Sun Drilling Services

## Survey Report for RU 20-32



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)
5766.00	90.000	136.600	5584.87	141.62 S	103.29 E	173.62	1.737
5798.00	90.100	136.800	5584.85	164.91 S	125.23 E	205.62	0.699
5830.00	90.000	136.800	5584.82	188.24 S	147.14 E	237.62	0.313
5861.00	89.900	137.500	5584.84	210.96 S	168.22 E	268.61	2.281
5893.00	89.900	137.300	5584.90	234.52 S	189.88 E	300.60	0.625
5925.00	90.400	137.600	5584.82	258.09 S	211.52 E	332.59	1.822
5957.00	90.600	137.100	5584.54	281.63 S	233.20 E	364.58	1.683
5989.00	91.500	137.100	5583.95	305.07 S	254.98 E	396.57	2.812
6020.00	91.700	136.800	5583.09	327.71 S	276.13 E	427.55	1.163
6051.00	92.700	136.200	5581.90	350.18 S	297.45 E	458.53	3.761
6083.00	93.200	135.900	5580.25	373.19 S	319.63 E	490.49	1.822
6115.00	93.300	135.900	5578.43	396.13 S	341.87 E	522.43	0.313
6147.00	90.100	136.100	5577.49	419.14 S	364.08 E	554.42	10.019
6179.00	90.200	136.100	5577.40	442.19 S	386.27 E	586.42	0.313
6210.00	90.400	136.900	5577.24	464.68 S	407.61 E	617.41	2.660
6242.00	90.800	136.200	5576.90	487.91 S	429.62 E	649.41	2.519
6274.00	91.100	136.800	5576.37	511.12 S	451.64 E	681.40	2.096
6305.00	90.000	136.400	5576.08	533.64 S	472.94 E	712.40	3.776
6337.00	88.100	136.600	5576.61	556.85 S	494.96 E	744.39	5.970
6368.00	88.100	135.900	5577.63	579.23 S	516.39 E	775.38	2.257
6400.00	88.400	135.900	5578.61	602.20 S	538.65 E	807.36	0.938
6432.00	89.300	135.500	5579.25	625.10 S	560.99 E	839.35	3.078
6463.00	90.100	135.400	5579.42	647.19 S	582.74 E	870.35	2.601
6495.00	90.400	134.800	5579.28	669.85 S	605.33 E	902.35	2.096
6527.00	91.100	134.300	5578.86	692.30 S	628.13 E	934.33	2.688
6559.00	91.500	134.300	5578.13	714.64 S	651.02 E	966.31	1.250
6591.00	93.100	134.500	5576.85	737.01 S	673.87 E	998.27	5.039
6622.00	93.400	134.800	5575.09	758.77 S	695.89 E	1029.21	1.367
6654.00	92.100	135.500	5573.55	781.43 S	718.43 E	1061.17	4.613
6686.00	92.700	135.900	5572.21	804.31 S	740.76 E	1093.14	2.253
6718.00	93.400	136.400	5570.51	827.35 S	762.89 E	1125.10	2.687
6750.00	91.300	137.300	5569.20	850.68 S	784.76 E	1157.07	7.139
6781.00	91.200	137.800	5568.52	873.54 S	805.68 E	1188.05	1.644
6813.00	91.200	138.700	5567.85	897.41 S	826.98 E	1220.01	2.812
6845.00	90.800	139.600	5567.29	921.61 S	847.91 E	1251.96	3.077
6877.00	89.600	138.300	5567.18	945.75 S	868.92 E	1283.92	5.529
6909.00	89.900	138.000	5567.32	969.58 S	890.27 E	1315.89	1.326
6940.00	89.400	136.400	5567.51	992.33 S	911.33 E	1346.89	5.407
6972.00	89.100	135.500	5567.93	1015.32 S	933.58 E	1378.88	2.964
7004.00	87.900	134.500	5568.77	1037.94 S	956.20 E	1410.87	4.881

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# Sperry-Sun Drilling Services

Survey Report for RU 20-32



Mobil  
San Juan County

Utah  
Rutherford Unit

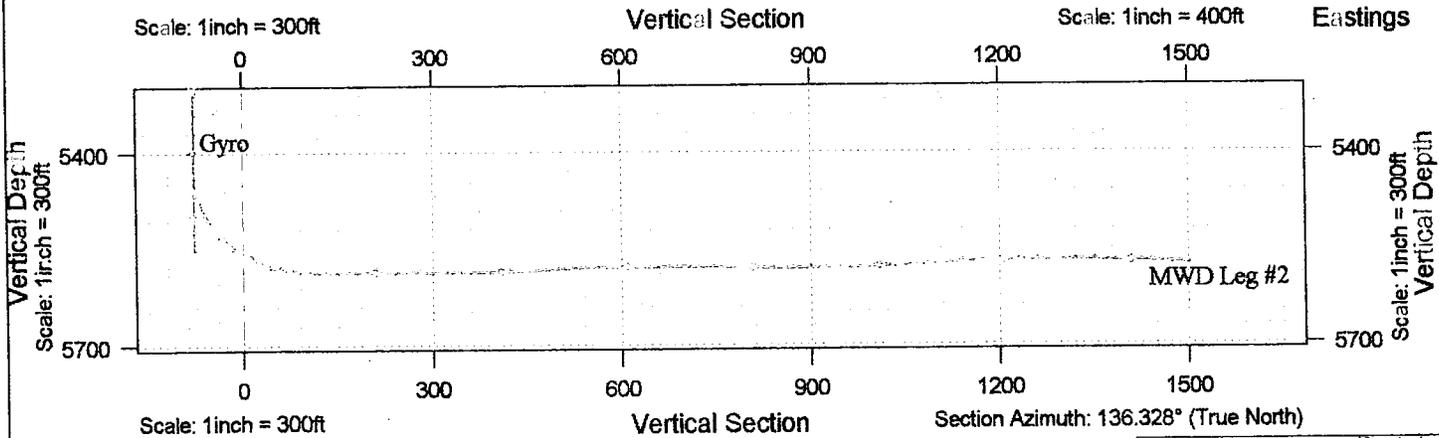
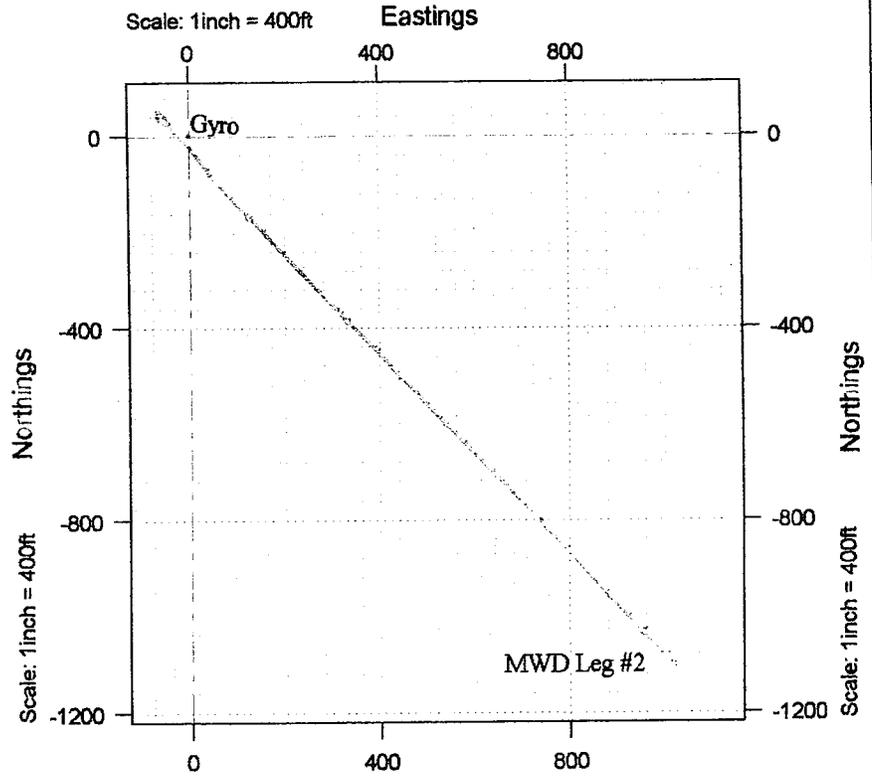
Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
7035.00	88.200	134.500	5569.82	1059.66 S	978.30 E	1441.84	0.968
7060.00	87.900	136.800	5570.67	1077.52 S	995.76 E	1466.82	9.273
7094.00	87.900	136.800	5571.92	1102.29 S	1019.02 E	1500.79	0.000

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 136.000° (True).

Based upon Minimum Curvature type calculations, at a Measured Depth of 7094.00ft.,  
The Bottom Hole Displacement is 1501.15ft., in the Direction of 137.248° (True).

**San Juan County  
 Utah  
 Ratherford Unit  
 RU 20-32**



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 20-32**

9. API Well No.

**43-037-15749**

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. 20, T41S, R24E**  
**SW/NE 1980' FNL & 1980' FEL**  
**LATERAL #1 BHL: 725' FNL & 688 FWL(10/94)**

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 #2: 1102' SOUTH & 1019' EAST FROM SURFACE SPOT (ZONE 1a).

10-12-98 -- 12-02-98 HORIZONTAL RECOMPLETION.

ATTACHED FORM 15

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

Signed *Shirley Houchins*

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

*UTC*  
*3-1-99*

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

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

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

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 MPTH**

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. 20, T41S, R24E**  
**(SW/NE) 1980' FNL & 1980' FEL**  
**BHL-725' FNL & 688' FWL**

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 20-32**

9. API Well No.

**43-037-15749**

10. Field and Pool, or exploratory Area

**GREATER ANETH**

11. County or Parish, State

**SAN JUAN UT**

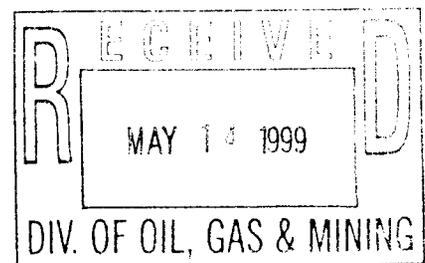
12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

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 <b>MIT CHART</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.)\*

SEE ATTACHED CHART.



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

Signed *Shirley Houchins* for

Title **SHIRLEY HOUCHINS/ENV & REG TECH**

Date **5-12-99**

(This space for Federal or State office use)

Approved by \_\_\_\_\_

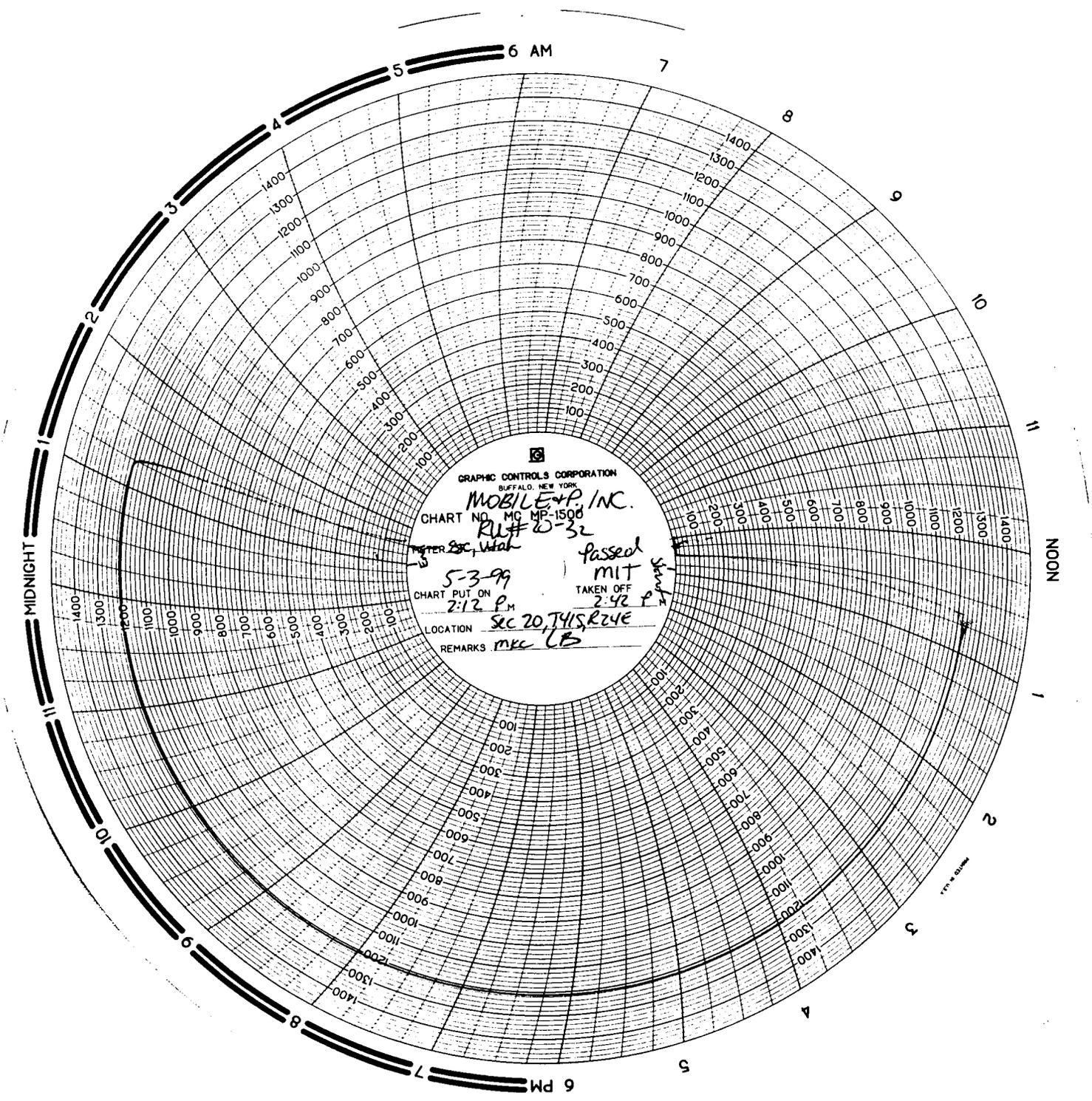
Title \_\_\_\_\_

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



GRAPHIC CONTROLS CORPORATION  
BUFFALO, NEW YORK  
**MOBILE P, INC.**  
CHART NO. MC MP-1500  
RU# 2-32  
METER SEC, Utah  
5-3-99  
CHART PUT ON 2:12 P.M.  
LOCATION SEC 20, T415, R24E  
REMARKS MKC LB  
Passed MIT  
TAKEN OFF 2:42 P.M.

1774-8-02-0000

**ExxonMobil Production Compa**  
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.

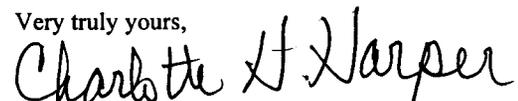
Please note the change of name of MOC to ExxonMobil Oil Corporation in your records pertaining to any MOC permits.

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 29 2001

DIVISION OF  
OIL, GAS AND MINING



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

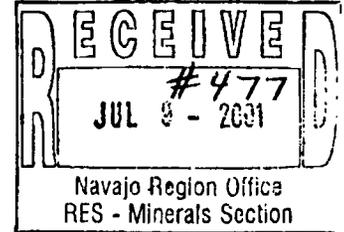
*PS 7/12/2001*  
*SN*  
*543*  
*File*

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.

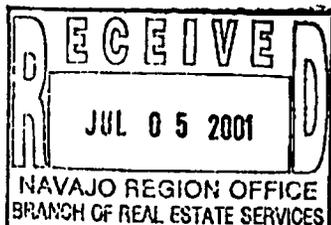
If you have any questions, please contact Alex Correa at (713) 431-1012.

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 Issac*

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

SAL

**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.

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.

Notary Public



LISTING OF LEASES OF MOBIL OIL CORPORATION

	<b>Lease Number</b>
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

1000 West Loop South, Suite 1900, Houston, Texas 77027-3301  
Telephone: (713) 297-4600 • Facsimile: (713) 297-4759

*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*  
Mary Pierson, Attorney-in-fact



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, 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 Companies in the presence of Karen A. Price



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

Karen A. 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

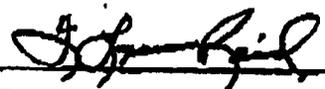
FOURTH: That the amendments to the Certificate of Incorporation were authorized by the Board of Directors followed by the holder of all outstanding shares entitled to vote on amendments to the Certificate of Incorporation by written consent of the sole shareholder dated May 22, 2001.

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

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

STATE OF TEXAS            )  
COUNTY OF DALLAS        )

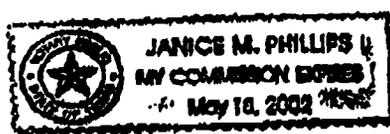
F. L. REID, being duly sworn, deposes and says that he is the Secretary of MOBIL OIL CORPORATION, the corporation mentioned and described in the foregoing instrument; that he has read and signed the same and that the statements contained therein are true.

  
\_\_\_\_\_  
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 09:06 NO. 152 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

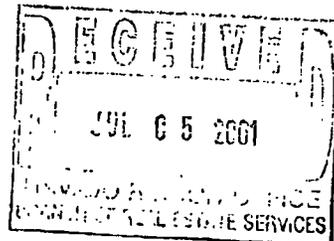
6959 Las Colinas Blvd.  
(Mailing address)

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

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

*ny Albany*

*Cust 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 "H. ...", written over a horizontal line.

*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: <b>06-01-2001</b>	
<b>FROM:</b> (Old Operator):	<b>TO:</b> ( New Operator):
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**

<b>WELL(S)</b>						
NAME	SEC TWN RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
RATHERFORD U 19W21	19-41S-24E	43-037-15741	6280	INDIAN	WI	A
DSRT A-26 (RATHERFORD 19W23)	19-41S-24E	43-037-15742	99990	INDIAN	WI	A
RATHERFORD U 19-32	19-41S-24E	43-037-15743	6280	INDIAN	WI	A
RATHERFORD U 19-34	19-41S-24E	43-037-15744	6280	INDIAN	WI	A
DESERT A-24 (RATHERFORD 19W41)	19-41S-24E	43-037-15745	99990	INDIAN	WI	A
DESERT A-23 (RATHERFORD 19W43)	19-41S-24E	43-037-16420	99990	INDIAN	WI	A
RATHERFORD U 20-12	20-41S-24E	43-037-15746	6280	INDIAN	WI	I
RATHERFORD U 20-14	20-41S-24E	43-037-15747	6280	INDIAN	WI	A
DESERT A-18 (RATHERFORD 20W23)	20-41S-24E	43-037-15748	99990	INDIAN	WI	A
RATHERFORD U 20-32	20-41S-24E	43-037-15749	6280	INDIAN	WI	A
RATHERFORD U 20-34	20-41S-24E	43-037-15750	6280	INDIAN	WI	A
RATHERFORD 20W41 (DESERT A-27)	20-41S-24E	43-037-15751	99990	INDIAN	WI	A
RATHERFORD 20-67	20-41S-24E	43-037-31590	6280	INDIAN	WI	A
RATHERFORD U 21-14	21-41S-24E	43-037-15753	6280	INDIAN	WI	I
RATHERFORD UNIT 21-67	21-41S-24E	43-037-31753	6280	INDIAN	WI	A
RATHERFORD UNIT 28-12	28-41S-24E	43-037-15336	6280	INDIAN	WI	A
NAVAJO A-19 (RATHERFORD 28W21)	28-41S-24E	43-037-16431	99990	INDIAN	WI	A
RATHERFORD U 29-12	29-41S-24E	43-037-15337	6280	INDIAN	WI	A
RATHERFORD U 29-32	29-41S-24E	43-037-15339	6280	INDIAN	WI	A
RATHERFORD 29W21	29-41S-24E	43-037-16432	99990	INDIAN	WI	A
NAVAJO B-5 (RATHERFORD 30W41)	30-41S-24E	43-037-15343	99990	INDIAN	WI	A
NAVAJO B-16 (RATHERFORD 30W21)	30-41S-24E	43-037-16435	99990	INDIAN	WI	I

**OPERATOR CHANGES DOCUMENTATION**

Enter date after each listed item is completed

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 06/29/2001
2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 06/29/2001
3. The new company has been checked through the **Department of Commerce, Division of Corporations Database** on: 04/09/2002
4. Is the new operator registered in the State of Utah: YES Business Number: 579865-0143

5. If NO, the operator was contacted contacted on:           N/A          

6. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on:           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 Footage: See attached list County: San Juan	Field or Unit Name Rutherford Unit
QQ, Section, Township, Range: State: UTAH	Lease Designation and Number See attached list

EFFECTIVE DATE OF TRANSFER: 6/1/2006

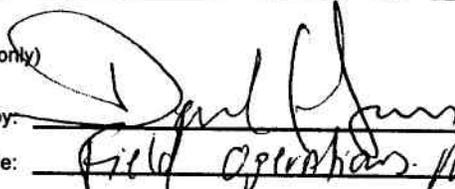
CURRENT OPERATOR

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:

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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: See attached list
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 Tribe
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: Ratherford Unit
2. NAME OF OPERATOR: Resolute Natural Resources Company <u>N2700</u>		8. WELL NAME and NUMBER: See attached list
3. ADDRESS OF OPERATOR: 1675 Broadway, Suite 1950 CITY Denver STATE CO ZIP 80202	PHONE NUMBER: (303) 534-4600	9. API NUMBER: Attached
4. LOCATION OF WELL FOOTAGES AT SURFACE: <u>See attached list</u>		10. FIELD AND POOL, OR WILDCAT: Greater Aneth
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: _____		COUNTY: <u>San Juan</u>
		STATE: <u>UTAH</u>

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) Dwight E Malloy TITLE Regulatory Coordinator

SIGNATURE *Dwight E Malloy* DATE 4/20/2006

(This space for State use only)

**APPROVED** 6127106  
*Earlene Russell*  
Division of Oil, Gas and Mining  
Earlene Russell, Engineering Technician

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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>
1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <u>Injection</u>		7. UNIT or CA AGREEMENT NAME: <b>UTU68931A</b>
2. NAME OF OPERATOR: <b>ExxonMobil Oil Corporation</b> <i>N1855</i>		8. WELL NAME and NUMBER: <b>Ratherford</b>
3. ADDRESS OF OPERATOR: <b>P.O. Box 4358</b> CITY <b>Houston</b> STATE <b>TX</b> ZIP <b>77210-4358</b>		9. API NUMBER: <b>attached</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)

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**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