Form 9-331 C
(May 1963)

SUBMIT IN [illegible]LICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK
DRILL [x] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL
OIL WELL [x] GAS WELL [ ] OTHER SINGLE ZONE [ ] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR
Phillips Oil 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.*)
At surface
1840' FNL, 1980' FWL (SE NW)

At proposed prod. zone
same

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

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
Navajo

7. UNIT AGREEMENT NAME
SW-I-4192

8. FARM OR LEASE NAME
Ratherford Unit

9. WELL NO.
#19-22

10. FIELD AND POOL, OR WILDCAT
Greater Aneth

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 19-T41S-R24E

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
Approximately 4 miles south of Montezuma Creek, Utah

12. COUNTY OR PARISH
San Jaun

13. STATE
Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)
1980' east of Ratherford Unit Lease Line

16. NO. OF ACRES IN LEASE
2534 Acres

17. NO. OF ACRES ASSIGNED TO THIS WELL
40 Acres

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.
1180' South of #19-21

19. PROPOSED DEPTH
5700'

20. ROTARY OR CABLE TOOLS
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
4738' ungraded ground

22. APPROX. DATE WORK WILL START*
As soon as BLM approval is secured

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2"	13-3/8"	48#	100'	150 sx (circ. to surface)
12-1/4"	9-5/8"	36#	1600'	800 sx (circ. to surface)
8-1/2"	7"	23#, & 26#	5700'	1000 sx est. (T.O.C. approx. 2000

Approval is requested to drill Ratherford Unit #19-22, a Desert Creek Development oil well, to increase the ultimate recovery from the Ratherford Unit.

BOP equipment will be operated daily and tested weekly.

RECEIVED
JUL 20 1984
DIVISION OF OIL GAS & MINING

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 7/27/84
BY: John R. Baza

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

24.

SIGNED A. E. Stuart TITLE Area Manager DATE July 17, 1984

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

5- BLM, Farmington, NM
2- Utah O&GCC - SLC, Utah
1- LeRoy Williamson (r) T.C. Doughty
1- G.W. Berk
1- J.R. Weichbrodt
1- File
1-Chevron - Denver
1- Superior - Denver
1-Texaco-Denver
Form 9-331C & Location Plat only- Barbara Conner
R. M. Coffelt, P. J. Adamson

See Instructions On Reverse Side

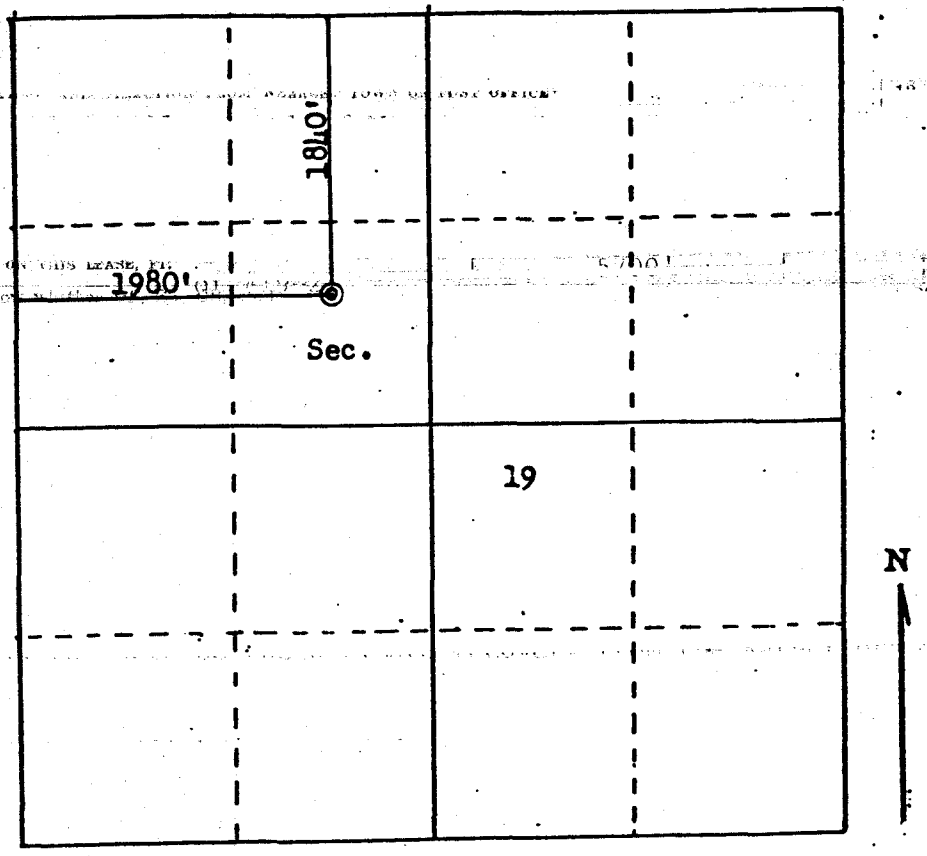
COMPANY PHILLIPS OIL COMPANY

LEASE RATHERFORD UNIT WELL NO. 19-22

SEC. 19, T. 41S R. 24E
San Juan County, Utah

LOCATION 1840'FNL 1980'FWL

ELEVATION 4738 ungraded ground



SCALE—4 INCHES EQUALS 1 MILE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTE OF ACTUAL SURVEYS MADE BY ME UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

SEAL:

Registered Land Surveyor.
#3950
FRED S. KERR, JR.

SURVEYED May 14, 19 84

FARMINGTON, N. M.

RATHERFORD UNIT #19-22

Supplement to Form 9-331C "Application for permit to Drill, Deepen, or Plug Back."

DRILLING PROGRAM

1. Surface formation is the Dune Sand, which consists of loose windblown sand, age-recent.

   Estimated tops of geologic markers:

Chinle	1460'
Shinarump	2295'
DeChelly	2585'
Hermosa	4480'
Desert Creek Zone I	5480'

2. Brackish water-bearing sands are expected in the Navajo, Wingate, and DeChelly formations. Oil is expected to be encountered in the Ismay and Desert Creek formations. The top of cement will be approximately at 2000'.

3. Blow-out preventers will be 10" Series 900 equipment to be tested initially to 3000 psi. They will be inspected and operated daily and pressure tested weekly to 1500 psi. Weekly pressure tests will be supervised by representatives of Phillips Oil Company and the drilling contractor. Tests will be recorded on the daily drilling report which will remain on the rig floor during drilling operations. BOP tests will be conducted in accordance with Phillips standards, copy attached.

4. a. Proposed Casing Program:

   1. Conductor casing:

100'	13-3/8"	48#/ft	H-40	ST&C	new

   2. Surface casing:

1600'	9-5/8"	36#/ft	K-55	ST&C	new

      Surface casing will be tested to 1500# before drilling out.

   3. Production casing:

5700'	7"	23# & 26#/ft	K-55	ST&C	new

      Production casing will be tested to 3000#.

b. Proposed Cementing Program:

1. Conductor Casing:

Conductor casing will be cemented with 150 sks Class B cement. Cement will be brought to surface.

2. Surface Casing:

Surface casing will be cemented with 400 sks "light" cement followed with 400 sks Class B cement. Cement will be brought to surface.

3. Production casing:

Production casing will be cemented with "light" cement followed with Class B cement. For cement volume, caliper will be used with 15% excess. The top of the cement should be around 2000'. If other zones with hydrocarbon potential are encountered, they will be covered with cement.

c. Auxiliary Equipment:

Auxiliary equipment will include upper and lower kelly cocks, a drill string safety valve, and a pit level indicator.

5. Drilling Fluid:

Drilling fluid will be a fresh water based mud system. Spud mud is gel and water with a weight of 8.4-8.8 ppg. From the surface to approximately 1600', gel and water will be used. Mud weight may be up to 9 ppg to control water flow from the Wingate formation. A slurry of 8.6-9.5 ppg, 32-38 viscosity, and less than 15cc/30 min. water loss will be used from 1600'-5200'. Mud weight may be increased to 10.4 ppg if a water flow is encountered. From 5200' to total depth mud properties will be 10.5-12.5 ppg, 40-45 viscosity, and below 10 cc water loss.

Adequate quantities of mud materials will be stored at the location to equal the volume of the rigs complete circulating system. A flow sensor will be used.

6. Testing, logging, and coring:

The logging program will consist of DILL from T.D. to the surface casing, and a FDC/CNL with G.R. and caliper from T.D. to 4300'. The caliper will be pulled to surface casing. A temperature or cement bond log will be run to determine cement top. No coring or drill stem tests are planned.

7. Downhole Conditions:

Drilling in the area indicates no abnormal pressures, temperatures, or hydrogen sulfide gas.

8. Phillips anticipates starting operations as soon as BLM approval is received. Drilling operations are estimated to take fifteen days per well.

CULTURAL RESOURCE REPORT

San Juan College has prepared a cultural resource inventory of the subject wellsite. A copy of the report has been sent to the BLM Farmington office. Pertinent information regarding the subject well is attached.

SURFACE USE PROGRAM

1. Existing Roads

   a. Access to existing lease roads is approximately 4 miles south of Montezuma Creek, Utah.

   b. The existing roads will be maintained in the same or better condition.

   c. Refer to the attached access road map for road information.

2. Access Roads

   Planned access roads are shown on the attached map.

3. Location of Existing Wells.

   Locations of existing wells are shown on the attached maps.

4. Production from the proposed well will be piped to Ratherford Unit Tank Battery #1, located in the SW SW Sec. 16-T41S-R24E San Juan County, Utah. The flowline will be visible from the existing lease roads. A plat of the proposed leadline is attached.

5. Water Supply

   a. The source of water to drill the subject well is from the River Booster, NE/4 Sec. 5., or from the Water Injection Plant, SE/4 Sec. 17 in T41S-R24E, San Juan County, Utah.

   b. The drilling water will be trucked from the water source to the subject well.

   c. A water supply well will not be drilled on the lease.

6. Construction Materials

   a. Only native soils will be used for construction of wellsite and the access road.

b. Pit run rock will be used on the wellsite and access road when needed.

c. The above materials are owned by the Navajo Tribe.

7. Waste Disposal

a. Cuttings: Cuttings will be contained in a fenced unlined reserve pit until dry enough to cover. Upon abandonment, the reserve pit area will be backfilled, shaped to natural topography, and seeded.

b. Drilling Fluid: Drilling fluid will be contained in a fenced unlined reserve pit until dry enough to cover. Upon abandonment, the reserve pit area will be backfilled, shaped to natural topography, and seeded.

c. Garbage/Trash: All garbage and trash will be put in the burn pit. The burn pit will be fenced on four sides. After the burn pit is no longer in use, the trash and garbage will be covered with a minium of 4 feet of fill.

d. Salt: No salts are anticipated on this well. If salt is present, it will be disposed of in the reserve pit.

e. Chemicals: Chemicals will be disposed of in the reserve pit.

f. Sewage: Dry chemical toilets will be used.

8. Ancillary Facilities

No ancillary facilities are required.

9. Well Site Layout.

a. Refer to attached Rig Layout plat

b. There are no plans to line the reserve pit unless porous soil materials are encountered during construction.

10. Surface Reclamation Plans

a. Construction Program: The top 10 inches of topsoil will be removed and stockpiled. A cross section of the drill site showing cuts and fills is attached.

b. Well Abandonment: All disturbed areas will be shaped to the natural topography. The topsoil will be distributed evenly over the area and seeded in accordance with BLM requirements.

c. Producing Well: Those areas not needed for production purposes will be recontoured to the surrounding topography. The topsoil will be distributed evenly over those areas not needed for production. Seeding will be in accordance with BLM requirements.

d. Pipelines and flowlines: Flowlines will be above ground and follow existing roads.

e. Rehabilitation will begin as soon as possible, considering weather and other factors, and proceed per recommendation of the BLM. The reserve pit will be reclaimed once it dries.

11. Surface Ownership: The wellsite location, access road and leadline are on the Navajo Indian Reservation. No dwellings are in the proposed drilling area.

12. Other information:

The reserve pit will be fenced on three sides during drilling and on the fourth side after the rig is moved out.

13. Operator's Representative and Certification.

a. Field Representative:

A. E. Stuart
P. O. Box 2920
Casper, Wyoming 82602
307-237-3791

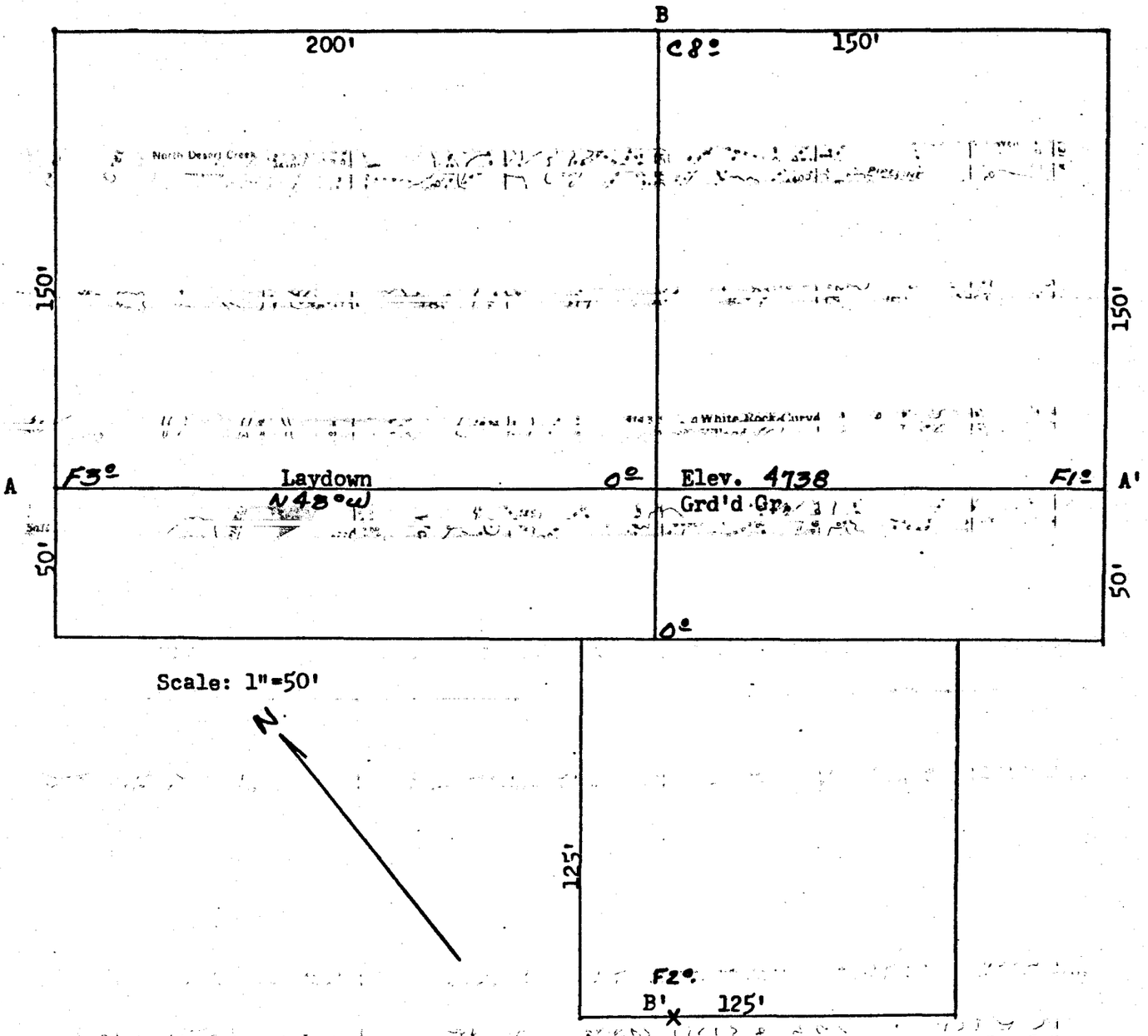
I hereby certify that I or persons under my direct supervision have inspected the proposed drill site and access route; and I am familiar with the conditions which currently exist; that the statements made in this plan are to the best of my knowledge true and correct; and that the work associated with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

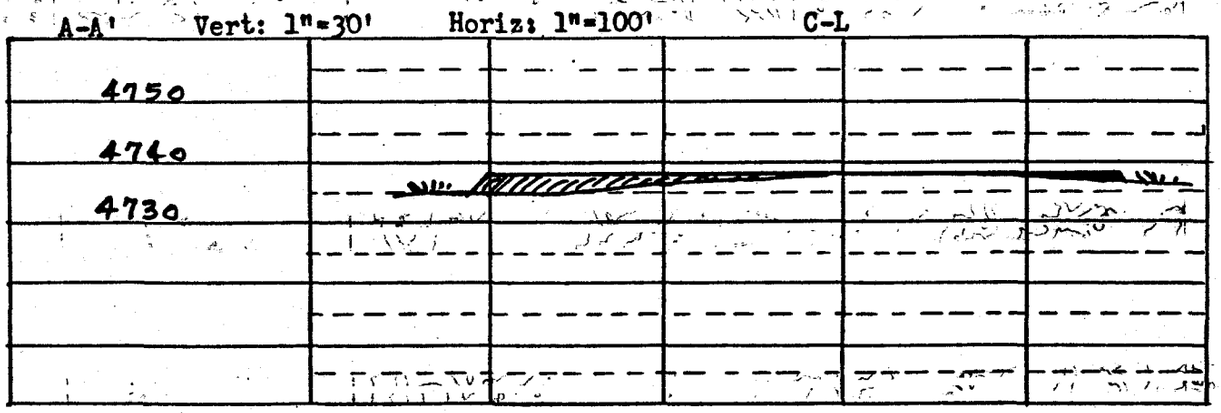
Date July 18, 1984

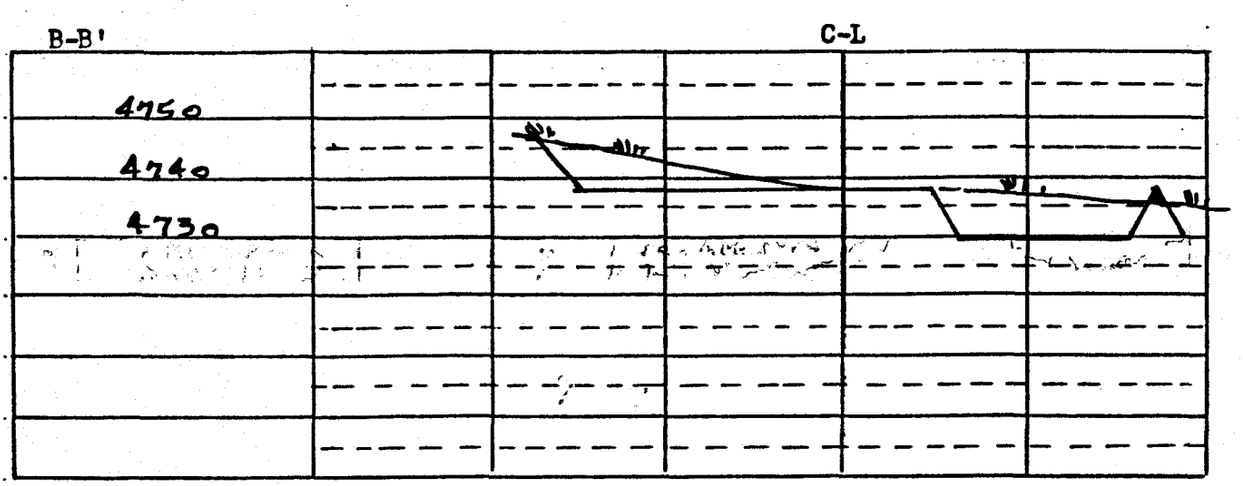
A. E. Stuart
Area Manager

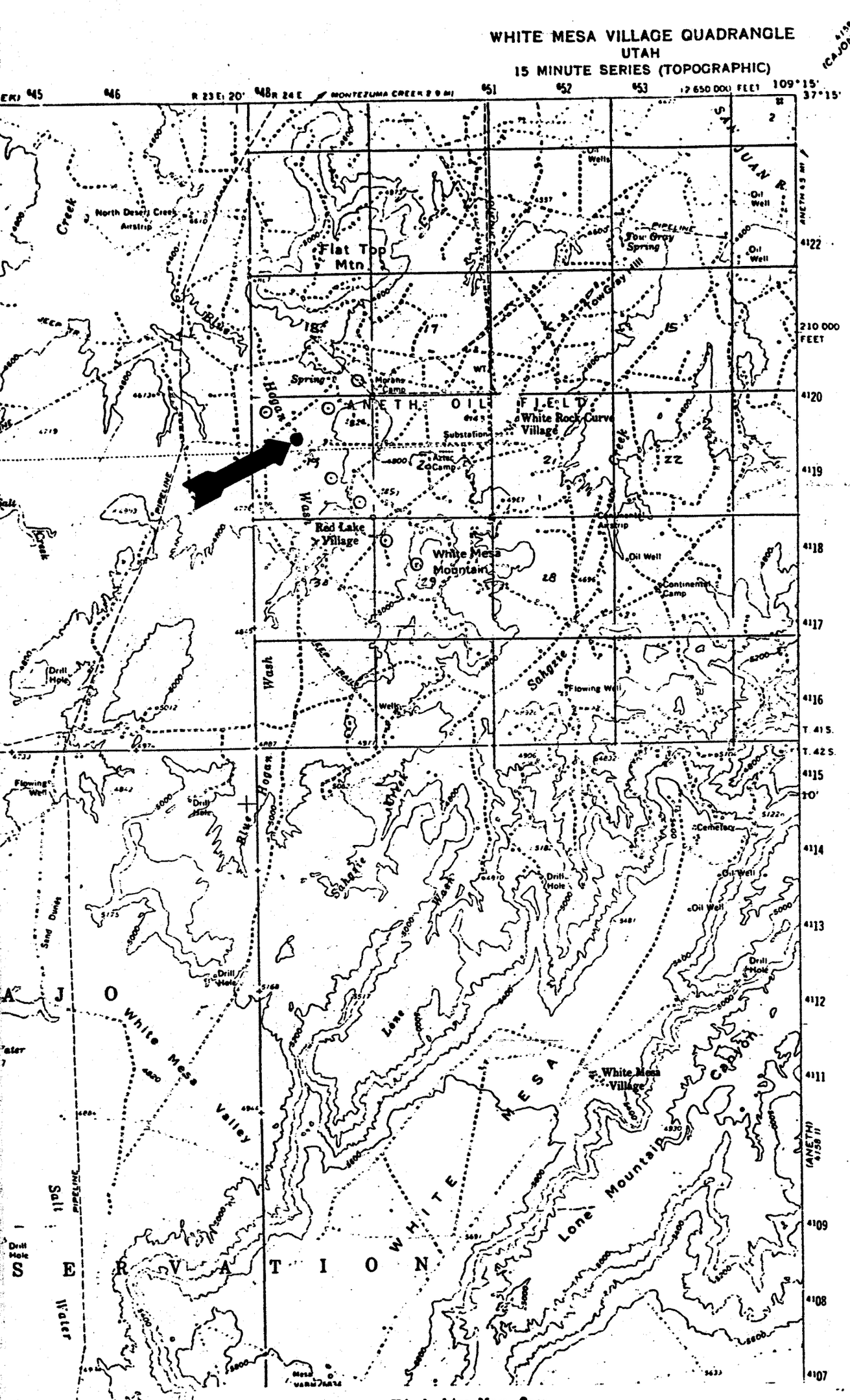
RJM/fb (18)
Casper RC

Profile for
PHILLIPS OIL COMPANY #19-22 RATHERFORD UNIT
1840'FNL 1980'FWL Sec. 19-T41S-R24E
SAN JUAN COUNTY, UTAH







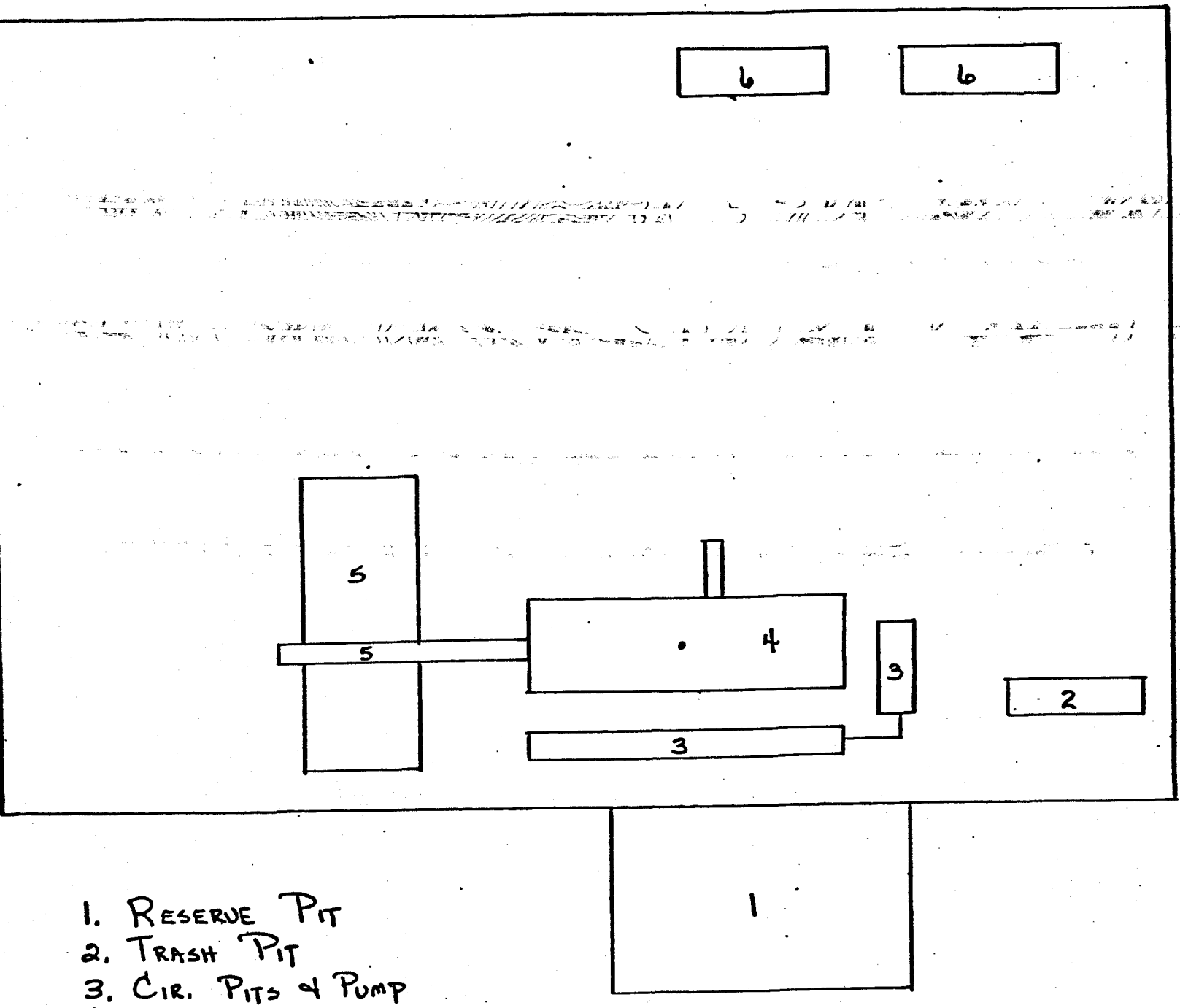


Vicinity Map for
PHILLIPS OIL COMPANY #19-22 RATHERFORD UNIT
1840'FNL 1980'FWL Sec. 19-T41S-R24E
SAN JUAN COUNTY, UTAH

NA

RATHERFORD UNIT # 19-22

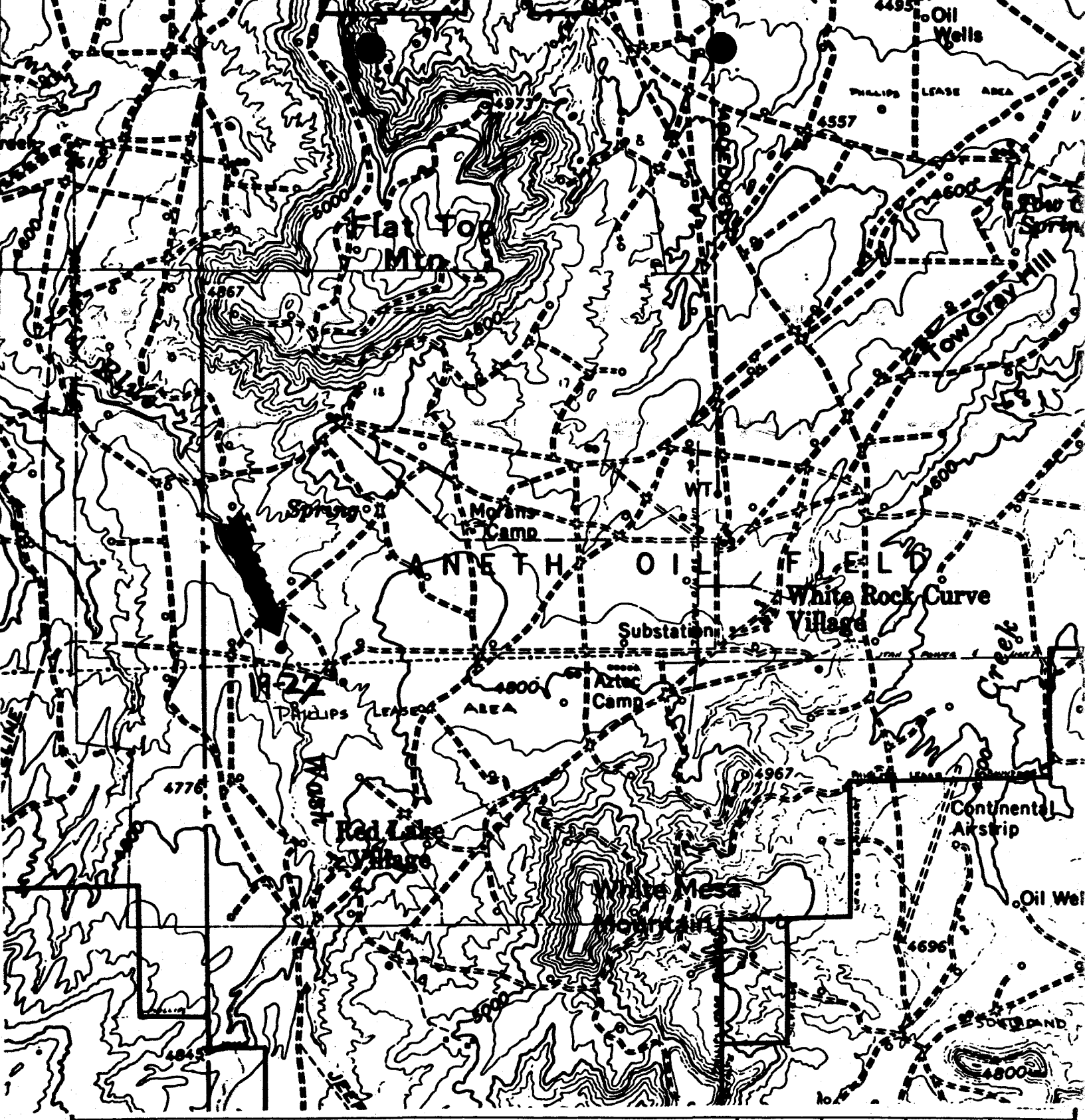
SE NW SEC. 19 T41S-R24E



1. RESERVE PIT
2. TRASH PIT
3. CIR. PITS & PUMP
4. RIG
5. CAT WALK & PIPE RACKS
6. TRAILERS

DRILLING RIG LAYOUT

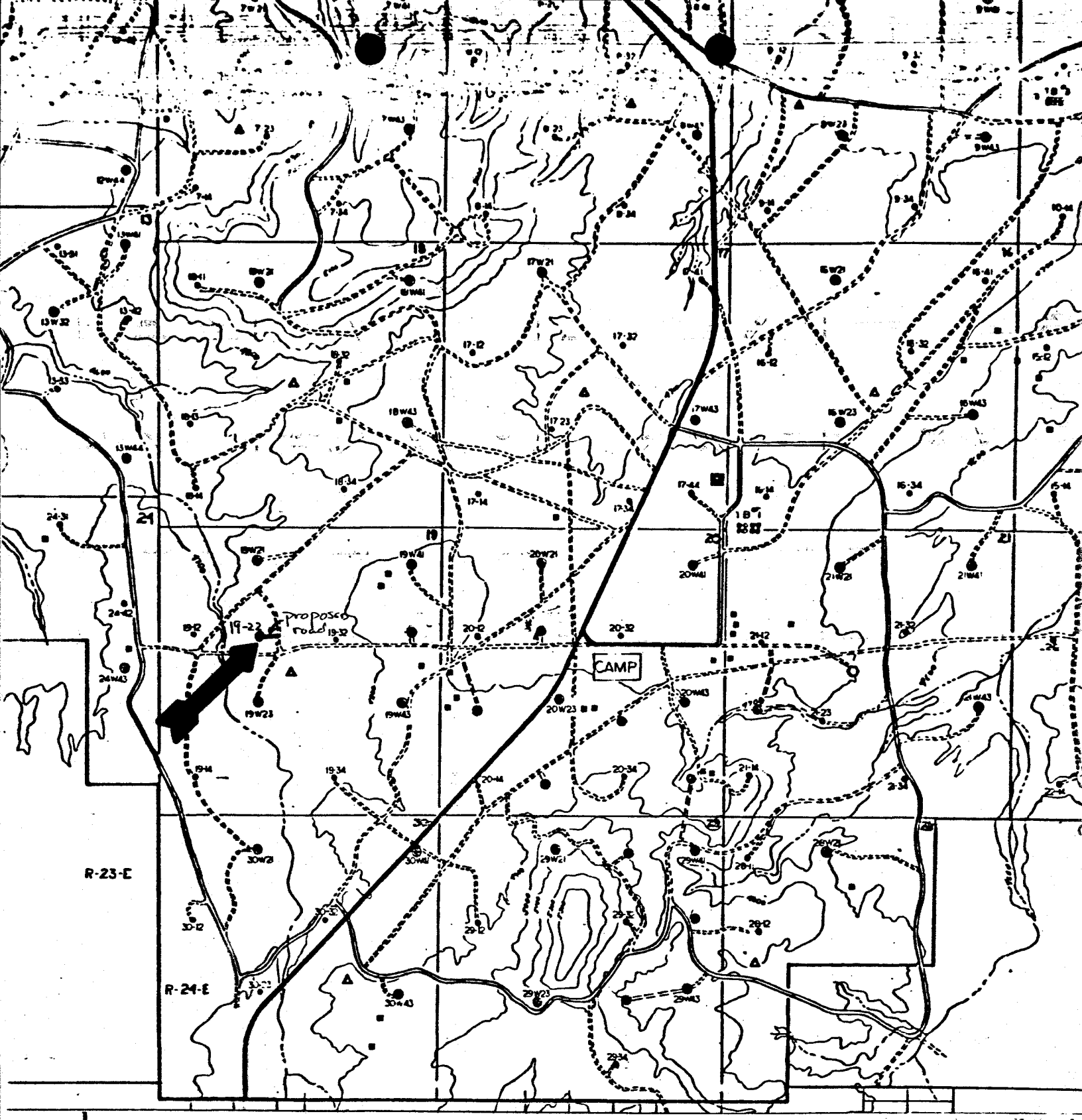
OUTLINE OF LOCATION APPROXIMATELY 325' x 350'
NOT TO SCALE.



NO.	REVISION	BY	DATE	CHKD	APP'D

FOR BIDS	PHILLIPS PETROLEUM COMPANY	JA NO.	FILE CODE
FOR APPR	BARTLESVILLE, OKLAHOMA	AFE NO.	SCALE 2.2" = 1 Mile
FOR CONST	RATHERFORD UNIT WELL 19-22 PROPOSED SE NW SEC 19 T41S-R24E SAN JUAN CO., UTAH	DWG NO.	
DRAWN 3-13-84 BJM		SH NO.	
CHECKED			
APP'D			

FORM 1779-S 8-81



NO.	REVISION	BY	DATE	CHKD	APP'D

FOR BIDS
FOR APPR
FOR CONST.

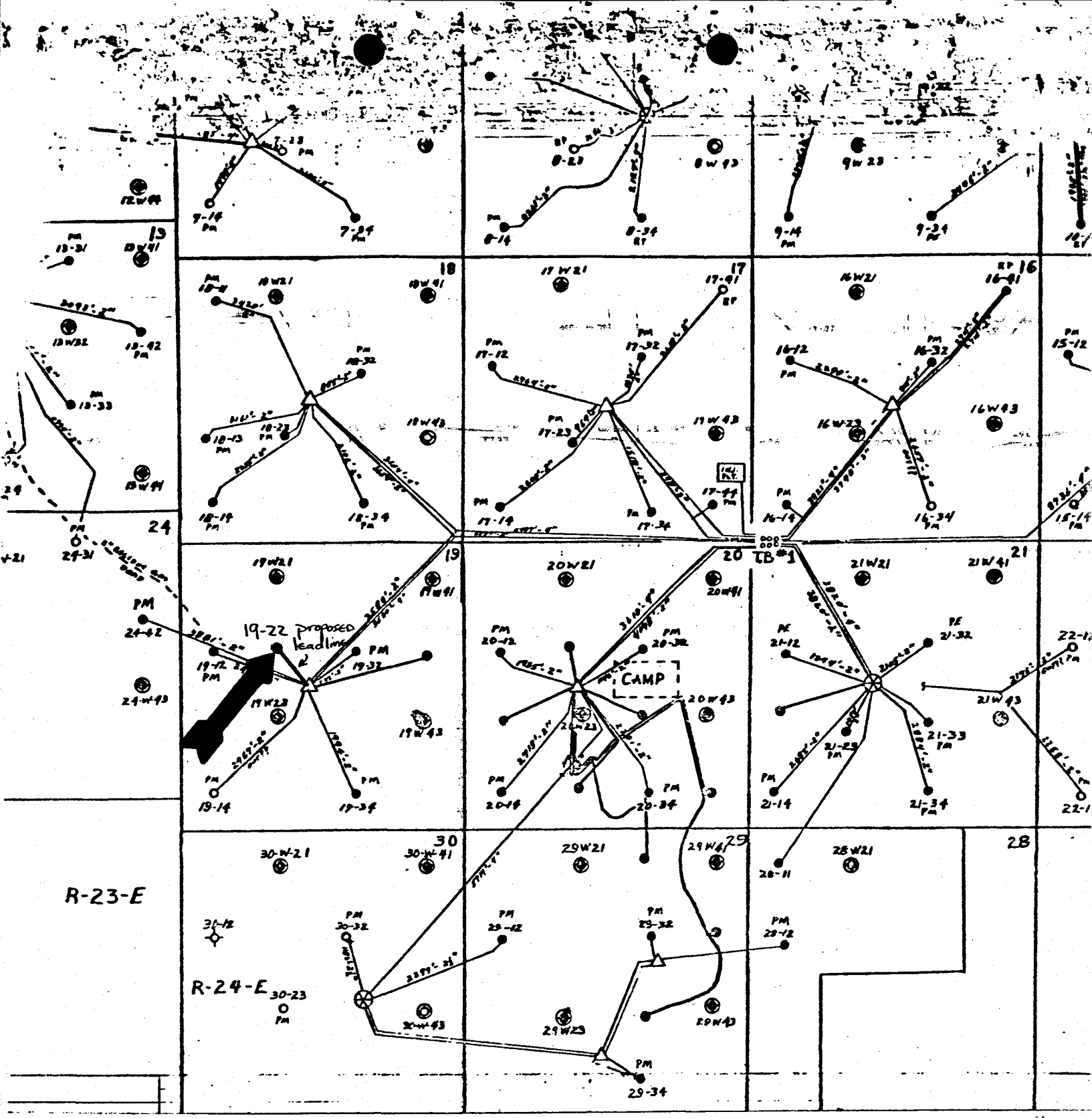
DRAWN 3-13-84 BJM
CHECKED
APP'D

PHILLIPS PETROLEUM COMPANY
BARTLESVILLE, OKLAHOMA

RATHERFORD UNIT WELL 19-22
PROPOSED ROAD PLAT
SE NW SEC 19 T41S-R24E
SAN JUAN CO., UTAH

JA NO.
FILE CODE
AFE NO.
SCALE 2.2" = 1 MILE
DWG NO.
SH NO.

FORM 1779-S 8-81



NO.	REVISION	BY	DATE	CHKD	APP'D

FOR BIDS
FOR APPR
FOR CONST

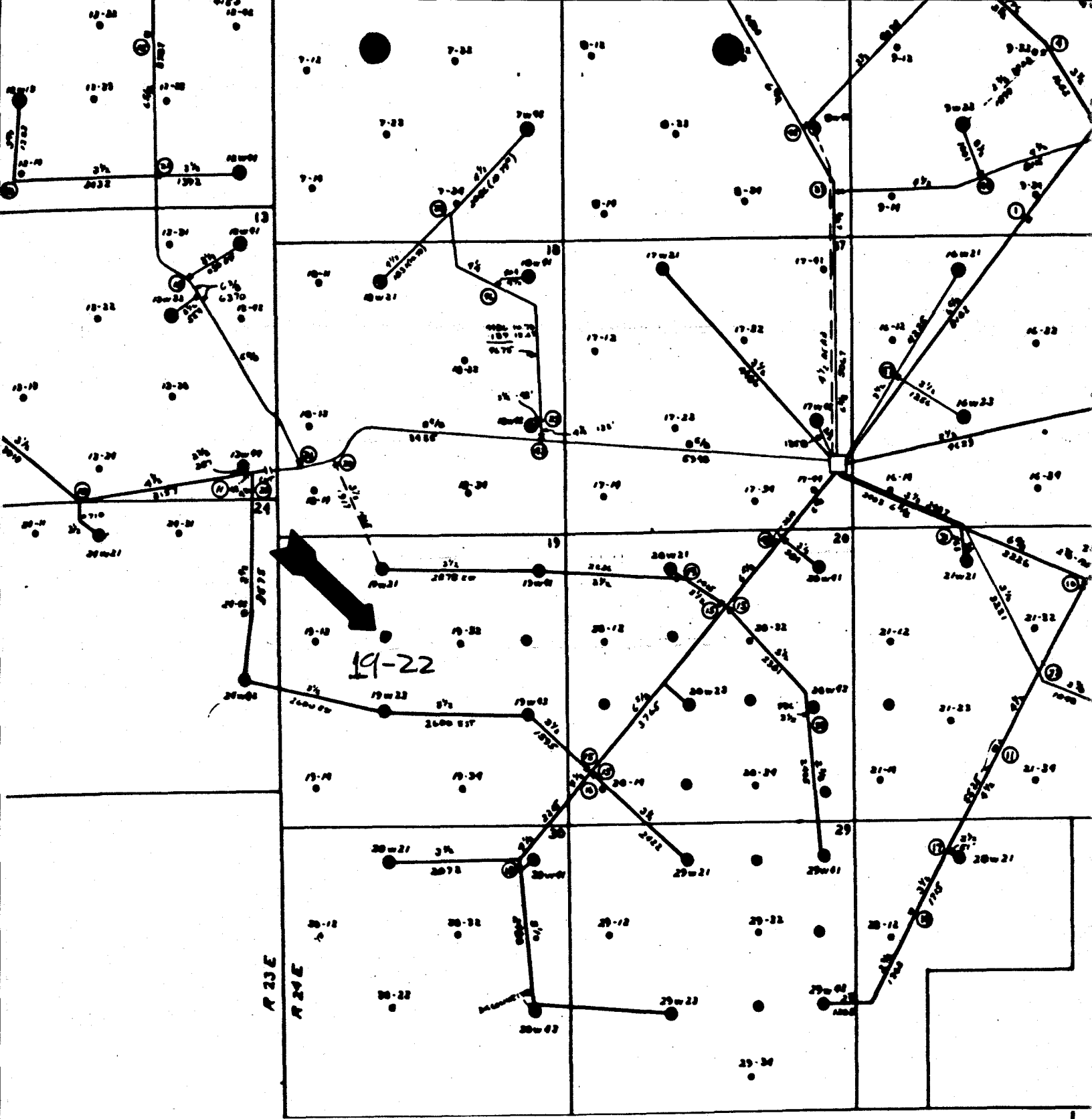
DRAWN 3-13-84 BJM
CHECKED
APP'D

PHILLIPS PETROLEUM COMPANY
BARTLESVILLE, OKLAHOMA

RATHERFORD UNIT WELL 19-22
PROPOSED LEADLINE PLAT
SE NW SEC 19 T41S-R24E
SAN JUAN CO., UTAH

JA NO.
FILE CODE
AFE NO.
SCALE 2" = 1 mile
DWG NO.
SH NO.

FORM 1779-S 8-81



NO.	REVISION	BY	DATE	CHKD	APP'D

FOR BIDS
FOR APPR
FOR CONST

DRAWN 7-6-84 BJM
CHECKED
APP'D

PHILLIPS PETROLEUM COMPANY
BARTLESVILLE, OKLAHOMA

RATHERFORD UNIT WELL 19-22
INJECTION LINES
SE NW SEC. 19 T41S-R24E
SAN JUAN CO., UTAH

JA NO. | FILE CODE
AFE NO. | SCALE 2.2" = 1 mi
DWG NO.
SH NO.

FORM 1779-S 8-81

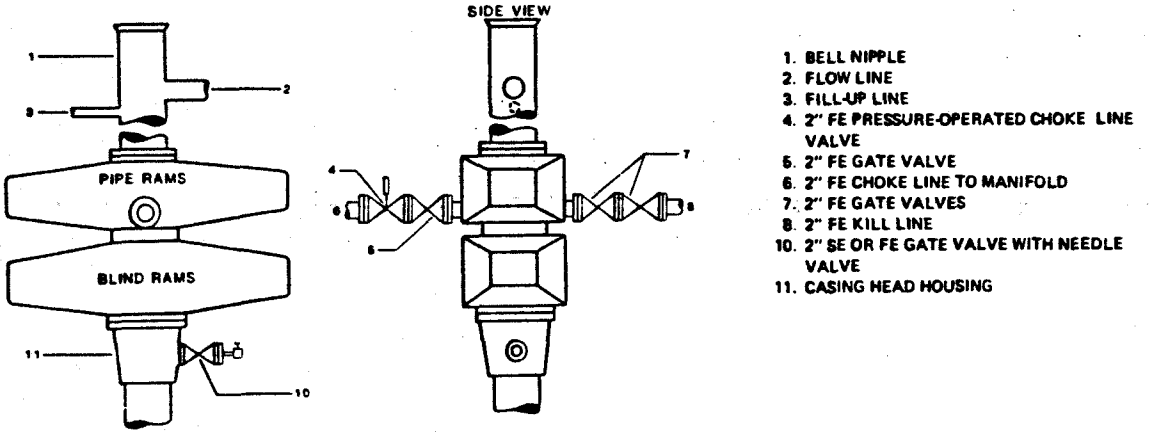


Figure 7-10. Standard Hydraulic Blowout Preventer Assembly (2 M or 3 M Working Pressure) Alternative 3 (without Drilling Spool)

7.6 Testing Surface Blowout Preventer Equipment

7.6.1 Pressure Test Frequency

All rams, annulars, valves, choke and kill lines, choke manifold, kelly cocks, and safety valves shall be pressure tested at the following frequencies:

(1) Initial installation of blowout preventers.

(2) After setting casing, before drilling cement.

(3) Every 7 days or on first trip out of hole after 7 days since previous pressure test.

(4) After any component of the blowout preventer assembly is disturbed, replaced or repaired (this includes lines, valves, or choke manifold). In this case, the component changed may be the only component tested.

(5) Prior to conducting first drill stem test in a series of one or more DST's.

(6) Any time the Phillips Wellsite Supervisor deems necessary, such as prior to drilling into suspected high pressure zones.

7.6.2 Function Test Frequency

All rams, annulars, valves, and other items specified below, shall be function tested at the following frequencies.

(1) On initial installation from driller control and remote panel.

(2) Each trip out of hole alternating between driller's and remote control panel but not more than once every twenty-four (24) hours. Close pipe rams or annular preventer ONLY on drill pipe.

7.6.3 Test Pressures

Use the following table to identify which test is appropriate and at what pressure.

TEST	DESCRIPTION
Low Pressure	Test to 200-300 psi prior to each high pressure test.
Initial Installation	Test all rams, annulars, valves, choke manifold, kelly cocks, and safety valves to the lesser of the following pressures. . Rated working pressure of the component in the blowout preventer assembly with the exception of annular preventer which is to be tested to 70% of the rated working pressure. . The API rated casing burst pressure of the last casing to be utilized in the well with the BOP assembly being tested. . Rated working pressure of the casing head. . If "Cup Tester" is used do not exceed 80% of the API rated burst pressure of the casing.
Repair	Repaired or replaced components are to be tested to the same pressures used in the Initial Test.

7.6.3, cont'd

TEST	DESCRIPTION
Weekly and After Setting Casing	Test all rams, annulars, valves, choke and kill lines, choke manifold, kelly cocks, and safety valves, to the lesser of the following pressures. . 50% of the rated working pressure of the component to be tested. . 80% of the API rating of the casing burst pressure then in the well. . Test blind rams during internal casing pressure test. (Refer to drilling program for test pressures).
DST Operations	Test all pipe rams, annular preventers, valves, choke and kill lines, choke manifold, kelly cocks, and safety valves to the maximum anticipated surface pressure expected while conducting drill stem tests. Do not test annular to more than 70% of its working pressure.
Shallow Casing	Where cased hole is less than 2000 feet measured depth, the test pressure may be 1.5 psi per foot of casing depth, not to exceed 80% of the API rated burst pressure. In the case of shallow conductor casing or drive pipe (500 feet or less) that is equipped with one BOP, then the test pressures do not need to exceed 1.0 psi per foot of casing depth.
Accumulator	Test accumulator to the manufacturer's rated working pressure. Test the accumulator for time to pump up to specifications.

7.6.4 Blowout Preventer Test Practices

(1) All pressure tests shall be witnessed by Phillips' Representative and the Contractor's Senior Supervisor on Location. All tests shall be recorded on the Phillips' Daily Drilling Report, the IADC Report and the BOP Test Form; see Figure 7-13. A reproducible copy of the BOP Test Form (Figure 7-13) can be found in Section III.

7.6.4, cont'd

(2) Hold all low pressure tests for three minutes and high pressure tests for five minutes or until Phillips Representative and the Contractor's Senior Supervisor are satisfied no leaks exist.

(3) A detail procedure for the testing of blowout preventer and choke manifold equipment will be included in the drilling programs. The procedure is to be distributed for each drilling unit under contract by the operating office. Each operating office must include the following practices:

a. Prior to testing, all lines and valves will be thoroughly flushed to ensure the system is clear. Test all opening and closing control lines to 1500 psi and inspect for leaks.

b. If necessary, run a stand of drill collars below the test plug to prevent unseating the test tool during testing.

c. All precautions must be taken to avoid pressuring the casing below the test tool.

d. The running string is to be full of water (or antifreeze solution) for immediate indication of test tool leakage.

e. All pipe rams, blind/shear rams, blind rams, annular preventers, valves, fail-safe valves, choke and kill lines are to be tested at the frequencies and pressures outlined in this section.

f. Drill pipe safety valve, lower and upper kelly cocks are to be tested from below at pressures and frequencies outlined in this section.

g. All test fluids are to be bled back to the pump unit in safe manner.

7.6.5 Testing Wellhead Pack-offs

The wellhead pack-off is to be pressure tested upon installation for five minutes. Test pressure is to be 80% API rated casing collapse or the rated working pressure of the casing head whichever is the lesser. Casing annulus valve(s) must be in open position to prevent casing collapse during pack-off testing.

When testing the wellhead pack-off, use recorded test pressures and volumes to determine if pack-off is leaking. Pressure should be immediately released at the first indication of a leak.

7.6.6 Safety Precautions

One pumping unit operator is to be stationed at the high pressure pumping unit, and is to remain at this station until all testing has been completed. The pump unit operator is to be in continuous communication with the person who is recording the test data. The Phillips Wellsite Supervisor and Contractor's Senior Supervisor on location will be the only personnel who will go into the test area to inspect for leaks when the equipment involved is under pressure. The rig crews are to stay clear of the area until such time that both the Phillips Wellsite Supervisor and the Contractor's Senior Supervisor have contacted the pumping unit operator and all three have agreed that all pressure has been released, and there is no possibility of pressure being trapped. The rig crews may then go into the area to repair leaks or work as directed.

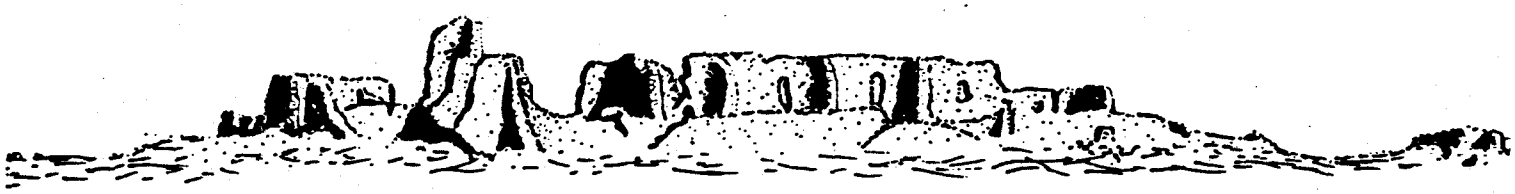
All lines, swings, and connections that are used in the testing of the blowout preventers are to be adequately secured in place.

Pressure is to be released only through the pressure release lines that are vented back into the pump unit tanks. The lines are to be clamped down to direct the flow into unit tanks.

Cultural Resources Management Program

San Juan College

Archaeological Surveys of
Thirteen Proposed Well Locations and
Associated Flow Lines and Access Routes
in San Juan County, Utah,
Conducted for Phillips Petroleum



Report 84-SJC-071A

Federal Antiquities Permit 83-AZ/NM/UT-047 and
Navajo Nation Antiquities Permit #1984-4

June 6, 1984

Ratherford Unit:

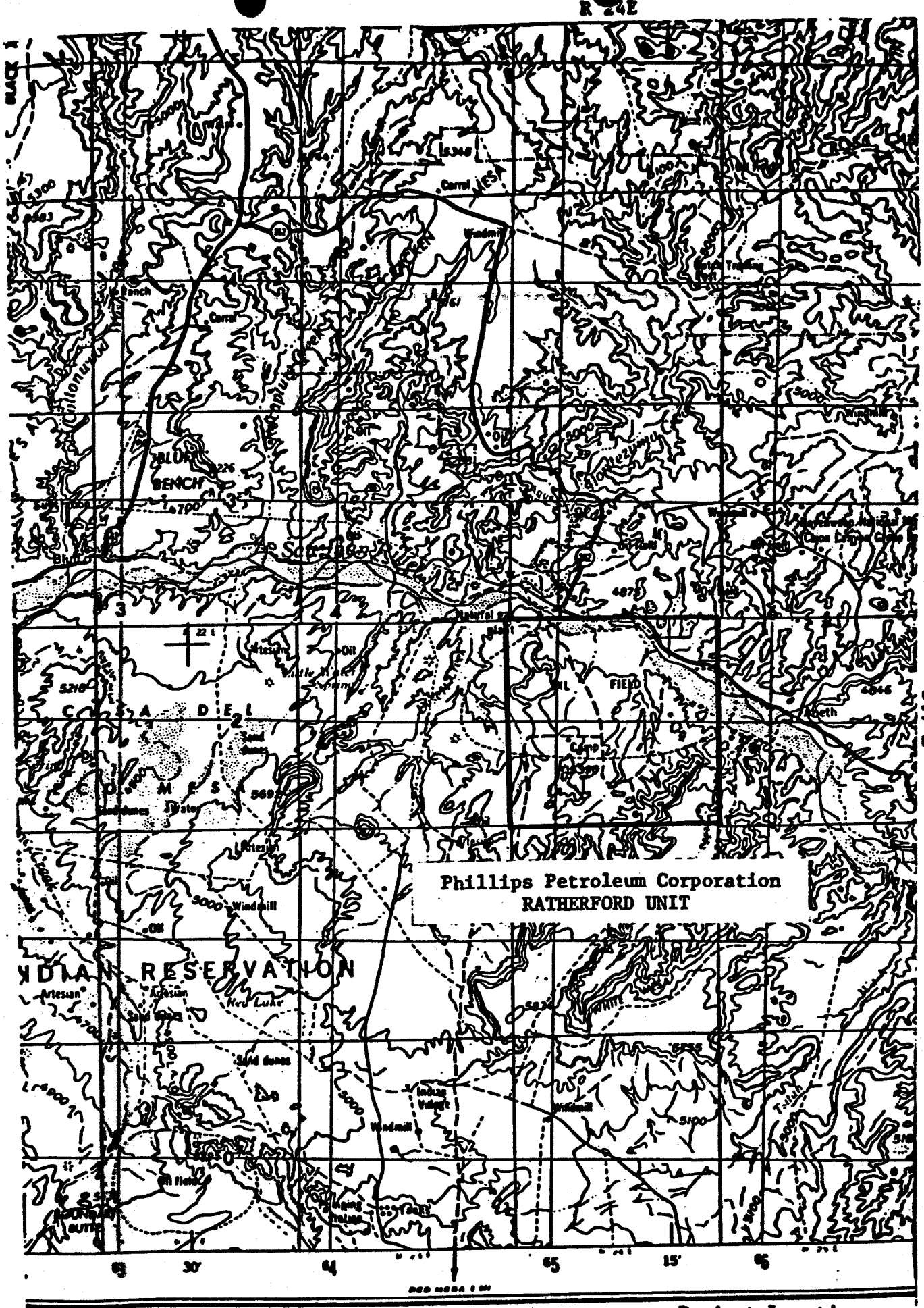
17-13
17-24
18-44
19-22
19-31
19-33

Satellite Gathering Expansion

20-11
20-31
20-42
21-11
21-24
29-11
29-22

A Cultural Resources Inventory Prepared by Kristin Langenfeld and L. Jean Hooton, Archaeologists, Under the Supervision of Dr. Richard P. Watson, Director, Cultural Resources Management Program, San Juan College, Farmington, New Mexico

FRONTISPIECE



Report 84-SJC-071A

ABSTRACT

On May 21, 22 and 23, 1984 a Class III Archaeological Survey was conducted south of Montezuma Creek, San Juan County, Utah, on lands to be used for nineteen proposed well locations, associated flow lines and access routes and one satellite station expansion. A total of eight archaeological sites and eleven isolated occurrences were located during the inspections. This report details the results of archaeological surveys on thirteen of the proposed locations, access and flow line routes and the satellite station expansion. Approximately 36 hectares (90 acres) in Sections 17, 18, 19, 20, 21 and 29, T. 41 S., R. 24 E. were inspected for cultural resources in conjunction with the project areas described in this report. A total of six isolated occurrences were located. These isolates do not appear to represent surface indications of subsurface cultural deposits and archaeological clearance is recommended for the project areas described in this report. The remaining six proposed locations, access routes and flow lines and associated cultural resources will be detailed in a report to be sent under separate cover.

The work was conducted by the:

Cultural Resources Management Program
San Juan College
4601 College Blvd.
Farmington, NM 87401-4699
Phone: 505/326-3311, Extension 344

The work was conducted under:

Federal Antiquities Permit 83-AZ/NM/UT-047 and
Navajo Nation Antiquities Permit #1984-4

The work was conducted for:

Phillips Petroleum Company

TABLE OF CONTENTS

LIST OF FIGURES

INTRODUCTION

On May 21, 22 and 23, 1984 Kristin Langenfeld and L. Jean Hooton, from the Cultural Resources Management Program, San Juan College, conducted a Class III Archaeological Survey for Phillips Petroleum Company. The survey was conducted under Federal Antiquities Permit 83-AZ/NM/UT-047 and Navajo Nation Antiquities Permit #1984-4 on lands owned by the Navajo Nation. Mr. Max Isaacs, of Phillips Petroleum, accompanied the archaeologists during the inspection.

Nature of Proposed Land Modifications:

Land modifications proposed by Phillips Petroleum for the Ratherford Unit include the construction of well locations and, in some cases, access routes. These activities will constitute the major mechanical disturbances in the area. In addition, aboveground flow lines connecting each well with a local gathering station will be laid. These lines usually parallel either existing or proposed roads and will be laid from the road. Mechanical disturbance connected with flow lines will be minimal. Access routes, where required, will either follow existing two-tracks or run cross-country. In a few cases existing, bladed roads will be modified to accommodate drill rigs. Well locations will be 350' x 350' (107 m. x 107 m.) including pits. Access routes will be 30' (10 m.) in width and flow lines will require a 10-foot-wide (3-meter) corridor. Combined flow lines and access routes will require a 40-foot (12-meter) right-of-way.

Methodology:

A series of parallel transects spaced 10 meters to 15 meters apart was used to survey a 450-foot x 450-foot (137-meter x 137-meter) area for each well location. This includes a buffer zone of 50 feet (15 meters) around the perimeter of the project area.

Zigzag transects were used to survey 25-foot-wide (7.6-meter) flow line corridors. This includes a buffer zone of 7.5 feet (2.3 meters) on each side of the right-of-way. Zigzag transects were used to survey 75-foot-wide (23-meter) access or combined access and flow line routes. This includes a buffer zone of between 17.5 feet (5 meters) and 23 feet (7 meters) on each side of the right-of-way.

During the inspection the presence of recent trash, recent features and existing disturbances within individual project areas were noted. Isolates were mapped relative to a known point using a Brunton compass and pacing. Locations of isolates were plotted on maps provided by Phillips Petroleum. When isolates were encountered, an area with a radius of at least 25 feet (8 meters) around the isolate was closely inspected for features and additional artifacts.

In report preparation UTM Coordinates were plotted from the USGS White Mesa Village, Utah, 15-Minute Quadrangle (Figure 2). Legal descriptions were made using maps enlarged from the 15-Minute Quadrangle (Figures 4-9). The project area is on unplatted land, therefore, some discrepancies occur between the two map scales.

PHYSIOGRAPHY AND ENVIRONMENT

The project locations are confined to an area 3.2 kilometers by 4 kilometers (2 miles by 2.5 miles) located approximately 8 kilometers (5 miles) south of Montezuma Creek, San Juan County, Utah. The area is bordered on the north by Flat Top Mesa and on the south by White Mountain Mesa. Blue Hogan Wash and Sahgzie Creek delineate the western and eastern boundaries, respectively (see Figures 1 and 2). Several zones, differing in soils, vegetation, topography, terrain and elevation, are represented within the survey area. The major characteristics of these zones are outlined below.

Zone A - Mesa Slopes:

This zone is confined to the northern slopes of White Mesa Mountain. Terrain is broken and eroded with a slope of up to 32%. Soils are poorly developed and include locally sandy, shallow soils on narrow benches and clayey soils with bentonite deposits in badland formations. Sandstone outcrops and exposed bedrock sandstone are common. Surface deposits include lag gravels and numerous sandstone spalls. Numerous arroyos dissect the slopes. Vegetation is generally sparse and includes rabbitbrush, shadscale, Russian thistle and prickly pear cactus. Ground cover ranges from 0% to 20%. Maximum elevation is approximately 1,570 meters (5,150 feet)

Zone B - Badland Formations:

This zone includes erosional remnants of both sandstone capped badland hills and somewhat more extensive low mesa shaped remnants. These formations are characterized by steep slopes frequently dissected

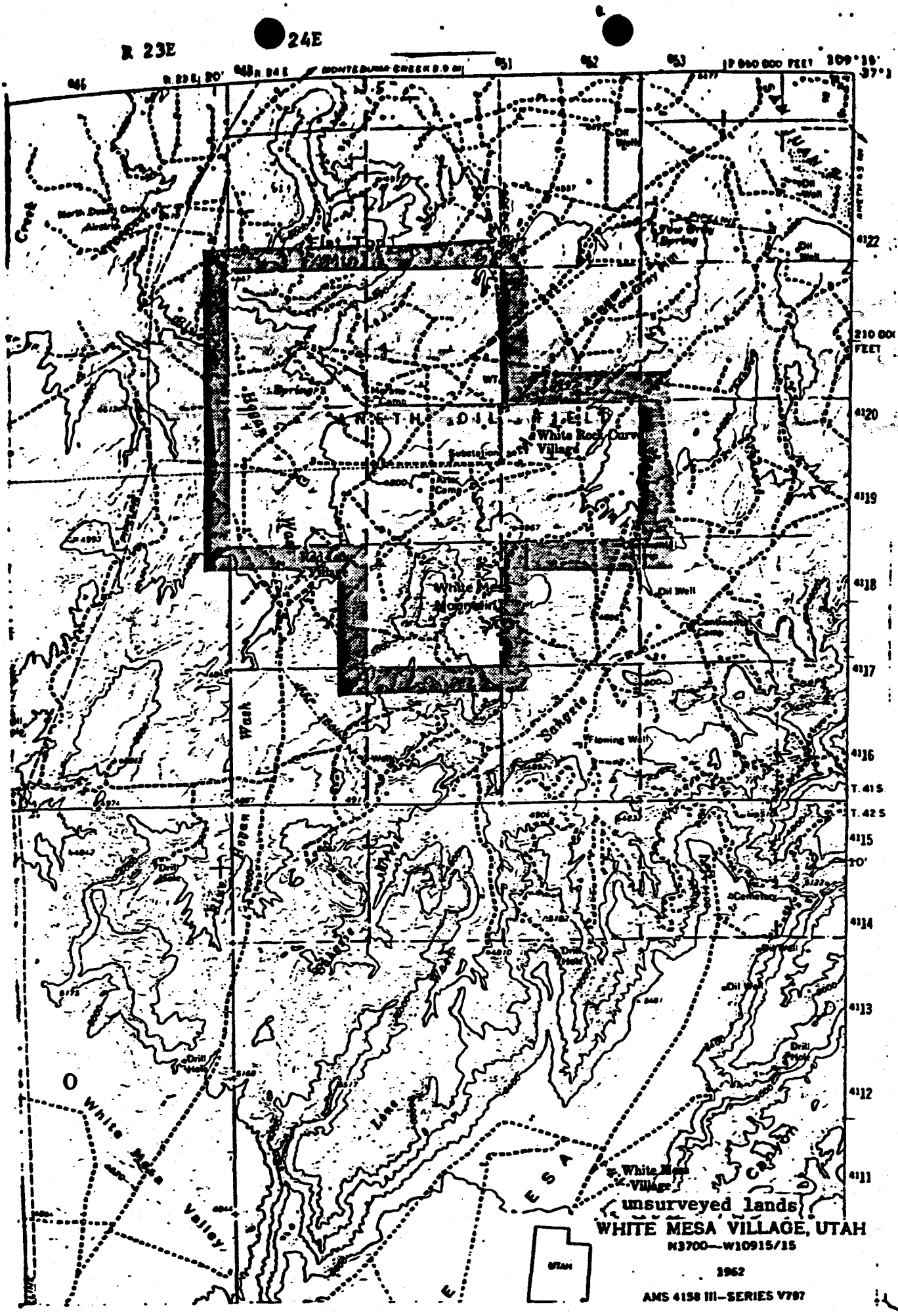


FIGURE 1

Report 84-SJC-071A

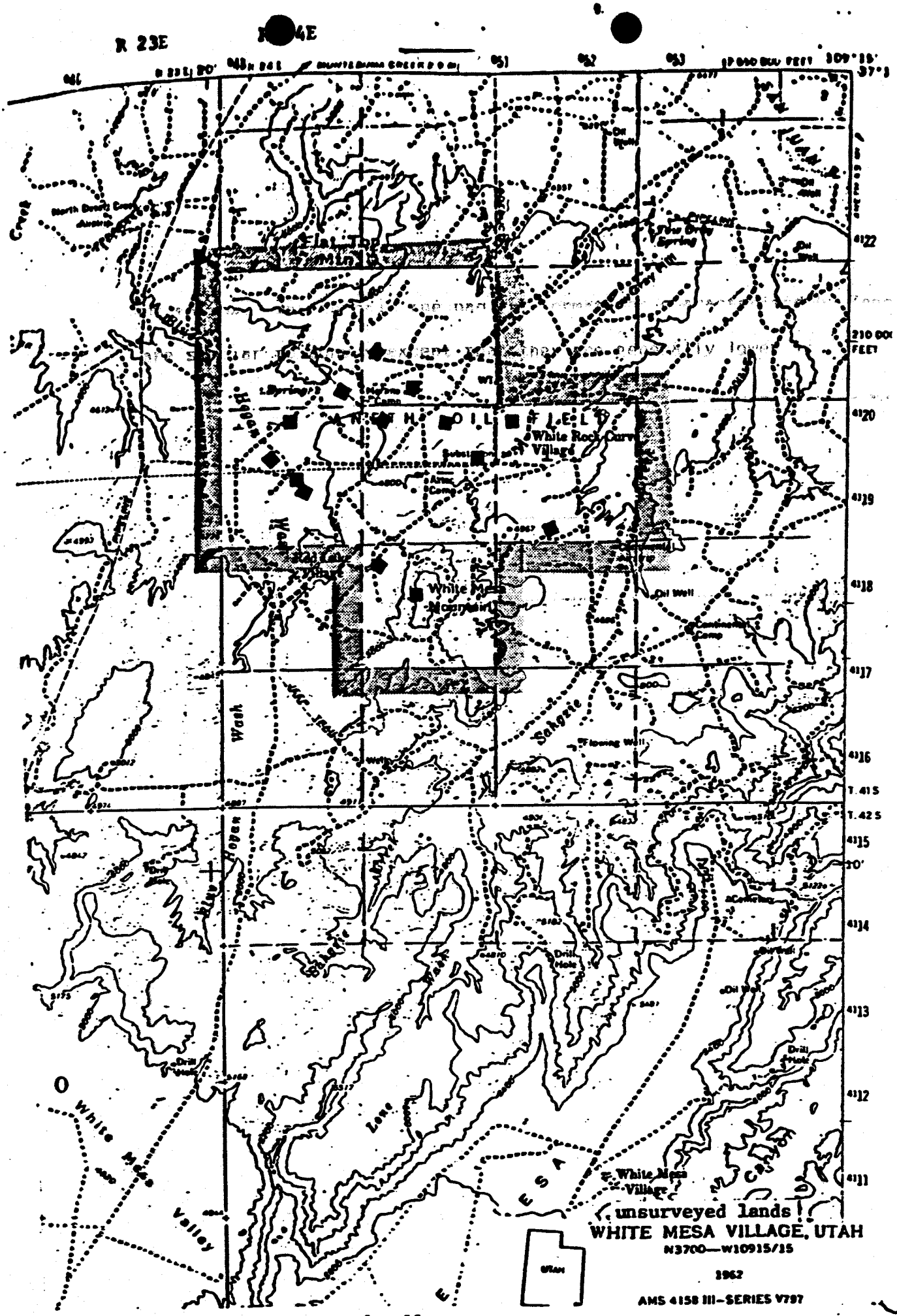


FIGURE 2
Report 84-SJC-071A

by arroyos. Soils are generally clayey, shallow and poorly developed with localized bentonitic clay deposits common. In many areas broken, platy shale is exposed. Vegetation is generally quite sparse and limited to scattered snakeweed and grasses. Ground cover ranges from 0% to 20%. In general, the badland formations characterized by Zone B are similar to Zone A except that they are generally lower in elevation, averaging 1,433 meters (4,700 feet), and contain areas with shaley outcrops.

Zone C - Stabilized and Semistabilized Dunes:

This zone characterizes the majority of the project locations. Dunes are found in a variety of topographic situations including ridges, arroyo bottoms and mesa tops and slopes. In some areas they are found on or adjacent to badland formations. Terrain ranges from level to rolling and gently rolling with blown-out areas common. In some instances the blowouts have acted as seasonal catchments, as evidenced by surface clay deposits left behind as water evaporates or filters down. Soils within the dunal deposits are sandy to very sandy loams and are generally reddish-brown in color. The deposits range from shallow, where old blowouts have exposed bedrock sandstone or shale, to quite deep. Entrenched arroyos through dunal deposits were noted to exceed 3 meters in depth in some places. Vegetation is of the desertscrub community and includes blackbrush, sagebrush, shadscale, ephedra, rabbitbrush, snakeweed, echinocereus, narrowleaf yucca, prickly pear cactus and Russian thistle. A wide variety of grasses and annuals is also represented and includes grama, galleta, ricegrass, needle & thread, ring muhly, six-weeks fescue, brome, dropseed, crested

wheat, alkali sacaton, globemallow, white asters and lupine. Not all species are represented in all areas and additional unidentified shrubs and grasses are present. Ground cover varies greatly from as little as 10% to as much as 80%. In general, elevations range between 1,425 to 1,479 meters (4,675 to 4,850 feet).

Zone D - Active Dunes:

This zone includes those dunal deposits which are unstable and shifting. Topographic context is the same as for Zone C and active dunes are frequently associated with stabilized dunes. These dunes are long and rounded. Blowouts are common and the white sand of the active dunes displays characteristic wave patterns. The depth of the deposits is variable as with the stabilized and semistabilized dunes. Vegetation is limited to sparse, scattered grasses and low shrubs. Elevations are the same as for Zone C.

Discussion of Zones:

Owing to one or more factors (including terrain, slope and lack of developed soils), neither Zone A nor Zone B is an area likely to contain cultural materials. Project areas located in these zones represent less than 15% of the total locations described in this report. With the exception of recent trash, no cultural materials were located in these zones.

The remaining 86% of the project areas are located in Zone C (13 locations), or in a combination of Zones C and D (one location). As indicated in the preceding description of the stabilized and semistabilized dunal deposits, these areas are all remarkably similar in terms of soils and terrain. They differ primarily in terms of

topographic setting, direction of slope and degree to which they have been dissected by erosion. The areas represented by Zone C are considered most likely to contain subsurface in-situ cultural materials. Over 60% of the archaeological sites (to be detailed in Report 84-SJC-071B) and the overwhelming majority of isolates were located in stabilized and semistabilized dune situations. The possibility of subsurface cultural remains with no surface indications in the deposits is acknowledged as quite real.

No project locations were located completely within the active dunes described as Zone D. Active dunes were encountered on portions of two of the project areas described in this report. Potential for cultural materials, with or without surface indications, within these deposits is also considered to be high. Both sites and isolates were located in Zone D. The major distinction between Zones C and D, in terms of cultural resources, is the likelihood that materials in Zone D are likely to be encountered only in blowouts and are much more likely to be out of context.

Water Sources:

Within the project area water sources are generally limited to seasonally running washes - the largest of which are Blue Hogan Wash and Sahgzie Creek. The San Juan River is located approximately 3.2 kilometers (2 miles) northeast of the most easterly portions of the project area. Only one permanent water source, a spring in the southern half of Section 18, is shown on USGS maps. The presence of tamarisk in the southern portion of Section 21 along an east trending feeder of Sahgzie Creek suggests the existence of either an underground

water source or seasonally accumulating water. An earthen dam of relatively recent construction (now broken) is located on Blue Hogan Wash in the NW 1/4 of Section 19 and provided a relatively large catchment area. Tamarisk is present below the dam although no water was present at the time of the survey. In addition, as noted earlier, some catchments seasonally hold small amounts of water. A windmill in the SW 1/4 of Section 24, T. 41 S., R. 23 E., just west of the project area, and a flowing well in the NW 1/4 of Section 12, T. 41 S., R. 23 E., just west of the project area, are also used by local inhabitants for watering livestock. A few isolated, seasonal springs or seeps are reported in the area, however, their locations are not known.

Fauna:

Little wildlife was seen within the project area during the archaeological inspection. Lizards were seen frequently and one cottontail rabbit was observed. Large and small rodent burrows were noted and coyote were heard during the survey of the slopes of White Mesa Mountain. According to Mr. Isaacs, hawks are also frequently seen in the vicinity of White Mesa Mountain.

Present Day Land Use:

The project area is located in the heart of the Aneth Oil Field where extensive development related to energy exploration and production over the past 20 years has occurred. Well locations dot the area and numerous roads, powerlines, above and below ground pipelines and oil field camps are a direct result of this development.

The area is also used extensively by local Navajo families. Occupied and unoccupied houses and hogans occur frequently throughout

the project area. Although no interviews were conducted with customary land users due, in part, to the fragility of relations between oil companies and local Navajos, it was noted that the area is intensively utilized for grazing activities. Moreover, both functional sweat houses and the remains of sweat houses attest to the use of the area in ritual activity. In the absence of interviews it is impossible to know whether sacred areas or graves are present within the project area. Nothing resembling grave sites was noted during the inspection of individual project locations.

RECORDS SEARCH

Prior to the initiation of fieldwork a records search was conducted using information available at the Cultural Resources Management Program, San Juan College, and the Navajo Nation Cultural Resource Management Program, Farmington Office, as well as through phone contact with both the Navajo Nation Cultural Resource Management Program, Window Rock and several local contract archaeology firms.

Numerous large and small archaeological surveys and excavations have been conducted in southeastern Utah. The majority of those projects have been located north of the San Juan River to the north, northeast and northwest of the project area. Projects have been related to both large parcel inventory surveys (see for example Fike and Lindsay, 1976) and energy and economic development (see for example Hewett, Powers and Kemrer, 1979; Berge, 1975; Langenfeld, 1982 and Reed, 1983). Sites dating from the Archaic Period through recent Historic Period have been documented.

Within the project area itself few sites have been documented. According to a contact at Phillips Petroleum, previous archaeological surveys in the Phillips Field had been conducted by Complete Archaeological Service Associates of Cortez. Only one site has been recorded by C.A.S.A., and it is a lithic scatter with diagnostic tools dated to the San Jose Phase of the Archaic Period (L. Hammack to R.P. Watson, personal communication). The site is located in the SE 1/4 of the NE 1/4 of Section 29, T. 41 S., R. 24 E. The site number is unknown and its location was plotted on Figure 3 by use of UTM's provided by Mr. Hammack of C.A.S.A.

Two additional sites within the Phillips Field have been documented by the Navajo Nation Cultural Resource Management Program (Martin, 1983). Those sites are also located in Sections 16 and 29, T. 41 S., R. 24 E. UT-C-54-3 is described as a permanent Historic Navajo sheep camp with two corrals or lambing pens and possible hogan. UT-C-54-4 is an undated lithic scatter containing complete and broken flakes and burned sandstone. The locations of these sites were also plotted on Figure 3 on the basis of UTM's provided in the report. The actual site location in Section 16 is uncertain. On maps provided by Phillips Petroleum a large site area is shown in the SW 1/4, however, it has not been determined if this site was recorded by Navajo Nation Cultural Resource Management Program or C.A.S.A.

According to Mr. Isaacs, the Navajo Tribal Utility Authority has worked on the Phillips Lease Area within the last year. In the absence of a known project number, however, it is not possible to obtain information concerning a cultural resource inventory related to the project (Joe Anderson, personal communication).

Three additional sites north of the project area and south of the San Juan River have been recorded by the Navajo Nation Cultural Resource Management Program. Those sites are briefly described below and were plotted on Figure 3 on the basis of information provided by the source listed:

UT-C-54-1: Post 1970 Navajo site (Phillip Stewart, personal communication).

UT-C-54-2: Lithic/ceramic/ground stone scatter located in blowouts; Anasazi, Basketmaker III-Pueblo I (Phillip Stewart, personal communication).

UT-C-54-5: Lithic scatter; undated (McEnany, 1984).

SJC-727: Rubble mound, lithics, ceramics.

None of the previously recorded sites will be impacted by the proposed land modifications.

Proposed Well: Ratherford Unit 19-22 (Figure 6)

Land Jurisdiction: Navajo Nation

Legal Description: The proposed well is in the Center of the North 1/2 of the SE 1/4 of the NW 1/4 of Section 19, T. 41 S., R. 24 E., S.L.P.M., San Juan County, Utah. The center stake is 1,840 feet from the north line and 1,980 feet from the west line. Access and flow line will be in the NE 1/4 of the SE 1/4 of the NW 1/4 of Section 19.

Elevation: 1,445 meters (4,738 feet)

UTM Coordinates: Well = Zone 12; 648,660 mE; 4,119,260 mN.
Access/E-O-L = Zone 12; 648,690 mE; 4,119,325 mN.

Actual Project Area: Well = 107 m. x 107 m. (350' x 350')
Access/Flow = 12.2 m. x 76.3 m. (40' x 250')
TOTAL: 1.2 hectares (3.0 acres)

Actual Survey Area: 137 m. x 137 m. (450' x 450')
23 m. x 76.3 m. (75' x 250')
TOTAL: 2.0 hectares (5.08 acres)

Physiography and Environment:

The well, access and flow line are located in Zone C.

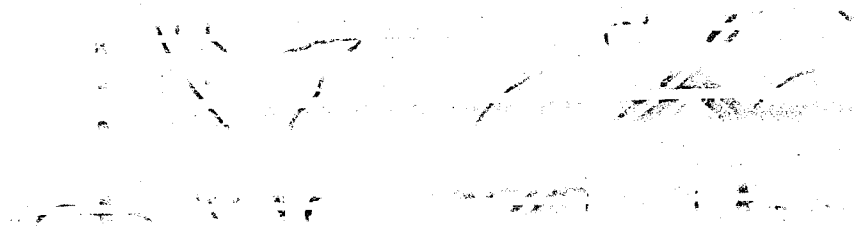
Cultural Resources:

In addition to a small amount of recent trash, two isolates were located during the inspection of the well location. I.O. #10 is a broken secondary flake of light green chert. No retouch is present. I.O. #11 is a complete tertiary quartzite flake with a single-struck platform and hinged distal termination. No evidence of retouch is present. Maximum dimensions are approximately 70 mm. x 25 mm. x 5 mm. Cultural affiliation of both isolates is unknown.

Recommendations:

The isolates do not appear to represent surface indications of subsurface cultural remains. As isolated manifestations, their

information potential has been exhausted with recording. Therefore, archaeological clearance is recommended for the project area.



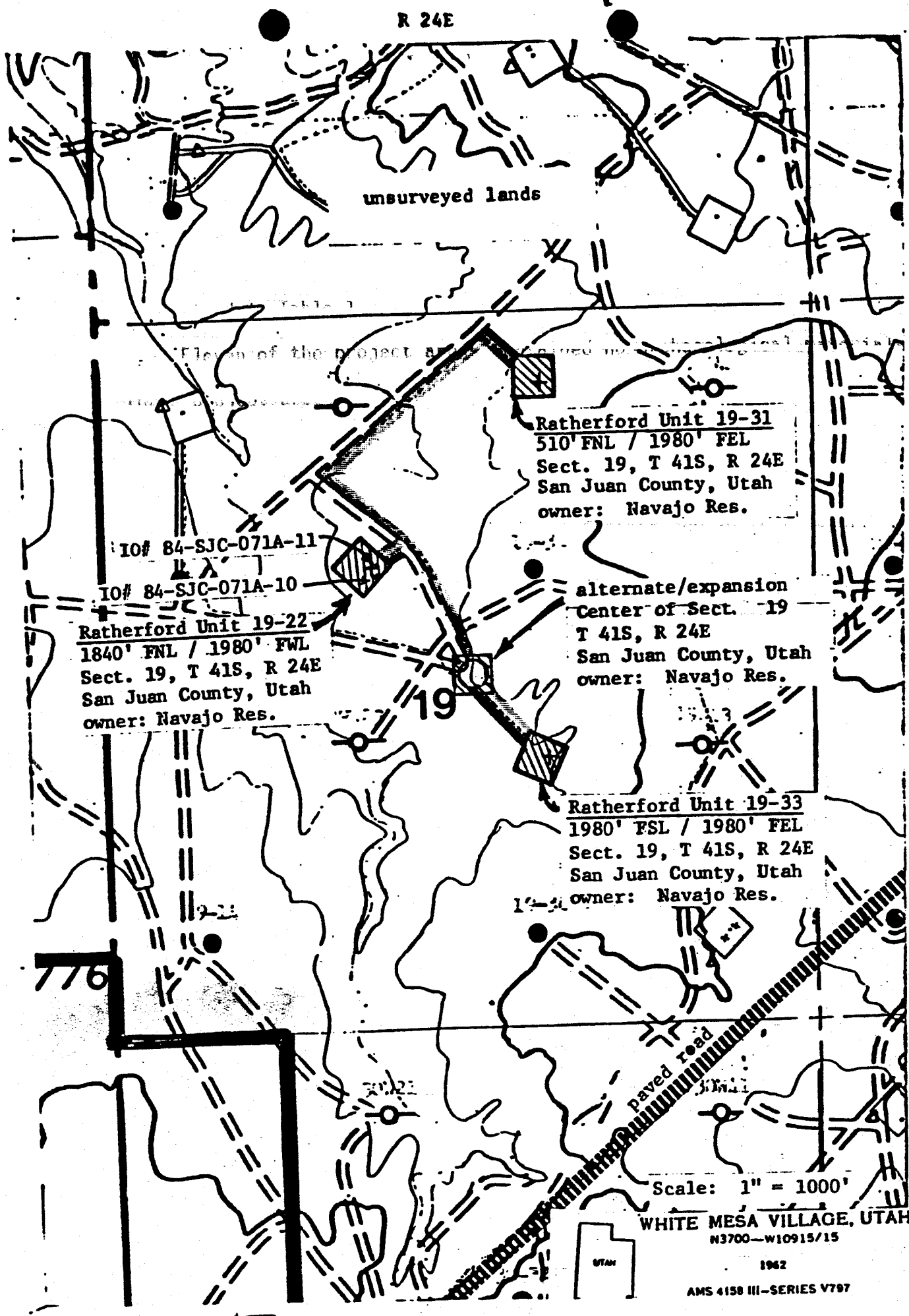


FIGURE 6
Report 84-SJC-071A

SUMMARY

A total of six isolated occurrences were located during the inspection of the fourteen project areas. The isolates are described in the appropriate preceding "Project Location" sections and are summarized in Table 1.

Eleven of the project areas contained no archaeological materials. Three project areas contained isolated chipped or ground stone artifacts, the information potential of which is suggested to have been exhausted with recording. Archaeological clearance, therefore, is recommended for all fourteen project areas described in this report.

In the event that any previously undiscovered archaeological materials are encountered during the course of construction activities, work in the immediate area should cease immediately and the Bureau of Indian Affairs Area Archaeologist should be notified.

Final clearance is the prerogative of the Bureau of Indian Affairs Area Archaeologist and will be granted upon review of this report at his discretion.

TABLE 1: Summary of Isolated Occurrences

IO #	Well Name	¼,¼,¼	Sec	T	R	UTM's	Description	Comments
1	18-44	NW,NW,SE	18	41 S	24 E	Zone 12; 648965E 4120535N	Three pieces of chipped stone. Two broken tertiary flakes, quartzite; one piece shatter less than 3 cm in length. Cultural affiliation unknown.	Information potential exhausted with recording.
2	18-44	C,W½,NW,SE	18	41 S	24 E	Zone 12; 648895E 4120475N	One exhausted chert core. Cultural affiliation unknown.	Located approximately 122 m (400') southeast of IO #1. Information potential exhausted with recording.
4	20-42	C,SE,NE	20	41 S	24 E	Zone 12; 651020E 4119290N	One quartzite hammerstone. Cultural affiliation unknown.	Located in bladed area. Probably out of context. Information potential exhausted with recording.
5	20-42	SE,NE,NE	20	41 S	24 E	Zone 12; 651170E 4119565N	One ground stone fragment. Possible mano. Unifacial grinding. Fine grained sandstone. Cultural affiliation unknown.	Located approximately 275 m (900') northeast of IO #4. Information potential exhausted with recording.
10	19-22	C,N½,SE,NW	19	41 S	24 E	Zone 12; 648675E 4119245N	One broken secondary chert flake. No retouch present.	Information potential exhausted with recording.
11	19-22	C,N½,SE,NW	19	41 S	24 E	Zone 12; 648665E 4119265N	One complete tertiary quartzite flake. Single-struck platform, distal termination hinged, no retouch present. Maximum size: 70 mm x 25 mm x 5 mm. Cultural affiliation unknown.	Information potential exhausted with recording.

BIBLIOGRAPHY

Fike, Richard E. and LaMar W. Lindsay
1976 Archaeological Survey of the Bluff Bench/San Juan River and White Mesa Areas, San Juan County, Utah, 1973-1974. In Antiquities Section Selected Papers Volume III, Numbers 9-11, Pgs. 1-23. Salt Lake City: Utah State Historical Society, Department of Development Services, Division of State History.

Hewett, Nancy S., Margaret A. Powers and Meade F. Kemrer
1979 An Archaeological Survey and Evaluation of Resources Along the San Juan River Near Aneth, Utah. Division of Conservation Archaeology, Contributions to Anthropology Series 46.

Langenfeld, Kristin
1982 Archaeological Surveys of 24 Proposed Drill Pad Conversions Near Montezuma Creek, San Juan County, Utah (CRMP-82-077). On file, Navajo Nation Cultural Resource Management Program, Window Rock, Arizona.

Lipe, William
1970 Anasazi Communities of the Red Rock Plateau, Southeastern Utah. In Reconstructing Prehistoric Pueblo Societies, edited by William A. Longacre, Pgs. 84-139. Albuquerque: UNM Press.

Martin, Rena
1983 An Archaeological Survey of Surface Flowlines and Assorted Parcels of Land in San Juan County, Utah (CRMP-83-336). On file, Navajo Nation Cultural Resource Management Program, Farmington, New Mexico.

McEnany, Tim
1984 An Archaeological Survey of Two Well Locations Near Montezuma Creek, Utah for the Chuska Energy Company (CRMP-84-36). On file, Navajo Nation Cultural Resource Management Program, Farmington, New Mexico.

Reed, Alan C.
1983 An Archaeological Survey of a Segment of Seismic Line R-3-83 in San Juan County, Utah. Contributions to Anthropology Series No. 749. On file, Division of Conservation Archaeology, Farmington, New Mexico.

OPERATOR Phillips Oil Co. DATE 7-21-84

WELL NAME Rutherford Unit # 19-22

SEC SE NW 19 T 41S R 24E COUNTY San Juan

43-037-31046	Federal
API NUMBER	TYPE OF LEASE

POSTING CHECK OFF:

☐ INDEX	☐ HL	☐
☐ NID	☐ PI	☐
☐ MAP	☐	☐

PROCESSING COMMENTS:

Unit Well

Need water permit

APPROVAL LETTER:

SPACING: ☑ A-3 Rutherford UNIT ☐ c-3-a _____ CAUSE NO. & DATE

☐ c-3-b ☐ c-3-c

SPECIAL LANGUAGE:

1- Water

- [x] RECONCILE WELL NAME AND LOCATION ON APD AGAINST SAME DATA ON PLAT MAP.
- [x] AUTHENTICATE LEASE AND OPERATOR INFORMATION
- [x] VERIFY ADEQUATE AND PROPER BONDING
- [x] AUTHENTICATE IF SITE IS IN A NAMED FIELD, ETC.
- [ ] APPLY SPACING CONSIDERATION
  - [ ] ORDER _____
  - [x] UNIT Rutherford
  - [ ] c-3-b
  - [ ] c-3-c
- [x] CHECK DISTANCE TO NEAREST WELL.
- [ ] CHECK OUTSTANDING OR OVERDUE REPORTS FOR OPERATOR'S OTHER WELLS.
- [x] IF POTASH DESIGNATED AREA, SPECIAL LANGUAGE ON APPROVAL LETTER
- [x] IF IN OIL SHALE DESIGNATED AREA, SPECIAL APPROVAL LANGUAGE.

July 27, 1984

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

RE: Well No. Ratherford Unit 19-22
SESW Sec. 19, 41S, R. 24E
1840' FSL, 1980' FWL
San Juan County, Utah

Gentlemen:

Approval to drill the above referenced oil well is hereby granted in accordance with Section 40-6-18, Utah Code Annotated, as amended 1983; and predicated on Rule A-3, General Rules and Regulations and Rules of Practice and Procedure, subject to the following stipulations:

1. Prior to commencement of drilling, receipt by the Division of evidence providing assurance of an adequate and approved supply of water.

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

1. Spudding notification to the Division within 24 hours after drilling operations commence.

2. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.

3. Prompt notification to the Division should you determine that it is necessary to plug and abandon this well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 533-5771, (Home) 298-7695 or R. J. Firth, Associate Director, (Home) 571-6068.

4. Compliance with the requirements and regulations of Rule C-27, Associated Gas Flaring, General Rules and Regulations, Oil and Gas Conservation.

5. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-037-31046.

Sincerely,

R. J. Firth
Associate Director, Oil & Gas

RJF/as

cc: Branch of Fluid Minerals
Bureau of Indian Affairs

Enclosures

W #32773

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

API #43-037-31046

NAME OF COMPANY: PHILLIPS OIL

WELL NAME: #19-22 Ratherford Unit

SECTION SENW 19 TOWNSHIP 41S RANGE 24E COUNTY San Juan

DRILLING CONTRACTOR Energy Search

RIG # 2

SPUDDED: DATE 9-23-84

TIME 8:30 PM

HOW Rotary

DRILLING WILL COMMENCE _____

REPORTED BY Henry Hankins

TELEPHONE # (801) 651-3434

DATE 9-24-84 SIGNED AS

RECEIVED

9-331
1973

Form Approved.
Budget Bureau No. 42-R1424

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

31 1984
DIVISION OF OIL
GAS & MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well [X] gas well [ ] other

2. NAME OF OPERATOR
Phillips Oil Company

3. ADDRESS OF OPERATOR
8055 E. Tufts Ave. Pkwy., Denver, CO 80237

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 1840' FNL/ 1980' FWL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

5. LEASE
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.
#19-22

10. FIELD OR WILDCAT NAME
Greater Aneth

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 19, T41S, R24E

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

14. API NO.
43-037-31046

15. ELEVATIONS (SHOW DF, KDB, AND WD)
4738' GL

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

REQUEST FOR APPROVAL TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	[ ]		[ ]
FRACTURE TREAT	[ ]		[ ]
SHOOT OR ACIDIZE	[ ]		[ ]
REPAIR WELL	[ ]		[ ]
PULL OR ALTER CASING	[ ]		[ ]
MULTIPLE COMPLETE	[ ]		[ ]
CHANGE ZONES	[ ]		[ ]
ABANDON*	[ ]		[ ]
(other)			

(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.)*

Drilled 17½" conductor hole to 117' on 9-8-84. Ran 116' 13-3/8" 54.5# K-55 Buttress conductor casing. Set @ 116' cemented with 177 cu.ft. (150 sx) Class B. Finished filling to surface w/1" pipe using 23.6 cu.ft. (20 sx) Class B cement, and moved out rat hole driller 9-8-84.

Spudded well 9-22-84 with Energy Search Drlg Rig #2. Drilled 12¼" hole to 1620'. Ran 1616' 9-5/8" 36# K-55 ST&C surface casing. Cemented w/726 cu.ft. (300 sx) Class B w/20% Diacel; tailed w/354 cu.ft.(300 sx) Class B. Cemented annulus with 118 cu.ft. (100 sx) Class B through 1" pipe. Job complete 9-24-84.

Drilled 8-3/4" hole to 5550'. Ran 5550' 7" 23# & 26# K-55 LT&C; cemented with 1144 cu.ft. (400 sx) Class B w/20% Diacel; tailed with 360 cu.ft. (300 sx) Class B with 18% salt. Pressure tested casing to 1500 psi. Job complete 10-5-84. Plug back total depth 5514'.

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

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

SIGNED _____ TITLE Drilling Manager DATE 10-25-84

(This space for Federal or State office use)

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

6 - BLM, Farmington, NM
2 - Utah O&GCC, SLC
1 - Casper
1 - File (RC)
1 - J. Weichbrodt

*See Instructions on Reverse Side

Form 3160-4
(November 1983)
(formerly 9-330)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

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

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] DRY [ ] Other

b. TYPE OF COMPLETION: NEW WELL [X] WORK OVER [ ] DEEP-EN [ ] PLUG BACK [ ] DIFF. RESVR. [ ]

RECEIVED
NOV 07 1984
DIVISION OF OIL GAS & MINING

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*)*
At surface: 1840' FNL & 1980' FWL, SE NW
At top prod. interval reported below
At total depth

API #43-037-31046

5. LEASE DESIGNATION AND SERIAL NO.: 14-20-603-353
6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Navajo
7. UNIT AGREEMENT NAME: SW-I-4192
8. FARM OR LEASE NAME: Ratherford Unit
9. WELL NO.: 19-22
10. FIELD AND POOL, OR WILDCAT: Greater Aneth
11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 19-T41S-R24E
12. COUNTY OR PARISH: San Juan
13. STATE: Utah
14. PERMIT NO.: 43-037-31046
DATE ISSUED: 7-27-84

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (*Ready to prod.*)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
9/22/84	10/3/84	10/24/84	GR 4738', RKB 4751.5'	--

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
5550'	5514'	--	→	0 - 5550'	--

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*: 5478' - 5508' Desert Creek Zone I

25. WAS DIRECTIONAL SURVEY MADE: No

26. TYPE ELECTRIC AND OTHER LOGS RUN: DLL, MSFL, SDC-CNL, MEL, SHK

27. WAS WELL CORED: No

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

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8"	54.5#	130'	17-1/2"	201 cu.ft. Class "B"	--
9-5/8"	36#	1616'	12-1/4"	1198 cu.ft. Class "B"	--
7"	23# & 26#	5550'	8-3/4"	1504 cu.ft. Class "B"	--

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
--	--	--	--	--

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-7/8"	5256'	5256'

31. PERFORATION RECORD (*Interval, size and number*)
5496-5508, 2 SPF, 4" Hollow Steel Carrier Gun
5478-5492, 2 SPF, 4" Hollow Steel Carrier Gun

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5478-5508'	Acidized w/4000 gal 28% FE Acid w/rock salt and benzoic acid flakes as divertant. Flushed w/1608 gal lease water.

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (*Flowing, gas lift, pumping—size and type of pump*)	WELL STATUS (*Producing or shut-in*)
10/24/84	Flowing	Producing

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
10/31/84	24	14/64"	→	220	110	1	500

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
160	--	→	220	110	1	40.0

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

35. LIST OF ATTACHMENTS: None

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

SIGNED A. E. Stuart TITLE Area Manager DATE November 5, 1984

SEE BACK FOR DIST. *(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):

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
NO CORES OR DST's RUN			

4 - BLM, Farmington, NM
2 - Utah O&G CC, Salt Lake City, UT
1 - The Navajo Nation, Window Rock, AZ
1 - B. A. Conner, B'Ville
1 - L. R. Williamson, Denver
1 - R. M. Coffelt, Denver
1 - D. L. Fraser, Denver
1 - O. G. Poling, Denver
1 - WI Owners
1 - P. J. Adamson
1 - File-RC

38. GEOLOGIC MARKERS

NAME	TOP MEAS. DEPTH	TOP TRUE VERT. DEPTH
LOG TOPS		
Shinarump	2248'	
DeChelly	2574'	
Hermosa	4477'	
Desert Creek	5472'	

FORM 10

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

MONTHLY OIL AND GAS PRODUCTION REPORT

OPERATOR NAME AND ADDRESS:

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

OPERATOR ACCOUNT NUMBER: N0772

REPORT PERIOD (MONTH/YEAR): 6 / 93

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

USEN
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 Konkel Telephone Number: 505 599-3452

(6/93)

FORM 9

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

1. OIL WELL ☐ GAS WELL ☐ OTHER

7. UNIT AGREEMENT NAME: RATHERFORD UNIT

2. NAME OF OPERATOR: MOBIL OIL CORPORATION

8. FARM OR LEASE NAME

3. ADDRESS OF OPERATOR: P. O. BOX 633 MIDLAND, TX 79702

9. WELL NO.

RECEIVED
SEP 13 1993
DIVISION OF
OIL, GAS & MINING

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

10. FIELD AND POOL, OR WILDCAT: GREATER ANETH

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

14. API NO.	15. ELEVATIONS (Show whether DF, RT, GR, etc.)	12. COUNTY	13. STATE
		SAN JUAN	UTAH

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

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

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

* Must be accompanied by a cement verification report.

AS OF JULY1, 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

(3/89)

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 — PA'd
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 — PA'd
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 — PA'd
24W-21	43-037-16429	14-20-603-247	SEC. 24, T41S, R24E	4695' FSL; 3300' FEL — PA'd
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 SwSE 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/NE2140'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

FORM 11

STATE OF UTAH
/ISION OF OIL, GAS AND MINING

MONTHLY OIL AND GAS DISPOSITION REPORT

OPERATOR NAME AND ADDRESS:

L.B. Sheffield
~~BRIAN BERRY~~
~~M E P N A~~ MOBIL
~~POB 219031 1807A RENTWR~~ P.O. DRAWER G
DALLAS TX 75221-9031 CORTEZ, Co. 81321

UTAH ACCOUNT NUMBER: N7370

REPORT PERIOD (MONTH/YEAR): 7 / 93

AMENDED REPORT ☐ **(Highlight Changes)**

*#93100le updated. fee

ENTITY NUMBER	PRODUCT	GRAVITY BTU	BEGINNING INVENTORY	VOLUME PRODUCED	DISPOSITIONS TRANSPORTED	DISPOSITIONS USED ON SITE	DISPOSITIONS FLARED/VENTED	DISPOSITIONS OTHER	ENDING INVENTORY
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 ~~USA~~ 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: Lowell B Sheffield

Telephone Number: 303 565 2212 ~~214 458 2528~~

(6/93)

FORM=NR0003.FRM 07/2

Sept 29, 1993

TO: Lisha Cordova - Utah Mining Oil & Gas

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

Here is copy of Ratherford Unit Successor Operator.

4 pages including this one.

Ratherford Unit (GC)

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

ARES/543

JUL 30 1993

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

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

DESIGNATION OF OPERATOR

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

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

and, pursuant to the terms of the Ratherford 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 Ratherford 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 Ratherford 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 Ratherford Unit.

Phillips Petroleum Company

June 17, 1993

By: M. B. Foote, J.
Attorney-in-Fact

Mobil Exploration and Producing
North America Inc.

June 11, 1993

By: B. D. Martiny
Attorney-in-Fact B.D. MARTINY

ACTING AREA DIRECTOR 7/9/93
APPROVED BY TITLE DATE

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

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

Division of Oil, Gas and Mining

PHONE CONVERSATION DOCUMENTATION FORM

Route original/copy to:

[ ] Well File _____

_____

(Location) Sec___Twp___Rng___

(API No.) _____

[ ] Suspense

(Return Date) _____

(To - Initials) _____

XX[ ] Other

OPERATOR CHANGE

_____

_____

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

2. DOGM Employee (name) L. CORDOVA (Initiated Call XX)

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 OPERATORED BY MEPNA, CURRENTLY REPORTED OUT OF DALLAS (MCELMO CREEK).

Division of Oil, Gas and Mining
OPERATOR CHANGE WORKSHEET

Routing:
1-VLC/7-SJ
2-DTS/8-FILE
3-VLC
4-RJF
5-LEC
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.

XX 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) MEPNA
(address) PO DRAWER G
CORTEZ, CO 81321
GLEN COX (915)688-2114
phone (303) 565-2212
account no. N7370

FROM (former operator) PHILLIPS PETROLEUM COMPANY
(address) 5525 HWY 64 NBU 3004
FARMINGTON, NM 87401
PAT KONKEL
phone (505) 599-3452
account no. N0772(A)

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

Name: **SEE ATTACHED**	API: 43-037-31046	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

Lec 1. (Rule R615-8-10) Sundry or other legal documentation has been received from former operator (Attach to this form). (Req. 8-20-93) (6/93 Prod. Rpt. 8-16-93)

Lec 2. (Rule R615-8-10) Sundry or other legal documentation has been received from new operator (Attach to this form). (Req. 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: _____.

Lec 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. (O&G wells 10-6-93) (WIW's 10-26-93)

Lec 6. Cardex file has been updated for each well listed above. (O&G wells 10-6-93) (WIW's 10-26-93)

Lec 7. Well file labels have been updated for each well listed above. (O&G wells 10-6-93) (WIW's 10-26-93)

Lec 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)

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.

- OVER -

PERATOR CHANGE WORKSHEET (CONTINUED) Initial each item when completed. Write N/A if item is not applicable.

NTITY REVIEW

Lee 1. (Rule R615-8-7) Entity assignments have been reviewed for all wells listed above. Were entity changes made? (yes/no) ___ (If entity assignments were changed, attach copies of Form 6, Entity Action Form).

N/A 2. State Lands and the Tax Commission have been notified through normal procedures of entity changes.

OND VERIFICATION (Fee wells only)

Lee/N/A 1. (Rule R615-3-1) The new operator of any fee lease well listed above has furnished a proper bond.

__ 2. A copy of this form has been placed in the new and former operators' bond files.

__ 3. The former operator has requested a release of liability from their bond (yes/no) ___. Today's date _____ 19___. If yes, division response was made by letter dated _____ 19___.

EASE 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.

DTS 11-10-93

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: 11-17 1993.

FILING

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

Lee 2. The original of this form and the original attachments have been filed in the Operator Change file.

OMMENTS

931006 BIA/Blm Approved 7-9-93.

FORM 10

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 / API Number / Entity / Location	Producing Zone	Well Status	Days Oper	Production Volumes OIL(BBL)	GAS(MCF)	WATER(BBL)
#20-13 4303730917 06280 41S 24E 20	DSCR					
#20-24 4303730918 06280 41S 24E 20	DSCR					
#21-13 4303730921 06280 41S 24E 21	DSCR					
#20-22 4303730930 06280 41S 24E 20	DSCR					
RATHERFORD UNIT 20-33 4303730931 06280 41S 24E 20	DSCR					
#29-33 4303730932 06280 41S 24E 29	IS-DC					
'THERFORD UNIT 29-42 303730937 06280 41S 24E 29	DSCR					
RATHERFORD UNIT 17-24 4303731044 06280 41S 24E 17	DSCR					
RATHERFORD UNIT 18-44 4303731045 06280 41S 24E 18	DSCR					
RATHERFORD UNIT 19-22 4303731046 06280 41S 24E 19	DSCR					
RATHERFORD UNIT 19-31 4303731047 06280 41S 24E 19	DSCR					
RATHERFORD UNIT 19-33 4303731048 06280 41S 24E 19	DSCR					
RATHERFORD UNIT 20-11 4303731049 06280 41S 24E 20	DSCR					
			TOTALS			

OMMENTS: _____

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

Name and Signature: _____ Telephone Number: _____

2/93)

Division of Oil, Gas and Mining

PHONE CONVERSATION DOCUMENTATION FORM

Route original/copy to:

[ ] Well File _____

_____

(Location) Sec___Twp___Rng___

(API No.) _____

[ ] Suspense

(Return Date) _____

(To - Initials) _____

[XX] 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 [XX]) - 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 INC 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

RECEIVED
MAY 16 1986

DIVISION OF
OIL, GAS & MINING

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

SUPERIOR OIL COMPANY MERGER

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

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

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

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

Very truly yours,

R. D. Baker
Environmental Regulatory Manager

CNE/rd
CNE8661

Division of Oil, Gas and Mining
OPERATOR CHANGE WORKSHEET

Routing:
1-LEC 7-PL
2-LWP 8-SJ
3-~~DTS~~ 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 XXX Operator Name Change Only

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

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

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

Name: **** SEE ATTACHED ****	API: 037 31046	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 Hells 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. 8-31-95

LWP 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.

– OVER –

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

ENTITY REVIEW

Lec 1. (Rule R615-8-7) Entity assignments have been reviewed for all wells listed above. Were entity changes made? (yes/no) ___ (If entity assignments were changed, attach copies of Form 6, Entity Action Form).

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/Lec 1. (Rule R615-3-1) The new operator of any fee lease well listed above has furnished a proper bond.

___ 2. A copy of this form has been placed in the new and former operators' bond files.

___ 3. The former operator has requested a release of liability from their bond (yes/no) ___. Today's date _____ 19___. If yes, division response was made by letter dated _____ 19___.

LEASE INTEREST OWNER NOTIFICATION RESPONSIBILITY

N/A 1. (Rule R615-2-10) The former operator/lessee of any **fee lease** well listed above has been notified by letter dated _____ 19___, of their responsibility to notify any person with an interest in such lease of the change of operator. Documentation of such notification has been requested.
UTS
8/5/95

N/A 2. Copies of documents have been sent to State Lands for changes involving **State leases.**

FILMING

✓ 1. All attachments to this form have been microfilmed. Date: October 6 19 95.

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 UIC F5/Not necessary!

Form 3160-5
(June 1990)

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

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 19-22
9. API Well No.: 43-037-31046
10. Field and Pool, or exploratory Area: GREATER ANETH
11. County or Parish, State: SAN JUAN UT

1. Type of Well: [X] 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. 19, T41S, R24E
SE/NW 1840' FNL & 1980' FWL

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

TYPE OF SUBMISSION	TYPE OF ACTION	
[X] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[ ] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[X] Other SIDETRACK	[ ] Dispose Water

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

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

BHL:

LATERAL #1: 964' NORTH & 1150' WEST FROM SURFACE SPOT (ZONE 1a).
LATERAL #2: 1295' SOUTH & 1250' EAST FROM SURFACE SPOT (ZONE 1a).

SEE ATTACHED PROCEDURE.

Accepted by the
Utah Division of
Oil, Gas and Mining
Date: 9/3/98
By:

RECEIVED
AUG 27 1998
DIV. OF OIL, GAS & MINING

Federal Approval of this Action is Necessary

14. I hereby certify that the foregoing is true and correct
Signed Sue Mosley for Title SHIRLEY HOUCHINS/ENV & REG TECH Date 8-25-98

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

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

*** See Instruction on Reverse Side**

Ratherford Unit Well #19-22
Horizontal Drilling Procedure

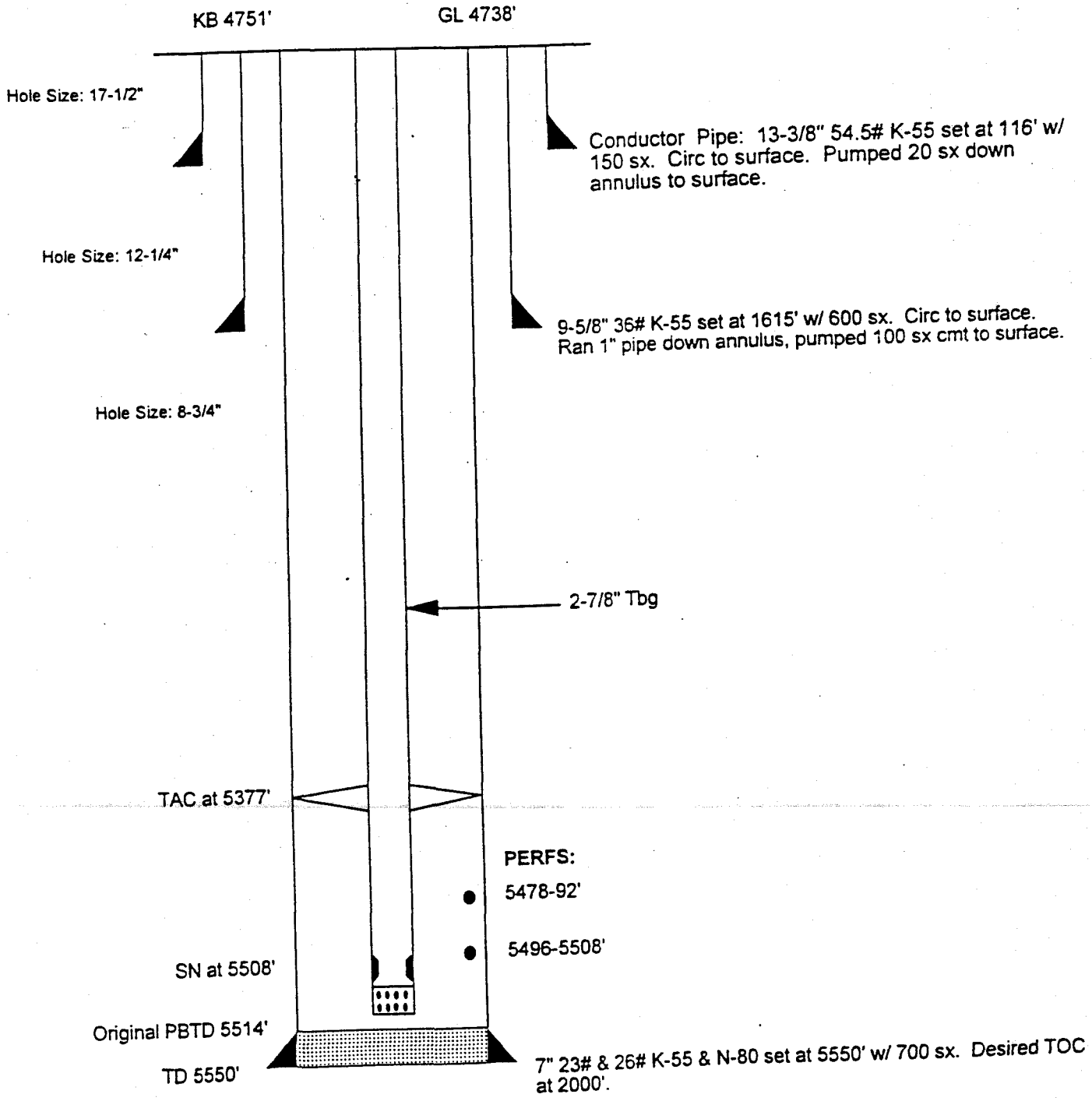
The objective of this procedure is to prepare this wellbore for sidetracking, sidetrack the subject well and drill multilateral short radius horizontal laterals (1500-1800 feet).

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. Run packer on wireline and set using GR/CCL log to correlate with. RD wireline.
11. PU drillpipe with UBHO sub in string and latch into packer to survey the hole and obtain orientation of keyway. POH w/gyro and drill string.
12. Orient whipstock on surface to desired bearing and RIH on drill pipe. Latch into packer. Shear starter mill bolt and make starter cut.
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 retrieving hook and RIH on drill pipe. Retrieve whipstock and PU new whipstock oriented for desired bearing to start in hole.
20. Repeat steps 12 through 19 for each subsequent lateral.

RATHERFORD UNIT # 19-22
GREATER ANETH FIELD
1840' FNL & 1980' FWL
SEC 19-T41S-R24E
SAN JUAN COUNTY, UTAH
API 43-037-31046
PRISM 0043080

PRODUCER

Capacities:	bbl/ft	gal/ft	cuft/ft
2-7/8" 6.5#	.00579	.2431	.0325
7" 23#	.0393	1.6535	.2210
7" 26#	.0382	1.6070	.2148
2-7/8"x7"23#	.0313	1.3162	.1760
2-7/8"x7"26#	.0302	1.2698	.1697

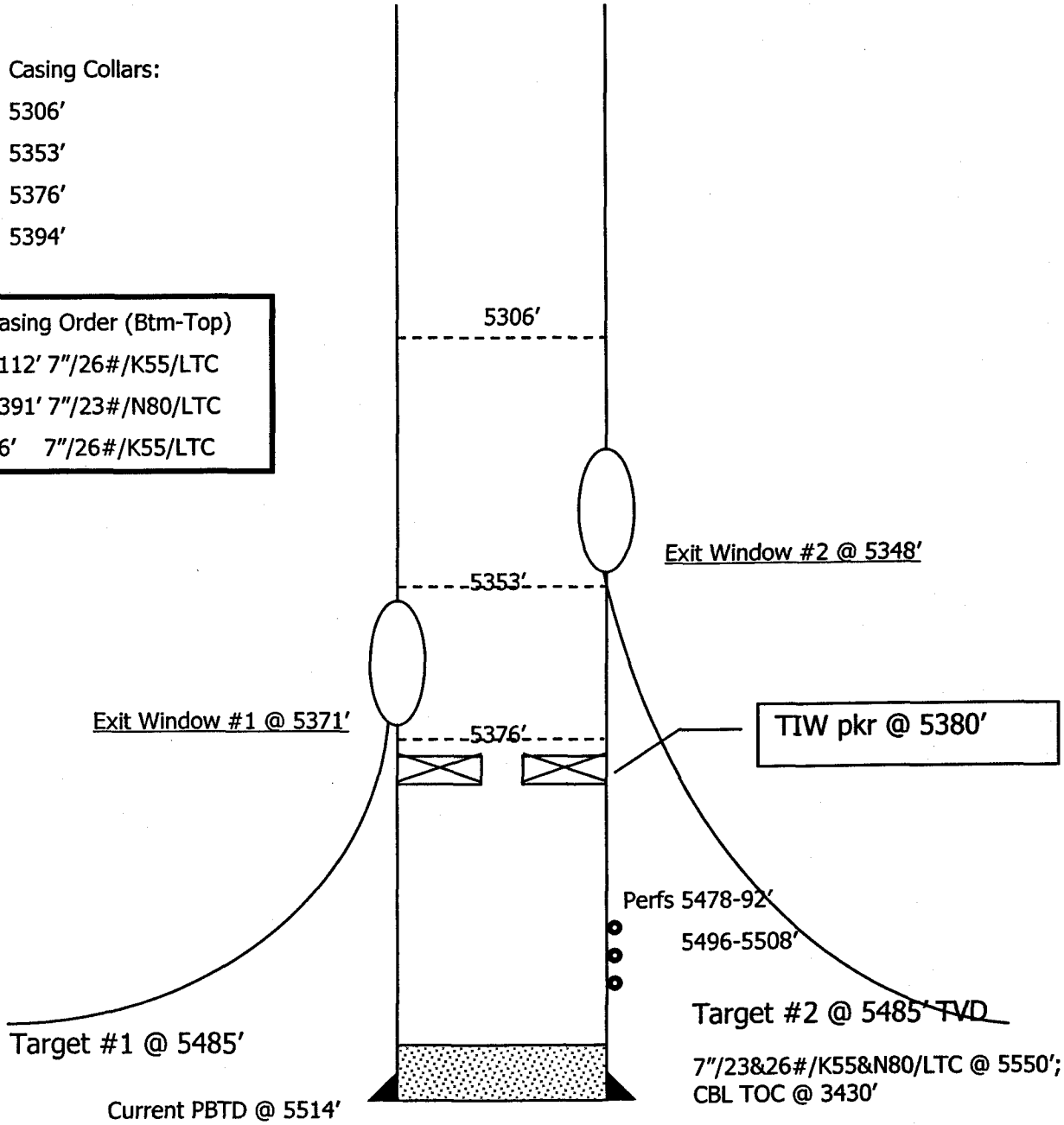


L. A. TUCKER 7-2-96 R.U. # 19-22

Ratherford Unit #19-22

Casing Collars:
5306'
5353'
5376'
5394'

Casing Order (Btm-Top)
1112' 7"/26#/K55/LTC
4391' 7"/23#/N80/LTC
46' 7"/26#/K55/LTC



Window	Btm-Top of Window	Ext length	Curve Radius	Bearing	Horiz Displ
1	5371-63	------	114	310	1500
2	5348-40	23	137	136	1800

The double spline is 2.42 ft long and the bottom of the whipstock, the latch, the debris and the shear sub are 8.68 ft long. These lengths must be added to the extension lengths to determine the entire whipstock assembly length.

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 08/27/98

API NO. ASSIGNED: 43-037-31046

WELL NAME: RATHERFORD 19-22 MULTI-LEG
OPERATOR: MOBIL EXPL & PROD INC (N7370)
CONTACT: _____

PROPOSED LOCATION:
SENW 19 - T41S - R24E
SURFACE: 1840-FNL-1980-FWL
BOTTOM: 1633-FSL-1856-FEL
SAN JUAN COUNTY
GREATER ANDDTH FIELD (365)

LEASE TYPE: IND
LEASE NUMBER: 14-20-603-353
SURFACE OWNER: _____

PROPOSED FORMATION: DSCR

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

RECEIVED AND/OR REVIEWED:

✓ Plat
✓ Bond: Federal [✓] State [] Fee []
(No. ALREADY IN PLACE)
N Potash (Y/N)
N Oil Shale (Y/N) *190-5(B)
✓ Water Permit
(No. NAVAJO ALLOCATION)
N RDCC Review (Y/N)
(Date: _____)

N St/Fee Surf Agreement (Y/N)

LOCATION AND SITING:

✓ R649-2-3. Unit RATHERFORD UNIT

___ R649-3-2. General

___ R649-3-3. Exception

___ Drilling Unit
Board Cause No: _____
Date: _____

COMMENTS: _____

STIPULATIONS: _____

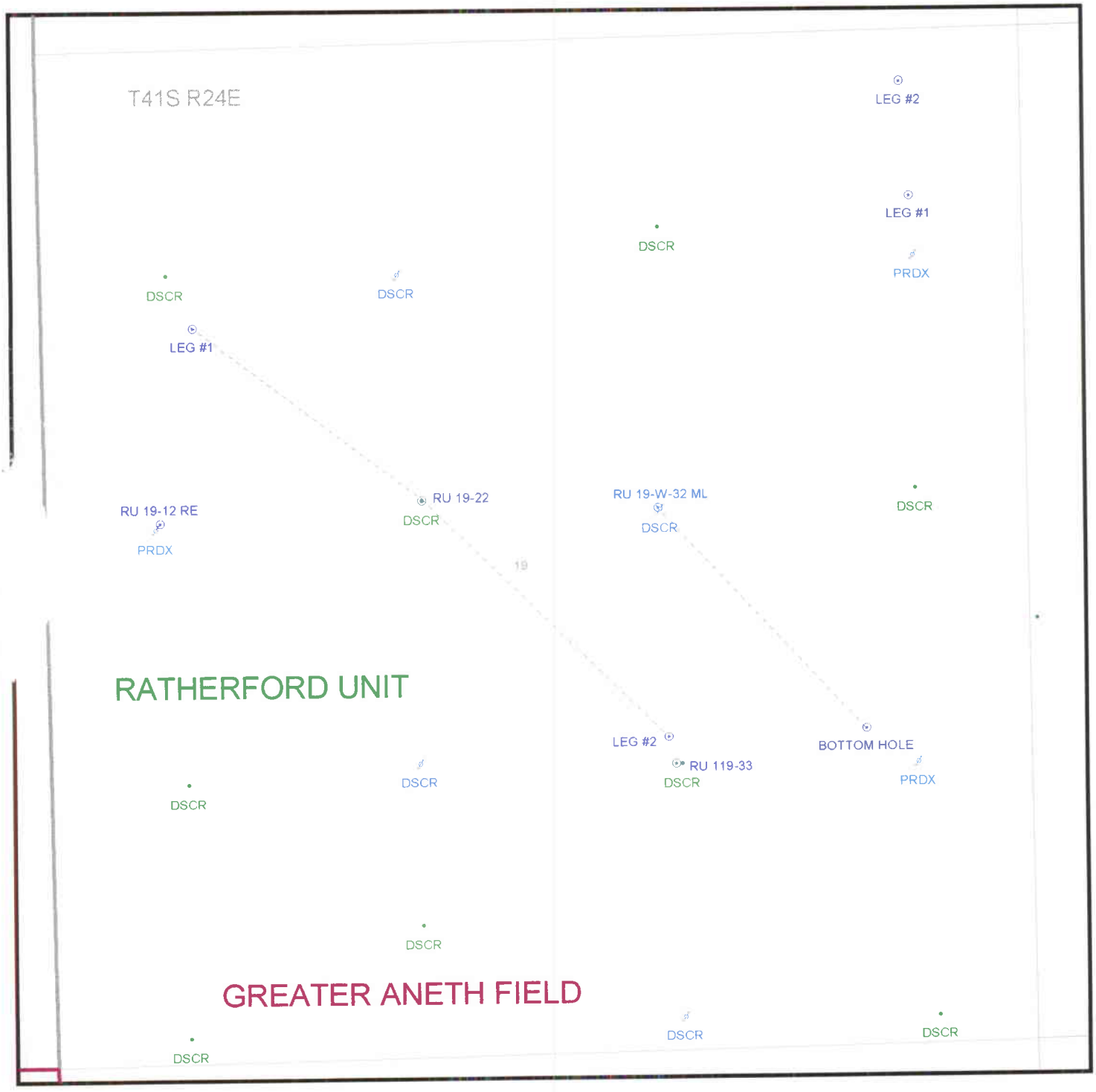
DIVISION OF OIL, GAS & MINING

OPERATOR: NOBIL EXPL & PROD US INC (N7370)

FIELD: GREATER ANETH (365)

SEC. 19, TWP 41S, RNG 24E

COUNTY: SAN JUAN RATHERFORD UNIT



DATE PREPARED:
2-SEP-1998

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: MOBIL E & P

Well Name: RATHERFORD UNIT 19-22

Api No. 43-037-31046 Lease Type: INDIAN

Section 19 Township 41S Range 24E County SAN JUAN

Drilling Contractor BIG "A" RIG# 25

SPUDDED:

Date 9/30/98

Time

How ROTARY

Drilling will commence

Reported by SIMON

Telephone # 1-435-651-3473

Date: 10/1/98 Signed: JLT

Pason

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

Monday, October 26, 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 #19-22 Legs 1 & 2
Sec. 20, T41S, R24E
San Juan County, Utah

43-037-31046

Dear Sirs:

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

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 For Each Leg

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

MOBIL

RATHERFORD UNIT #19-22
SE HORIZONTAL LATERAL LEG #2
UPPER 1-A POROSITY BENCH
DESERT CREEK MEMBER
PARADOX FORMATION
SECTION 19, T41S, R24E
SAN JUAN, UTAH

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

TABLE OF CONTENTS

WELL SUMMARY

OPERATOR:	MOBIL EXPLORATION & PRODUCTION U.S. INC.
NAME:	RATHERFORD UNIT #19-22 SE HORIZONTAL LATERAL LEG #2 IN 1-A POROSITY ZONE OF DESERT CREEK
LOCATION:	SECTION 19, T41S, R24E
COUNTY/STATE:	SAN JUAN, UTAH
ELEVATION:	KB:4732' GL:4738'
SPUD DATE:	9/30/98
COMPLETION DATE:	10/08/98
DRILLING ENGINEER:	SIMON BARRERA / BENNY BRIGGS
WELLSITE GEOLOGY:	DAVE MEADE / MARVIN ROANHORSE
MUDLOGGING ENGINEERS:	DAVE MEADE / MARVIN ROANHORSE
CONTRACTOR:	BIG "A" RIG 25
TOOLPUSHER:	J. DEES
HOLE SIZE:	4 ¾"
CASING RECORD:	SIDETRACK IN WINDOW AT 5349' 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:	7256' MEASURED DEPTH; TRUE VERTICAL DEPTH-5514.6'
STATUS:	PREPARING WELL FOR RIG MOVE TO R.U. #19-31 LOCATION

DRILLING CHRONOLOGY
RATHERFORD UNIT #19-22
1-A SE HORIZONTAL LATERAL LEG #2

DATE	DEPTH	DAILY	ACTIVITY
10/06/98	5342'	122'	TIH-MILL W/WINDOW & WATERMELLON MILL-5340' TO 5349'-PUMP SWEEP & CIR OUT-PUMP 20 BBLS BRINE-L.D. 15 JTS-TOH-L.D. MILLS-P.U. CURVE ASSEM.-TEST & ORIENT CURVE ASSEM-TIH-RIG UP GYRO DATA & RUN GYRO-REPAIR HYDROMATIC-TIME DLRG 5349' TO 5352'-DIR DRLG & WIRE LINE SURVEYS TO 5385'-PULL PULL GYRO & RIG DOWN GYRO DATA-DIR DRLG & SURVEYS
10/07/98	5464''	732'	DIR DRLG & WIRELINE SURVEYS TO 5576' (T.D. CURVE)-PUMP SWEEP & CIR OUT-PUMP 20 BBLS BRINE-L.D. 8 JTS AOH-TOH TO WINDOW DISPLACE HOLE W/100 BBLS BRINE-TOH-L.D. CURVE ASSEM.-P.U. LATERAL ASSEMBLY- ORIENT & TEST-P.U. JTS PIPE-TIH-DIR DRLG & SURVEYS
10/08/98	6196'	1060'	DIR DRLG & SURVEYS TO 7256' (TD LATERAL)-PUMP 10 BBL SWEEP & CIR SPLS-DISPLACE HOLE W/ BRINE-TOH-L.D. LATERAL ASSEM.-TIH
10/09/98	7256'	0'	TIH-SET RBP @ 5259'-TOH-L.D. DRLG STRING & PREPARE FOR RIG MOVE

DAILY ACTIVITY

Operator: MOBIL
Well Name: RATHERFORD UNIT #19-22 SE 1-A HORIZONTAL LATERAL LEG #2

DATE	DEPTH	DAILY	DATE	DEPTH	DAILY
10/06/98	5342'	122'			
10/07/98	5464'	732'			
10/08/98	6196'	1060'			
10/09/98	7256'	0'(TD)			

BIT RECORD

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #19-22 SE 1-A HORIZONTAL LATERAL LEG #2

RUN	SIZE	MAKE	TYPE	IN/OUT	FTG	HRS	FT/HR
#1	4 3/4"	STC	MF-3P	5349'/ 5576'	227'	14.5	15.66
#2 (RR)	4 3/4"	STC	MF-3P	5576'/ 7256'	1680'	27.5	61.1

MUD REPORT

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #19-22 SE 1-A HORIZONTAL LATERAL LEG #2

DATE	DEPTH	WT	VIS	PLS	YLD	GEL	PH	WL	CK	CHL	CA	SD	OIL	WTR
10/06/98	5349'	9.0	26	1	1	0/0	10.0	NC	NC	68000	2000	1%	TR	99%
10/07/98	5576'	9.0	26	1	1	0/0	11.0	NC	NC	70000	3200	1%	TR	99%
10/08/98	6662'	9.0	26	1	1	0/0	10.5	NC	NC	70000	5200	1%	TR	99%
10/09/98	NO CHECK													

SPERRY-SUN DRILLING SERVICES
SURVEY DATA

Customer ... : Mobil (Utah)
Platform ... : RATHERFORD UNIT
Slot/Well .. : BA25/19-22, 2A1

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
5200.00	0.43	249.22	5199.34	25.13 N	15.55 W	-28.88	0.00
5340.00	0.45	285.42	5339.34	25.09 N	16.57 W	-29.56	0.20
5349.00	3.80	136.00	5348.33	24.89 N	16.40 W	-29.29	46.60
5359.00	7.20	142.91	5358.28	24.15 N	15.79 W	-28.34	34.58
5369.00	11.70	145.11	5368.14	22.81 N	14.83 W	-26.71	45.14
5379.00	15.80	146.20	5377.86	20.85 N	13.49 W	-24.37	41.08
5389.00	20.00	146.85	5387.37	18.29 N	11.80 W	-21.35	42.05
5399.00	24.30	147.30	5396.63	15.12 N	9.75 W	-17.65	43.03
5409.00	28.80	150.50	5405.57	11.29 N	7.45 W	-13.30	47.20
5419.00	33.00	151.20	5414.15	6.81 N	4.96 W	-8.34	42.15
5429.00	37.20	147.90	5422.33	1.86 N	2.04 W	-2.75	46.07
5439.00	40.30	142.80	5430.13	3.28 S	1.53 E	3.42	44.48
5449.00	43.00	139.80	5437.60	8.46 S	5.69 E	10.04	33.56
5459.00	47.80	136.50	5444.63	13.76 S	10.44 E	17.15	53.43
5469.00	51.60	138.90	5451.09	19.40 S	15.57 E	24.77	42.17
5479.00	55.30	138.60	5457.05	25.44 S	20.86 E	32.79	37.08
5489.00	57.90	135.90	5462.55	31.57 S	26.53 E	41.14	34.41
5499.00	61.00	134.10	5467.63	37.65 S	32.62 E	49.75	34.66
5509.00	64.50	136.20	5472.21	43.96 S	38.89 E	58.63	39.67
5519.00	68.60	136.40	5476.19	50.59 S	45.22 E	67.81	41.04
5529.00	72.80	137.30	5479.50	57.47 S	51.68 E	77.24	42.85
5539.00	77.40	138.00	5482.07	64.61 S	58.18 E	86.90	46.49
5549.00	81.70	138.10	5483.88	71.93 S	64.76 E	96.72	43.01
5576.00	90.40	146.00	5485.74	93.13 S	81.29 E	123.46	43.46
5615.00	88.90	144.60	5485.98	125.20 S	103.49 E	161.95	5.26
5647.00	88.60	141.30	5486.68	150.73 S	122.76 E	193.70	10.35
5678.00	88.60	139.90	5487.43	174.67 S	142.43 E	224.59	4.51
5710.00	89.60	140.10	5487.94	199.18 S	163.00 E	256.51	3.19
5742.00	88.70	139.20	5488.41	223.57 S	183.71 E	288.44	3.98
5774.00	88.30	138.30	5489.25	247.62 S	204.80 E	320.39	3.08
5805.00	89.40	138.50	5489.87	270.79 S	225.38 E	351.35	3.61
5837.00	90.70	138.30	5489.84	294.72 S	246.63 E	383.33	4.11
5868.00	90.70	138.30	5489.46	317.87 S	267.25 E	414.30	0.00
5900.00	90.20	138.50	5489.21	341.80 S	288.49 E	446.27	1.68
5932.00	88.80	138.20	5489.49	365.71 S	309.76 E	478.24	4.47
5964.00	88.90	138.20	5490.13	389.56 S	331.08 E	510.21	0.31
5995.00	89.20	138.00	5490.65	412.63 S	351.78 E	541.19	1.16
6025.00	89.90	138.70	5490.88	435.04 S	371.72 E	571.16	3.30

SPERRY-SUN DRILLING SERVICES
SURVEY DATA

Customer ... : Mobil (Utah)
Platform ... : RATHERFORD UNIT
Slot/Well .. : BA25/19-22, 2A1

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
6057.00	91.30	139.00	5490.55	459.14 S	392.77 E	603.12	4.47
6089.00	91.20	139.00	5489.85	483.28 S	413.76 E	635.07	0.31
6121.00	88.30	137.30	5489.99	507.11 S	435.11 E	667.04	10.50
6153.00	87.70	137.80	5491.11	530.71 S	456.69 E	699.01	2.44
6185.00	88.90	138.30	5492.06	554.50 S	478.07 E	730.97	4.06
6216.00	89.40	136.40	5492.52	577.30 S	499.07 E	761.96	6.34
6248.00	88.40	135.70	5493.13	600.33 S	521.28 E	793.95	3.81
6280.00	88.50	135.20	5494.00	623.13 S	543.72 E	825.94	1.59
6312.00	87.70	134.70	5495.06	645.72 S	566.35 E	857.91	2.95
6343.00	87.70	134.30	5496.30	667.43 S	588.45 E	888.88	1.29
6375.00	87.70	134.50	5497.59	689.80 S	611.29 E	920.84	0.62
6407.00	89.10	134.10	5498.48	712.14 S	634.18 E	952.81	4.55
6439.00	88.80	133.20	5499.07	734.23 S	657.33 E	984.78	2.96
6470.00	89.40	132.70	5499.55	755.35 S	680.02 E	1015.73	2.52
6502.00	89.60	131.70	5499.83	776.84 S	703.73 E	1047.66	3.19
6534.00	89.90	131.30	5499.97	798.04 S	727.69 E	1079.56	1.56
6566.00	88.90	131.00	5500.31	819.10 S	751.79 E	1111.44	3.26
6597.00	89.30	133.80	5500.79	840.00 S	774.67 E	1142.38	9.12
6629.00	88.30	133.10	5501.46	862.00 S	797.90 E	1174.34	3.81
6661.00	88.10	132.90	5502.47	883.81 S	821.29 E	1206.28	0.88
6692.00	89.60	135.20	5503.09	905.36 S	843.56 E	1237.25	8.86
6723.00	90.50	135.50	5503.06	927.41 S	865.35 E	1268.25	3.06
6755.00	90.90	135.40	5502.67	950.22 S	887.80 E	1300.24	1.29
6787.00	90.40	135.20	5502.31	972.96 S	910.30 E	1332.24	1.68
6818.00	88.20	135.20	5502.69	994.95 S	932.15 E	1363.23	7.10
6850.00	87.50	134.80	5503.89	1017.57 S	954.76 E	1395.20	2.52
6882.00	88.00	135.50	5505.15	1040.23 S	977.31 E	1427.18	2.69
6915.00	88.10	133.20	5506.27	1063.29 S	1000.89 E	1460.14	6.97
6945.00	87.10	132.20	5507.52	1083.61 S	1022.92 E	1490.06	4.71
6976.00	87.60	131.70	5508.96	1104.31 S	1045.95 E	1520.95	2.28
7008.00	89.30	132.90	5509.82	1125.84 S	1069.61 E	1552.87	6.50
7040.00	90.90	134.70	5509.77	1147.99 S	1092.70 E	1584.85	7.53
7072.00	92.60	135.40	5508.79	1170.62 S	1115.30 E	1616.83	5.74
7103.00	90.70	134.30	5507.90	1192.48 S	1137.26 E	1647.81	7.08
7135.00	87.30	133.90	5508.46	1214.74 S	1160.24 E	1679.78	10.70
7167.00	87.30	134.30	5509.96	1236.98 S	1183.19 E	1711.73	1.25
7222.00	86.90	135.00	5512.75	1275.59 S	1222.27 E	1766.64	1.46
7256.00	86.90	135.00	5514.59	1299.59 S	1246.28 E	1800.58	0.00

SPERRY-SUN DRILLING SERVICES
SURVEY DATA

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.

7256 EXTRAPOLATED TO THE BIT

SAMPLE DESCRIPTIONS

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #19-22 SE 1-A HORIZONTAL LATERAL LEG #2

DEPTH	LITHOLOGY

5349.00 5360.00 "LS tan-ltbrn,occ off wh-ltgy,crm,ltgybrn,tr dkbrn,crpxl-micxl,chky-mrly-occ grdg to MRLST,sl anhy,dns-occ sl shy,tt,NFSOC,w/thn DOL dkbrn-brnblk,crpxl,shy-occ grdg to dol SH,arg ip,dns,tt,NFSOC"

5360.00 5370.00 "LS AA,chky-mrly-occ grdg to MRLST,sl anhy,dns-occ sl shy-arg ip,v rr trnsl CALC xl & dkbrn CHT frag,tt,NFSOC,w/DOL AA,rthy,shy-occ grdg to dol SH,arg ip,dns,tt,NFSOC"

5370.00 5380.00 "LS AA/incr m-ltgybrn,ltgy,crpxl-micxl,chky-mrly-grdg to MRLST,sl anhy,occ sl dol ip,tt-rr intxl POR,NFSOC,w/sl incr DOL m-dkgybrn,micxl-vfxl,sl crpxl,rthy,sl slty,pp PYR,dns,tt,NFSOC & incr dkbrn CHT"

5380.00 5390.00 "LS AA,chky-mrly-occ grdg to MRLST,sl anhy,v rr CALC xl,dns-sl shy,occ arg,tr brn-tan-ltgy CHT,tt,NFSOC,w/DOL dkbrn-brnblk-brngy,micxl-crpxl,sl shy-occ grdg to dol SH,arg ip,dns,tt,NFSOC"

5390.00 5400.00 "DOL dkbrn-brngy,occ brnblk,micxl-crpxl,rthy-sl shy,calc-occ grdg to dol LS,arg,tt,NFSOC,w/LS & CHT AA"

5400.00 5410.00 "LS ltbrn-tan-brn,off wh-crm-ltgybrn,crpxl-micxl,chky-sl mrly-anhy,dns-occ sl shy,tt-rr intxl POR,NFSOC,w/DOL AA,dns,tt,NFSOC & tr CHT AA"

5410.00 5420.00 "SH dkbrngy-dkbrnblk-occ blk,plty-sbblky,frm-msft,sl slty,calc-sl dol/tr LS incl,sl-occ v carb,grdg to shy carb LS ip,rr CRIN fos,w/LS AA,bcmg mot/SH,tt-tr intxl POR,NFSOC & DOL AA,NFSOC"

5420.00 5430.00 "LS m-ltgybrn-ltgy,occ tan-ltbrn,dkgy-gybrn,off wh-crm,crpxl-micxl,v mot,chky-sl anhy,rthy-sl shy,dol ip-grdg to calc sl shy DOL ip,tt-v rr intxl POR,NFSOC"

5430.00 5450.00 "LS m-ltgybrn,occ dkgy-gybrn,lt-mgy,tr off wh-crm,brn-dkbrn,AA,bcmg slty/depth,v mot,chky-sl anhy,tr xln ANHY/depth,rthy-sl shy,dol ip,tt-v rr intxl POR,NFSOC"

5450.00 5470.00 "LS tan-ltbrn-crm,off wh,occ lt-mgy,tr brn,dkgy,crpxl-micxl,occ vfxl,chky-anhy/scat trnsl xln ANHY,sl sil-slty-occ grdg to vf gr SS/LS incl & calc mtx,tr blk-dkbrn SH lam-mot,rr agl incl,rr smky-dkbrn CHT,dns,tt-v rr intxl POR,NFSOC"

5470.00 5480.00 "LS crm-tan,occ ltgy,rr ltbrn-brn,AA,sl-v slty occ grdg to v lmy SLTST,tt,NFSOC,scat ANHY incl,tr m-dkbrn mot CHT frag,rr brn-mbrn micxl lmy DOL arg anhy ip tt NFSOCrr blk carb calc-dol SH"

DEPTH	LITHOLOGY

5480.00 5500.00 "SH blk-dkgy,sbblky-sbplty,sft-mfrm,mica,sl slty,calc-dol,carb-sooty,w/tr scat thn LS crm-ltgy-tan,crpxl-micxl,arg,dns sl slty,tt & DOL brn-mbrn micxl arg mrly lmy tt NFSOC lams"

5500.00 5510.00 "SH AA,bcmg v mrly,grdg to v mrly-arg DOL brn-dkbrn,occ dkgybrn,crpxl,cln-v mrly,tt,NFSOC & LS crm-tan-wh-ltgy,ltbrn ip,crpxl-micxl,cln-dns,arg,anhy,sl dol,v rr SH lams,tt,NFSOC"

5510.00 5520.00 "LS crm-tan-ltgy,occ tan-ltgybrn,crpxl-micxl,occ vfxl-gran,sl slty,anhy,dol,v sl fos,grdg to v ooc-oom v sl alg GRNST,tt-mfr intxl POR,n-tr bri yel FLOR,n-rr spty brn-v rr blk STN,n-rr slow dif stmg CUT,w/rr arg-lmy micxl tt DOL-NFSOC & v thn blk SH lams"

5520.00 5540.00 "LS crm-tan,occ ltbrn-ltgy,crpxl-vfxl,gran-micsuc,pred ooc-oom v sl alg GRNST,w/intbd dns v sl ool occ anhy PKST,rr CHT frag,v sl DOL cmt,tt-mg ool-fr intxl POR,tr-fr bri yel FLOR,n-fr ltbrn STN,rr blk dd o STN,n-fr slow-mod fast stmg CUT,w/SH & DOL CVGS"

5550.00 5576.00 "LS ltbrn-brn-tan,rr crm-wh,micxl-vfxl,gran-micsuc,ooc-oom v sl alg GRNST,rr dns crpxl sl ool anhy PKST,v rr ANHY xl-rr DOL rich cmt,mfr intxl-mg ool-v rr alg POR,fr-mg bri yel FLOR,fr-mg ltbrn-brn STN-rr blk dd o STN,mfr-fr slow-mod fast stmg CUT,w/tr brn-gybrn dns-sl arg DOL & blk carb SH CVGS"

5580.00 5600.00 "LS ltbrn-tan,tr crm-off wh incl,brn,vfxl-gran-sl micsuc,occ micxl-crpxl,ooc-ool-sl oom GRNST,tr scat-occ intbd dns sl ool PKST,sl chky-anhy/tr POR fl,sl agl ip,dol/tr DOL cmt,POR AA,g even mod bri-bri yel FLOR,mg-fr ltbrn-brn/tr bllk dd o STN,g fast-sl blooming mlky CUT"

5600.00 5630.00 "LS AA,vfxl-gran-sl micsuc,tr micxl-crpxl,ooc-ool-sl oom GRNST,tr PKST AA,sl chky-anhy/tr POR fl-rr xln ANHY,dol/tr DOL cmt,mg-g ool-sl oom/tr agl POR,g even mod bri-bri yel FLOR,mg-fr ltbrn-brn/tr blk dd o STN,CUT AA"

5630.00 5650.00 "LS ltbrn-tan/tr crm-off wh incl,vfxl-gran-micsuc,occ micxl-crpxl,rr xln incl,ooc-ool-sl oom GRNST/occ agl incl,decr scat-intbd PKST AA,sl chky-anhy/tr POR fl-xln ANHY,g ool-oom/tr intxl POR,FLOR AA,g-mg ltbrn-brn/tr blk dd o STN,g mod fast-slow stmg CUT "

5650.00 5680.00 "LS AA,vfxl-gran-micsuc,occ micxl-crpxl,pred ooc-ool/tr sl oom-agl GRNST,tr scat-intbd dns sl ool PKST/tr gran tex,sl chky-anhy/rr POR fl-xln ANHY,dol/tr DOL cmt,g ool-oom/tr intxl-pp agl POR,FLOR-STN AA,g mod fast-slow stmg CUT "

5680.00 5700.00 "LS ltbrn-tan/tr crm-off wh incl,AA/rr xln incl,pred ool-sl oom/tr pp vug & agl GRNST,occ ooc GRNST,tr scat-intbd PKST AA,sl chky-anhy/tr POR fl-rr xln ANHY,dol/tr DOL cmt,g ool-oom/tr intxl & agl POR,FLOR AA,g-mg ltbrn-brn/tr blk dd o STN,CUT AA "

DEPTH	LITHOLOGY

5700.00 5720.00 5"LS ltbrn-tan/tr crm-off wh incl,vfxl-gran-micsuc,tr micxl-crpxl,rr xln incl,ooc-ool-sl oom GRNST/occ agl incl,tr scat-intbd PKST AA,sl chky-anhy/tr POR fl-xln ANHY,dol/tr DOL cmt,POR-FLOR AA,g-mg ltbrn-brn/tr blk dd o STN,g mod fast-fast stmg mlky CUT"

5720.00 5740.00 "LS AA,vfxl-gran-micsuc,occ micxl-crpxl,rr xln incl,pred ool-oom GRNST/tr agl-ooc incl,rr scat-intbd dns sl ool PKST,sl chky-anhy/tr POR fl-rr xln ANHY,dol/fr DOL cmt,g ool-oom/tr intxl POR,g even mod bri-bri yel FLOR,g-mg brn-ltbrn/rr blk dd o STN,g mod fast-slow stmg mlky CUT"

5740.00 5760.00 "LS AA,ooc-ool-sl oom GRNST/rr agl incl,rr scat-intbd PKST AA,sl chky-anhy/tr POR fl-xln ANHY,dol/fr DOL cmt,g ool-oom/tr intxl-rr pp agl POR,g even mod bri-bri yel FLOR,g-mg brn-ltbrn/sl incr blk dd o STN,g mod fast-fast stmg mlky CUT "

5760.00 5780.00 "LS AA,pred GRNST AA/rr scat-intbd PKST AA,sl chky-anhy/rr POR fl & xln ANHY,dol/fr DOl cmt,g ool-oom/tr intxl-rr pp agl POR,g even mod bri-bri yel FLOR,g-mg brn-ltbrn/sl incr blk dd o STN,g fast-mod fast stmg mlky CUT "

5780.00 5800.00 "LS AA,ooc-ool-sl oom GRNST/rr agl incl,rr scat-intbd dns sl ool PKST,v sl chky-anhy/rr POR fl & xln ANHY,dol/fr DOL cmt,g ool-oom/tr intxl-rr pp agl POR,FLOR AA,g-mg brn-ltbrn/tr blk dd o STN,g mod fast-fast stmg mlky CUT "

5800.00 5820.00 580"LS ltbrn-tan/tr crm-off wh incl,vfxl-gran-micsuc,rr micxl-crpxl,ool-oom-sl ooc GRNST/tr agl incl,rr scat-intbd PKST AA,sl chky-anhy/rr POR fl-xln ANHY,dol/tr DOL cmt,POR-FLOR-STN AA,g fast stmg/tr blooming mlky CUT"

5820.00 5840.00 "LS AA,ool-oom-sl ooc GRNST/tr agl incl,rr scat-intbd dns sl ool PKST/tr gran tex,v sl chky-anhy/rr POR fl-v rr xln ANHY,dol/tr DOL cmt,POR-FLOR AA,g brn-ltbrn/incr blk dd o STN,CUT AA"

5840.00 5870.00 "LS AA,ool-oom-sl ooc GRNST/rr agl incl,rr scat-intbd PKST AA,v sl chky-anhy/rr POR fl-v rr xln ANHY,dol/fr DOL cmt,g ool-oom/tr intxl-pp agl POR,g even mod bri-bri yel FLOR,g-mg brn-ltbrn/fr blk dd o STN,g fast stmg-sl blooming mlky CUT "

5870.00 5900.00 "LS ltbrn-tan/tr crm-off wh incl,rr mbrn,vfxl-gran-micsuc,rr micxl-crpxl,ool-oom-sl ooc GRNST/rr agl incl,rr scat-intbd dns sl ool PKST,v sl chky/tr POR fl-rr xln ANHY,dol/fr DOL cmt,POR-FLOR AA,g-mg ltbrn-brn/fr blk dd o STN,CUT AA"

5900.00 5920.00 "LS ltbrn-brn-tan/tr incl AA,ool-oom-sl ooc GRNST/rr agl incl,rr PKST AA,v sl chky-anhy/tr POR fl-v rr xln ANHY,dol/tr DOL cmt,g ool-oom/tr intxl-rr pp agl POR,g even mod bri-bri yel FLOR,g-mg brn-ltbrn/tr blk dd o STN,g fast stmg-blooming mlky CUT "

DEPTH	LITHOLOGY

5920.00 5940.00 "LS AA,vfxl-gran-micsuc,tr micxl-crpxl-rr xln incl,ool-oom GRNST/tr agl-ooc incl,tr scat-intbd dns sl ool PKST,sl chky-anhy/tr POR fl-xln ANHY,dol/fr DOL cmt,POR AA,g even bri-mod bri yel FLOR,g brn-ltbrn/tr blk dd o STN,g fast stmg-sl blooming mlky CUT"

5940.00 5970.00 "LS AA,ool-oom GRNST/tr agl-ooc incl,tr scat-intbd dns sl ool PKST,sl chky-anhy/tr POR fl-xln ANHY,dol/fr DOL cmt,g ool-oom/tr agl-intxl POR,FLOR-STN AA,g fast stmg-blooming mlky CUT"

5970.00 5990.00 "LS ltbrn-brn-tan/tr crm-off wh incl,ool-oom-sl ooc GRNST/tr agl mat,tr dns sl ool-agl PKST/tr gran tex,sl chky-anhy/tr POR fl-xln ANHY,dol/tr DOL cmt,g ool-oom/tr pp vug-agl POR/rr intxl POR,FLOR AA,g brn-ltbrn/tr blk dd o STN,CUT AA"

5990.00 6020.00 "LS AA,ool-oom-sl ooc GRNST/tr agl incl,tr PKST AA,sl chky-anhy/tr POR fl-xln ANHY incl,dol/tr DOL cmt,POR AA,g even mod bri-bri yel FLOR,mg-fr ltbrn-brn/rr blk pp dd o STN,g mod fast-fast stmg mlky CUT "

6020.00 6060.00 "LS ltbrn-tan/tr incl AA,occ brn,GRNST AA,tr dns sl ool-agl PKST/tr gran tex,bcmg sl incr chky-v sl anhy/tr POR fl-xln ANHY incl,dol/fr DOL cmt,g ool-oom/tr intxl-pp agl-vug POR,g even mod bri-bri yel FLOR,g-mg ltbrn-fr brn/tr blk dd o STN,CUT AA"

6060.00 6090.00 "LS AA/rr xln incl,bcmg ool-ooc-sl oom GRNST/rr agl incl,tr PKST AA,chky-sl anhy/tr POR fl-xln ANHY,dol/tr DOL cmt,g ool-oom/tr intxl-rr pp agl POR,FLOR AA,g-mg ltbrn-tr brn/rr blk pp dd o STN,g mod fast-fast stmg/tr blooming mlky CUT "

6090.00 6120.00 "LS ltbrn-tan/tr crm-off wh incl,tr brn,ool-ooc-sl oom GRNST/rr agl incl,tr dns sl ool-agl PKST,chky-sl anhy/tr POR fl-rr xln ANHY,dol/tr DOL cmt,g-mg ool-sl oom/tr intxl-rr pp agl POR,FLOR AA,g-mg ltbrn-fr brn/rr blk pp dd o STN,g mod fast-fast stmg mlky CUT"

6120.00 6150.00 "LS AA,pred ooc-ool-sl oom GRNST/tr agl incl,tr dns sl ool-sl agl PKST,chky-sl anhy/tr POR fl-rr trnsl xln ANHY incl,dol/tr DOL rich cmt,POR-FLOR-STN-CUT AA"

6150.00 6190.00 "LS ltbrn-tan/occ crm-off wh incl,tr brn,ool-ooc-sl oom GRNST/rr agl incl & dns strk,sl incr PKST AA,sl chky-anhy/tr POR fl-rr ANHY AA,dol/tr DOL cmt,mg-fr ool-fr oom/tr intxl-rr pp agl POR,g even mod bri-bri yel FLOR,mg ltbrn-fr brn/rr blk pp dd o STN,g mod fast-slow/tr sl blooming mlky CUT "

6190.00 6220.00 "LS AA,ool-ooc-sl oom-v sl agl GRNST/occ dns strk,sl incr dns sl ool-agl PKST/tr gran tex,sl chky-anhy/tr POR fl-rr trnsl xln ANHY incl,sl dol/tr DOL cmt,POR AA,g even mod bri-bri yel FLOR,mg-fr ltbrn-tr brn/v rr blk pp dd o STN,CUT AA"

6220.00 6240.00 "LS AA,pred GRNST AA/tr PKST AA,sl chky-anhy/tr POR fl-rr trnsl xln ANHY incl,sl dol/tr DOL cmt,mg-fr ool-sl oom/tr intxl-pp agl-vug POR,g even mod bri-bri yel FLOR,mg-fr ltbrn-tr brn/rr blk pp dd o STN,g mod fast stmg/tr sl blooming mlky CUT "

DEPTH	LITHOLOGY

6240.00 6260.00 "LS ltbrn-tan/tr crm-off wh incl,tr brn,pred GRNST AA,tr PKST AA,sl chky-anhy/tr POR fl-rr ANHY AA,dol/fr DOL cmt,mg-fr ool-sl oom/tr intxl-pp vug-agl POR,FLOR AA,g-mg ltbrn-tr brn/n-v rr blk dd o STN,g mod fast-slow stmg/tr sl blooming mlky CUT "

6260.00 6280.00 "LS AA,pred ool-ooc-sl oom GRNST/tr agl incl,tr-sl incr PKST AA,sl chky-anhy/tr POR fl-trnsl xln ANHY,dol/tr DOL cmt,rr tan-bf CHT-sil incl,POR-FLOR AA,mg-fr ltbrn-tr brn STN,g mod fast-slow stmg mlky CUT "

6280.00 6300.00 "LS ltbrn-tan,rr crm-brn,crpxl-vfxl,gran-micsuc,sl ooc-alg,pred oom GRNST,scat dns sl ool anhy PKST,sl-v DOL rich cmt,occ grdg to v lmy DOL,mg intxl-fr ool-alg POR,mg bri yel FLOR,fr ltbrn-brn STN-v rr blk dd STN,fr-mg slow-tr-mfr mod fast stmg mlky CUT "

6300.00 6330.00 "LS AA,pred ooc-alg-v sl oom GRNST,abnt DOL rich cmt,occ grdg to v lmy DOL,sl anhy-tr ANHY xl-POR fl,fr-mg intxl-ool-mfr alg POR,FLOR-STN-CUT AA"

6330.00 6340.00 "LS AA,w/sl tr brn,micxl-vfxl,gran,v lmy sl alg DOL,LS-POR-FLOR-STN-CUT AA,DOL fr-mg intxl-sl alg POR,fr bri yel FLOR,fr-mg brn STN,mg mod fast CUT "

6340.00 6360.00 "LS ltbrn-tan,tr brn-rr c,crpxl-vfxl,gran-micsuc,pred ooc-alg-sl oom GRNST,scat dns sl ool anhy PKST,v DOL rich cmt ip,grdg to v lmy DOL ip,mg intxl-fr ool-alg POR,mg bri yel FLOR,fr ltbrn-brn STN-v rr blk dd STN,fr-mg slow-tr-mfr mod fast stmg mlky CUT "

6360.00 6380.00 "LS AA,POR-FLOR-STN-CUT AA,w/v DOL rich cmt,rr v lmy DOL frag,scat ANHY xl-POR fl,DOL-v rr alg-sl tr intxl POR,mg FLOR-STN-CUT "

6380.00 6400.00 "LS AA,v dol ip,decr DOL cmt-incl,mg ool-intxl-tr alg POR,mg bri-v rr spty dull yel FLOR,mfr-mg ltbrn-brn STN,n-v rr spty blk dd o STN,mg slow-mfr mod fast-rr fast stmg CUT"

6400.00 6430.00 "LS tan-ltbrn,rr brn-v rr crm,crpxl-vfxl,gran-micsuc ip,pred ooc-sl oom-occ alg GRNST,scat ANHY xl-POR fl,rr sl ool anhy dns PKST frag,occ sl-v DOL rich cmt,fr-mg intxl-ool-tr alg POR,mg bri yel FLOR,mfr-fr ltbrn-brn STN,mg mod fast-fast stmg CUT"

6430.00 6450.00 "LS AA,w/v sl incr ANHY xl-POR fl,incr DOL cmt-occ grdg to v rr v lmy gran DOL frag,POR-FLOR-STN-CUT AA"

6450.00 6480.00 "LS pred ooc-tr alg-rr oom GRNST,rr scat v lmy DOL frag-abnt DOL rich cmt,mg intxl-ool POR,rr alg-oom POR,mg bri-rr dull yel FLOR,fr brn-ltbrn STN,tr blk dd o STN,mfr-mg slow-mod fast-tr fast stmg CUT"

6480.00 6520.00 "LS tan-ltbrn-brn,micxl-vfxl,gran-micsuc,suc ip,pred ooc-alg GRNST-rr oom mat,scat sl ool crpxl anhy dns PKST,v sl-sl DOL cmt,occ ANHY xl-POR fl,mg intxl-ool-rr alg POR,mg bri-rr dull yel FLOR,fr-mg brn-ltbrn STN-v rr blk dd o STN,mfr-mg slow-fast CUT"

DEPTH	LITHOLOGY

6520.00 6550.00 "LS AA,w/decr amnt DOL cmt,g intxl-fr ool-tr alg POR,FLOR-STN-CUT AA,v rr spty blk dd o STN"

6550.00 6580.00 "LS tan-ltbrn,rr brn-v rr crm,micxl-vfxl,occ gran-sl micsuc,pred ooc-oom-v rr alg GRNST,occ dns-sl anhy ool ip PKST,occ DOL cmt,rr-tr ANHY xl-POR fl,v rr CHT frag,mfr-mg intxl-ool-tr alg POR,fr-mg bri-rr dull yel FLOR,mfr ltbrn-brn STN,v rr spty blk dd o STN,mfr-mg slow-fast stmg mky CUT"

6580.00 6600.00 "LS AA,v rr DOL rich cmt,mfr-mg ool-mfr alg POR-fr intxl POR,mg bri-v rr dull yel FLOR,fr ltbrn-brn STN-v rr spty blk dd o STN,fr-mg slow-fast stmg mlky CUT"

6600.00 6630.00 "LS pred ltbrn-tan,rr crm-brn,ooc-sl alg-rr oom GRNST AA,w/sl incr sl ool PKST AA,scat ANHY xl-POR fl,rr DOL rich cmt,mg intxl-ool POR,sl tr alg POR,mg bri-v rr dull yel FLOR,mfr-fr ltbrn-tr brn STN,fr-mg mod fast-tr fast stmg mlky CUT"

6630.00 6670.00 "LS tan-ltbrn,occ brn,micxl-vfxl,occ gran-sl micsuc,pred ooc-ooc alg-v sl oom GRNST,scat dns crpxl sl anhy ool ip PKST,sl DOL cmt,rr ANHY xl-POR fl,v rr CHT frag,mfr-mg intxl-ool-rr alg POR,fr-mg bri-rr dull yel FLOR,mfr brn STN,fr-mg mod fast stmg CUT"

6670.00 6680.00 "LS AA,v sl incr dns crpxl PKST frag,POR-FLOR-STN-CUT AA"

6680.00 6700.00 "LS tan-ltbrn,rr brn,crpxl-vfxl,gran-micsuc,pred ooc-oom GRNST w/rr alg mat,scat dnsl ool PSKT AA,sl tr ANHY xl-POR fl,tr scat trnsl CALC xl,fr-g bri yel FLOR,mg ool-intxl POR,v rr alg POR,fr ltbrn-tr brn STN,fr-mg mod fast-fast stmg mlky CUT"

6700.00 6730.00 "LS pred g ooc-oom-v sl alg GRNST AA,rr scat sl ool crpxl dns PKST AA,v rr trnsl-bf CHT frag,scat CALC xl,fr-g intxl-ool-tr alg POR,mg bri-v rr spty dull yel FLOR,mfr-fr ltbrn STN,mfr-mg mod fast-fast stmg mlky CUT"

6730.00 6760.00 "LS AA,g ooc-oom-sl alg GRNST,w/rr PKST AA,scat CALC xl,mg intxl-ool-sl tr alg POR,mg bri yel FLOR,fr-mg ltbrn-fr brn STN,mg mod fast-fast stmg mlky CUT"

6760.00 6790.00 "LS tan-ltbrn,rr brn,crpxl-vfxl,gran-micsuc,pred ooc-oom GRNST w/tr alg mat,scat dns anhy ip sl ool PSKT,rr ANHY xl-POR fl,tr scat trnsl CALC xl,fr-g bri yel FLOR,mg ool-intxl POR,v rr alg POR,fr ltbrn-tr brn STN,fr-mg mod fast-fast stmg mlky CUT"

6790.00 6820.00 "LS pred ooc-oom-sl alg GRNST,w/sl incr dns sl ool PKST,rr-sl tr DOL rich cmt,occ ANHY fl POR-rr xl,scat CALC xl,sl decr intxl POR,FLOR-STN-CUT AA"

6820.00 6850.00 "LS AA,pred ooc-oom GRNST w/v rr scat alg mat,sl tr scat PKST AA,fr-g intxl-ool POR-v rr alg POR,mg-g bri yel FLOR,mfr-fr ltbrn-tr brn STN,n-v rr vis blk dd o STN,mfr-mg slow-mod fast-sl tr fast stmg mlky CUT"

DEPTH	LITHOLOGY

6850.00 6880.00 "LS ltbrn-tan,rr brn-crm,micxl-vfxl,gran-micsuc ip,pred ooc-oom GRNST-rr alg mat,sl tr-tr dns sl ool anhy PKST,v sl dol-rr DOL cmt,v sl ANHY xl-POR fl,rr CALC xl,fr-mg intxl-ool-v rr alg POR,mg bri-rr dull yel FLOR,mfr-fr ltbrn-brn STN,mfr-mg slow-mod fast-tr fast stmg mlky CUT "

6880.00 6910.00 "LS AA,pred ooc-oom GRNST w/v rr alg mat,rr scat PKST AA,v rr CALC xl,decr alg POR,decr brn STN,FLOR-CUT AA"

6910.00 6940.00 "LS tan-ltbrn,v rr crm-brn,crpxl-vfxl,occ gran-micsuc,pred ooc-oom GRNST w/v rr alg mat,rr scat anhy-v dns ool PKST,occ ANHY xl-POR fl,mfr-mg intxl-ool-v rr alg POR,mfr-mg bri-tr dull yel FLOR,mfr ltbrn-rr brn STN,mfr-mg mod fast-fast stmg CUT"

6940.00 6980.00 "LS AA,vg ool-intxl POR,rr alg POR,mg dull-bri yel FLOR,mfr-fr ltbrn-sl tr brn STN,n-v rr vis blk dd o STN,mg mod fast-tr fast stmg mlky CUT"

6980.00 7010.00 "LS tan-ltbrn,v rr crm-wh,crpxl-vfxl,sl gran-micsuc,pred ooc-oom GRNST w/tr alg mat,sl tr scat anhy-v dns ool PKST,occ ANHY xl-POR fl,mfr-mg intxl-ool-mfr alg POR,fr-mg bri-tr dull yel FLOR,fr ltbrn-rr brn STN,fr-mg mod fast-fast stmg mlky CUT"

7010.00 7020.00 "LS tan-ltbrn,rr brn,pred ooc-oom sl alg GRNST,v rr scat dns sl ool occ anhy PKST,occ ANHY xl-POR fl,fr-mg ool-intxl-mfr alg POR,mg bri yel FLOR,mfr-fr ltbrn-tr brn STN,mfr-mg mod fast-fast stmg mlky CUT"

7020.00 7040.00 "LS AA,POR-FLOR-CUT AA,fr ltbrn-tr brn STN,v rr spty blk dd o STN"

7040.00 7070.00 "LS tan-ltbrn,occ brn-rr crm,micxl-vfxl,occ gran-micsuc,pred ooc-oom v sl alg GRNST,scat sl tr dns occ ool sl anhy PKST,v sl DOL rich cmt,rr CALC xl-v rr ANHY fl POR,mfr-mg intxl-ool-rr alg POR,mg bri-tr dull yel FLOR,fr brn-sl tr blk dd o STN, fr-mg mod fast-fast stmg mlky CUT "

7070.00 7100.00 "LS AA,micxl-vfxl,occ gran-micsuc,pred ooc-oom v sl alg GRNST,sl tr PKST AA,v sl DOL rich cmt,rr CALC xl-v rr ANHY fl POR,mfr-mg intxl-ool-rr alg POR,mg bri-tr dull yel FLOR,fr brn-sl tr blk dd o STN,CUT AA"

7100.00 7110.00 "LS AA,pred GRNST AA,scat sl tr dns occ ool sl anhy PKST,v sl DOL rich cmt,sl chky-anhy/rr xl ANHY-POR fl,v rr CALC xl,mfr-mg intxl-ool-sl oom-rr alg POR,mg even mod bri-tr bri yel FLOR,fr ltbrn-tr brn/rr blk dd o STN,g slow-mod fast stmg mlky CUT"

7110.00 7130.00 "LS AA,micxl-vfxl,occ gran-micsuc,pred ooc-oom-v sl alg GRNST,scat tr dns occ ool sl anhy PKST,sl DOL rich cmt,sl chk-anhy/tr POR fl-rr xln ANHY,tr trnsl-clr rhmb CALC xl,POR-FLOR AA,fr ltbrn-tr brn/rr blk dd o STN,CUT AA"

7130.00 7150.00 "LS tan-ltbrn/occ crm-off wh incl,tr brn,micxl-vfxl-gran,occ micsuc,tr crpxl,pred ooc-sl ool-oom-v sl alg GRNST,tr scat-intbd dns sl ool-ooc PKST/tr gran tex,v sl DOL rich cmt,sl chky-anhy/tr POR fl-v rr xln ANHY,tr xl CALC AA,POR-FLOR AA,mg-fr ltbrn/tr brn-v rr blk dd o STN,g mod fast-slow stmg mlky CUT "

DEPTH	LITHOLOGY

7150.00 7180.00 "LS AA,micxl-vfxl-gran,tr crpxl-sl micsuc,ooc-sl ool-oom-sl alg GRNST,tr intbd-scatdns sl ool-agl PKST/tr gran tex,chky-sl anhy/tr POR fl-rr xln ANHY,tr xln CALC AA,sl dol/tr DOL cmt,mg-fr ool-intxl/tr sl oom-pp vug-agl POR,g even mod bri-dull/scat bri yel FLOR,STN-CUT AA"

7180.00 7210.00 "LS AA/rr crm--off wh frag,micxl-vfxl-gran,tr crpxl,rr micsuc,ooc-sl ool-oom GRNST/tr agl strk,tr PKST AA,sl chky/tr v chky strk-POR fl,sl anhy/rr xln ANHY,bcmg v sl dol/rr DOL cmt,rr CALC AA,POR-FLOR AA,mg-fr lt brn/tr brn-rr blk STN,g mod fast-slow stmg mlky CUT"

7210.00 7256.00 "LS tan-ltbrn,rr brn-crm,micxl-vfxl,gran-micsuc ip,pred ooc-oom-v sl alg GRNST,sl tr dns v sl ool occ anhy PKST frag,occ ANHY xl-POR fl,v sl dol,rr CALC xl,mg intxl-ool-rr alg POR,fr-mg bri yel FLOR,mfr-fr ltbrn-rr brn-v rr spty blk STN,fr mod fast CUT"

FORMATION TOPS

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #19-22 SE 1-A HORIZONTAL LATERAL LEG #2

FORMATION NAME		SAMPLES MEASURED DEPTH	SAMPLES TRUE VERTICAL DEPTH	DATUM KB:4752'
LOWER ISMAY		5406'	5403'	-651'
GOTHIC SHALE		5478'	5456'	-704'
DESERT CREEK		5507'	5471'	-719'
UPPER DC 1-A ZONE		5516'	5474'	-722'
TOP BEST POROSITY IN 1-A ZONE		5529'	5479'	-727'

GEOLOGICAL SUMMARY

AND

ZONES OF INTEREST

The Mobil Exploration and Production U.S., Inc., Ratherford Unit #19-22 Northwest Horizontal Lateral Leg #2 was a re-entry of the Mobil Ratherford Unit #19-22 located in Section 19, T41S, R24E, and was sidetracked in a southesterly direction from 5349' measured depth, 5348' true vertical depth, on October 6, 1998. The lateral reached a measured depth of 7256', true vertical depth of 5514.6' at total depth, with a horizontal displacement of 1800.6' and true vertical plane of 135 degrees on October 8, 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 a very minor flow of fluid throughout the lateral and curve sections, probably coming from Lateral Leg #1.

The objective of the Ratherford Unit #19-22 southeast lateral Leg #2 was to penetrate and drill 1800' horizontally in the Desert Creek 1-A porosity zone; to identify and define its lithology, and to evaluate the effective porosity of the zone. In this southeasterly direction, the 1-A porosity zone appeared to have a very consistent and well developed porosity, thus was the target for drilling in this lateral. These objectives were met in the 1-A porosity zone of the Desert Creek. The lithology of the porosity penetrated in this southeasterly lateral was predominately an oolicastic to oomoldic, very slightly algal limestone grainstone facies, and had a fair to good hydrocarbon and gas show, with good visible effective porosity and permeability. As the lateral bumped the top of the 1-A zone, a very minor increase in dense, very slightly oolitic, occasionally platy and chalky limestone packstone was noted. These packstones had no to very minor porosities and no to extremely poor sample and gas shows.

The curve was begun in the lower portion of the Upper Ismay on October 6, 1998 before encountering the typical sections of the Lower Ismay, Gothic Shale, Desert Creek and the 1-A porosity bench carbonate cycle of the Upper Paradox Formation.

The curve section was began at measured depth of 5349', 5348' true vertical depth in the lower half of the Upper Ismay carbonate cycle of the Upper Paradox Formation. The lower portion of the Upper Ismay was penetrated from a measured depth of 5349', to a measured depth of 5406', true vertical depth 5403'. This lower 57' of the Upper Ismay member was a predominately a clean to dense, occasionally argillaceous, tight limestones, with scattered interbeds of earthy to argillaceous dolomites, very thin black carbonaceous shale partings and scattered chert fragments. The limestones were cream to white, some light gray to medium gray brown to brown, cryptocrystalline to microcrystalline, clean and dense, with streaks of an earthy to argillaceous to chalky texture. These limestones had very rare streaks of fracture to very minor intercrystalline porosity, but had no visible sample shows. The thin interbedded dolomites were brown to medium brown, cryptocrystalline to microcrystalline, earthy to argillaceous, limey, becoming marly with depth, and had scattered Crinoid fossils. The dolomites had traces of minor intercrystalline to earthy porosity, but as with the limestones, no visible porosity and no sample shows. The shale parting were black to dark gray, some light gray, subblocky to subplaty, occasionally fissile, very slightly silty, micaceous, and calcareous to slightly dolomitic, and had very minor Crinoid fossils. Scattered throughout the Upper Ismay

carbonates were translucent to buff to dark brown chert fragments. The basal carbonates became increasingly marly and graded into the thin, very fossiliferous, carbonaceous Hovenweep Shale. The Hovenweep Shale, which defines the Upper and Lower Ismay contact, was represented by an moderate increase in the black carbonaceous, dolomitic to calcareous, occasionally silty shale. This contact is moderately well represented in the samples from measured depths of 5400' and 5406', true vertical depths 5397' to 5403'.

The top of the Lower Ismay member of the Upper Paradox Formation was picked at a measured depth of 5406', true vertical depth 5403', based primarily on sample identification and a slight decrease in the rate of penetration. The upper 35' of the Lower Ismay was thinly interbedded tan to light gray, occasionally brown to light gray brown, cryptocrystalline to microcrystalline, dense, very slightly anhydritic, fossiliferous limestones; some argillaceous, brown to medium brown dolomites, with very thin black carbonaceous shale partings and rare chert fragments. The Lower Ismay, from measured depths of 5441' to 5471', became a white to cream to light gray, cryptocrystalline to microcrystalline, with granular streaks, chalky, slightly to very silty, occasionally anhydritic, chalky and occasionally dolomitic in part. This limestone had streaks of well cemented very silty limestone grainstones, some scattered translucent to light to dark brown chert fragments, and very rare thin brown, earthy dolomites. It was also noted that these limestones occasionally graded to very limey siltstones. Associated with the limestones were very rare streaks of intercrystalline porosity, but had no visible sample show. The basal 7 feet of the Lower Ismay, from a measured depth of 5471' to a measured depth of 578', was a very dense, slightly dolomitic limestone packstone and earthy limey dolomites. These limestones and dolomites became slightly to very marly with depth, and had scattered anhydrite interclasts and chert fragments. The basal limestones and thin dolomites had no visible porosity or sample show. The basal limestones and dolomites of the Lower Ismay carbonates graded into limey to dolomitic carbonaceous shales of the Gothic Shale.

The Gothic Shale was penetrated at a measured depth of 5478', true vertical depth 5456', and gradationally underlies the Lower Ismay. The top of the Gothic was picked by a decrease in the penetration rate and a significant increase in the amount of black carbonaceous shale in the cuttings. This shale member of the Upper Paradox Formation was seen to be ten feet thick in this southesterly direction. This shale is black to dark gray shale, 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 Gothic overlays the top of the Desert Creek Member with a sharp contact.

The top of the Desert Creek Member of the Upper Paradox Formation was picked at a measured depth of 5507', 5471' true vertical depth, in an increase in penetration rate and the amount of dense limestone packstone in the samples. The transition zone between the Gothic Shale and the top of the Upper Desert Creek 1-A porosity zone was predominately a dense limestone packstone, which became very argillaceous and very slightly oolitic in part and had thinly interbedded argillaceous limey marlstones and very thin black carbonaceous shale partings. This transition zone had a true vertical thickness of approximately three feet. The limestones of the transition zone are light brown to cream to white to light gray, some medium brown to gray brown, cryptocrystalline to microcrystalline, with very rare very finely crystalline streaks, dense to slightly silty, and very slightly dolomitic. Scattered in the limestones are very thin, dark brown, very argillaceous, very shalely, limey marlstones; some black, dolomitic, slightly micaceous, calcareous, very slightly carbonaceous shales and rare brown, microcrystalline, limey, argillaceous dolomite fragments. The carbonates of the transition zone had no visible porosity or sample show. Near the base of the transition zone the dense limestones became increasingly oolitic and graded into the oolicastic to oomoldic limestones of the upper 1-A porosity bench.

The top of the Desert Creek Upper 1-A porosity zone was encountered at a measured depth of 5515', true vertical depth of 5474', with a horizontal displacement of approximately 64'. The top was picked on the lithology becoming predominately a good oolicastic to oomoldic limestone grainstone with a significant increase in the penetration rate and background gas. These oolicastic to oomoldic limestone grainstones marked the upper 1-A porosity zone, which was split into two benches. The upper porosity streak was only four vertical feet thick in this southeasterly direction. These limestone grainstones are tan to light brown to cream, microcrystalline to very fine crystalline, with a granular to slightly microsucrosic matrix and were very slightly dolomitic. The grainstones have a very minor amount of anhydrite crystal growth in the oolicasts and molds as well as in the intercrystalline matrix and very rare light brown chert fragments. The grainstone facies had a moderately good oomoldic to oolicastic fabric, with a moderately fair oolitic to fair intercrystalline porosity development. The sample show was moderately fair with a trace of brown to light brown oil stain and had minor traces of black bitchimum stain* filling on the crystal faces and in the oolicasts and molds. The grainstones had a spotty trace of bright to occasionally dull yellow fluorescence and a moderately fair slow streaming to trace fast streaming cut. The approximately one foot thick hard streak that split the Upper 1-A zone was noted at a measured depth of 5525', with a true vertical depth 5478'. This dense, slightly oolitic limestone packstone facies was cream to tan, occasionally white, cryptocrystalline to very slightly microcrystalline, slightly chalky to occasionally platy, clean and very slightly anhydritic. These packstones had very minor streaks of very slightly oolicastic to oomoldic limestone grainstone, with no to an extremely a very poor sample show.

The top of the best porosity (the lower bench) of the Upper 1-A porosity zone was penetrated at a measured depth of 5529', true vertical depth 5479', with a horizontal displacement of approximately 77'. The lithology of this lower bench was a very good oolicastic limestone grainstone, like the upper bench as described above. However, the porosity was better developed and had a fair to moderately good sample show. As soon as the 1-A zone was penetrated a slight increase in the heavy gases was noted on the chromatograph and a slight increase in the intermittent flare noted. This lower zone in the Upper 1-A was the target zone for the entire southeast lateral, as it appeared to be better developed as well as thicker on the vertical well log for the Ratherford #19-22 well as well as the offset logs.

The curve portion of the lateral was completed at a measured depth of 5576', true vertical depth 5485.7', at a horizontal displacement of 123', bearing 146 degrees, with an inclination of 90.4 degrees, on October 7, 1998, in the best porosity of the 1-A zone. 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 7, 1998, in the best porosity of the 1-A porosity bench of the Upper Desert Creek member of the Upper Paradox Formation. The lateral was slid for the first 88' in order to lower the dip angle, correct horizontal plane direction and to put the lateral assembly out far enough to begin rotating. The lateral was begun in the good oolicastic to oomoldic limestone grainstone facies. This limestone grainstone was a tan to light brown, some brown, microcrystalline to very fine crystalline, granular to microsucrosic, oolicastic to oomoldic, slightly dolomitic, with occasionally calcite and anhydrite cement and cast filling. These grainstones had a fair to good oolitic to intercrystalline porosity, a moderately good bright yellow fluorescence, a moderately fair light brown to brown oil stain, with trace to poor black bitchimum* stain, and a moderate to moderately fair fast to slow streaming cut. Increases in dense, very slightly oolitic, and occasionally chalky to platy packstone was noted when hard steaks were bumped and "glanced" off of, or very shallowly penetrated.

At a measured depth of 5664', 5487' true vertical depth; the well path was rotated ahead. As the lateral was drilled at a very shallow downward angle of approximately 89.5', a slight change in the lithology was noted beginning at a measured depth of 5700', 5488' true vertical depth. The change in lithology was the amount of dolomite cement noted in the limestone. As the well path continued, the amount of dolomite cement increased, with the good oolicastic to oomoldic, slightly algal limestone

grainstone becoming almost a very limey dolomite grainstone. The lateral continued to follow the downward dip of the zone and tracked the target line predominately on a parallel path just below the proposed target line. Upon reaching a measured depth of approximately 6300', 5594.5' true vertical depth, the well path began to slowly drift further downward away from the target line. The well path reached a shallow downward angle averaging 88° and maintained this average angle throughout most of the lateral. As the well path reached a measured depth of approximately 6480', 5499.5 true vertical depth, with a horizontal displacement of 1026', the amount of dolomite cement began decreasing rapidly, with the predominate lithology remaining the good oolicastic to oomoldic, slightly algal limestone grainstone. Throughout this interval of varying amounts of dolomite rich cement the sample shows remained very good

As the lateral reached a measured depth of 6664', 5502.5' true vertical depth, the well bore was approximately 6' below the proposed target line, and in very oolicastic to oomoldic, slightly algal limestone grainstone. At this point the lateral was slowly turned upward toward an angle of 90° to move away from the projected base of the zone and the move the lateral closer to the target line. The angle of the well path slowly moved upward to an angle of 90.9, then dropped to an angle of 90.4°, when the well bore glanced off the base of hard streak with in the 1-A zone, at a measured depth of 6797', 5502' true vertical depth. After bumping the hard streak at 6797', which turned the well bore downward, of note was that only a very subtle change in the penetration rate was noted when the hard streak was encountered. As the well path continued downward in the good oolicastic to oomoldic, slightly algal limestone grainstone porosity, the apparent base of the 1-A zone was bumped at a measured depth of 7013' with a true vertical depth of 5610', which turned the well path upward at angle of 92.6°. The well path was allowed to continue upward at a shallow angle, in the oolicastic to oomoldic limestone porosity with very good sample shows, as well the zone having a very good rate of penetration rate, until reaching a measured depth of 7097', 5508' true vertical depth. Upon reaching the measured depth of 7097', a gradual decrease in the rate of penetration was noted. The well path was immediately turned downward to move away from the hard streak with in the 1-A porosity zone.

After very shallowly penetrating the thin hard streak, the well path turned downward out of the hard streak at an angle of 87.3°. From a measured depth of 7097' to 7141' a moderate increase in the amount of white to cream, cryptocrystalline to microcrystalline, dense, occasionally chalky to platy packstone was noted in the samples. As the well path reached the measured depth of 7141', 5509' true vertical depth, the penetration rate increased, and the lithology returned to the very good oolicastic to oomoldic, very slightly algal limestone grainstones, with only minor traces of dense limestone packstones. From the measured depth of 7141', the lateral continued downward to a measured depth of 7256', 5514.6'. At this point the lateral had reached the maximum planed horizontal displacement of 1800', and the lateral was terminated, still in the good oolicastic to oomoldic limestone grainstone porosity, on October 8, 1998.

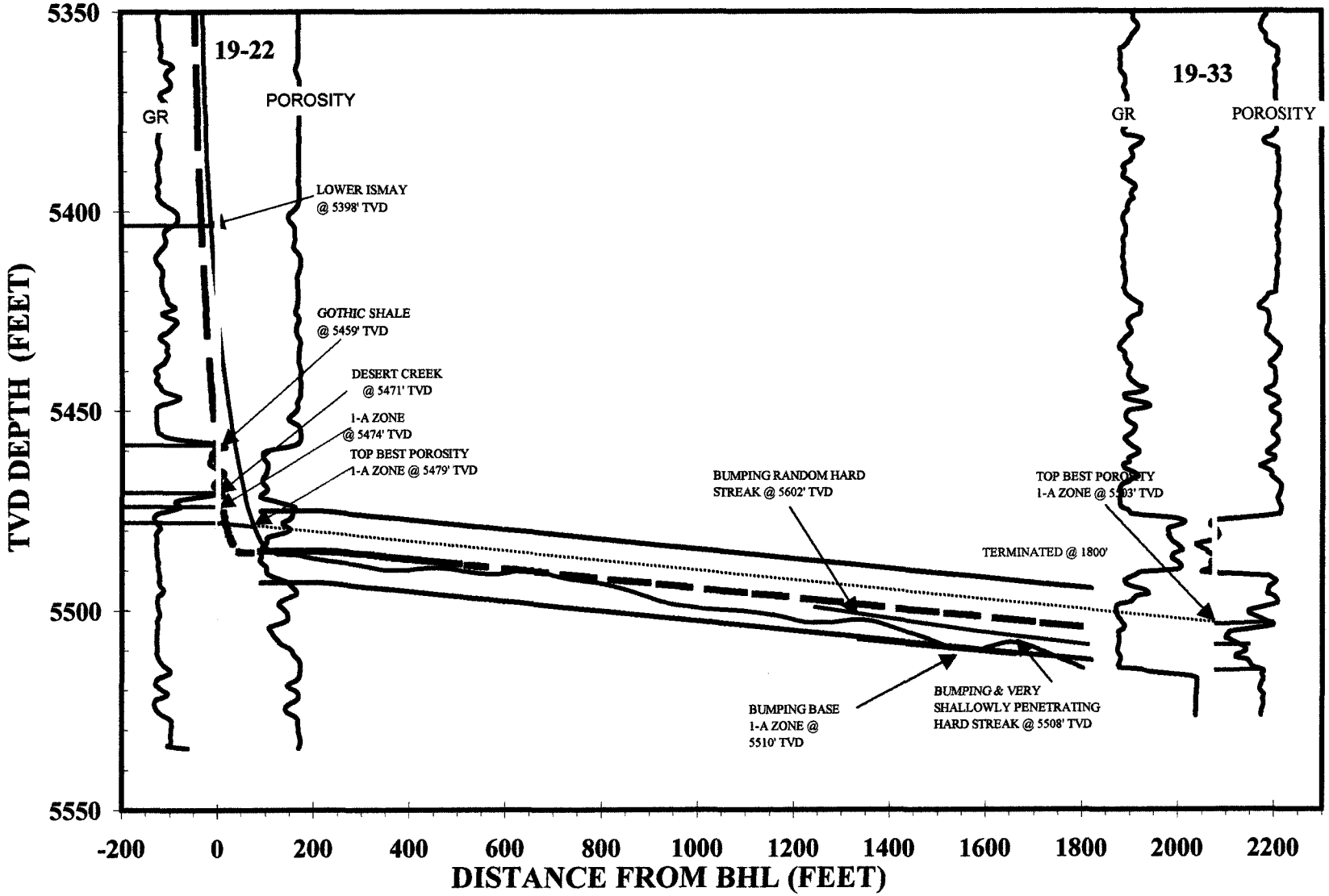
In tracking the lateral in this southeasterly direction, the oolicastic to oomoldic limestone grainstone lithology with good sample shows remained consistent throughout the length of the lateral. The amount of black bitchimum staining decreased as the lateral continued, and was only rarely seen after about 800' of horizontal section, while the amount of fluorescence, brown oil staining and the quality of the cut remained fairly consistent throughout the lateral. The oolicastic to oomoldic, very slightly algal limestone grainstones of the 1-A porosity zone, showed varying amounts of dolomite cement with increase to almost a very limey dolomite. Throughout the lateral, the limestone grainstones had a predominately good oolitic to intergranular porosity, with varying amounts of algal material. The grainstones had minor to moderate decreases in the amount of porosity associated with the increases in the tight dense limestone packstone, when the base of the zone or the random tight streaks were encountered or shallowly penetrated. The lateral at its termination, was approximately 10' below the proposed target but still in the good oolicastic to oomoldic, very slightly algal limestone grainstones. The well path was consistently below the proposed well path, as much as 6 feet, until reaching the laterals termination when the well path dropped to 10' below the proposed well path. Of note was the very minor water flow seen throughout the curve and lateral sections, which appeared to

be from the northwesterly lateral leg #1. This lateral had been surging 1' to 12' also, throughout the curve and lateral sections.

From the beginning of the 19-22 southeast lateral Leg #2 to its termination on October 8, 1998, at a measured depth of 7256', 5514.6 true vertical depth and a horizontal displacement of 1800', the porosities are very consistent and are well enough developed to enhance the overall performance of the R. U. 19-22 well. Even with the increased amount of dolomite cement and minor dolomitization noted, the total lateral should show increased production after acidization.

*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 producable 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 #19-22, Southeast Lateral



MOBIL

RATHERFORD UNIT #19-22
NW HORIZONTAL LATERAL LEG #1
UPPER 1-A POROSITY BENCH
DESERT CREEK MEMBER
PARADOX FORMATION
SECTION 19, T41S, R24E
SAN JUAN, UTAH

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

TABLE OF CONTENTS

WELL SUMMARY

OPERATOR:	MOBIL EXPLORATION & PRODUCTION U.S. INC.
NAME:	RATHERFORD UNIT #19-22 NW HORIZONTAL LATERAL LEG #1 IN 1-A LOWER POROSITY BENCH, DESERT CREEK
LOCATION:	SECTION 19, T41S, R24E
COUNTY/STATE:	SAN JUAN, UTAH
ELEVATION:	KB:4732' GL:4738'
SPUD DATE:	9/30/98
COMPLETION DATE:	10/05/98
DRILLING ENGINEER:	SIMON BARRERA
WELLSITE GEOLOGY:	DAVE MEADE / MARVIN ROANHORSE
MUDLOGGING ENGINEERS:	DAVE MEADE / MARVIN ROANHORSE
CONTRACTOR: **TOOLPUSHER:**	BIG "A" RIG 25 J. DEES
HOLE SIZE:	4 ¾"
CASING RECORD:	SIDETRACK IN WINDOW AT 5371' MEASURED DEPTH
DRILLING MUD: **ENGINEER:** **MUD TYPE:**	M-I MIKE PITTSINGER FRESH WATER & BRINE WATER W/ POLYMER SWEEPS
DIRECTIONAL DRILLING CO:	SPERRY-SUN
ELECTICAL LOGGING:	NA
TOTAL DEPTH:	6902' MEASURED DEPTH; TRUE VERTICAL DEPTH-5473.2'
STATUS:	PREPARING WELL FOR SE LATERAL #2

DRILLING CHRONOLOGY
RATHERFORD UNIT #19-22
1-A NW HORIZONTAL LATERAL LEG #1

DATE	DEPTH	DAILY	ACTIVITY
9/30/98	0'	0'	RIG DOWN-MOVE RIG TO R.U. #19-22 LOCATION- RIG UP-NIPPLE UP BOP-PRESURE TEST-P.U. & STRAP DC
10/01/98	0'	0'	P.U. & STRAP DRL PIPE-TIH-LATCH ON TO BRIDGE PLUG & CHCEK FOR FLOW-TOH-LD PLUG-R.U. SCHLUMBERGER "J"-SET WIRE LINE PACKER @ 5300'-R.D. WIRE LINE-PICK UP ANCHOR LATCH-TIH-LATCH INTO ANCHOR & ATTEMPT TO CIR-PIPE PLUGED- TOH-FOUND RABBIT IN UBHO SUB-TIH-LATCH INTO ANCHOR-P.U. & RUN GYRO-CIR LCM
10/02/98	5380'	8'	CIR LCM-TOH W/ANCHOR LATCH-TOH-P.U. ANCHOR LATCH-TIH-RUN GYRO & ORIENT ANCHOR-RIG DOWN GYRO-TOH-P.U. WHIPSTOCK #1 & STARTER MILL-ORIENT-TIH-SET WHIPSTOCK- MILL W/STARTER MILL 5362' TO 5364'-TOH-L.D. STARTER MILL-P.U. WINDOW MILL & WATER MELON MILLS-TIH-MILL W/WINDOW MILLS 5362' TO 5370'
10/03/98	5370'	190'	MILL 5370' TO 5371'-CIR SWEEP & PUMP 10 BBLS BRINE-L.D. 15 JTS PIPE-TOH-L.D. MILLS-P.U. CURVE ASSEM.-ORIENT & TEST-TIH-R.U. GYRO DATA & RIH W/ GYRO-TIME DRLG 5371' TO 5374'-DIR DRLG & WIRELINE SURVEYS TO 5396'-PULL GYRO & RIG DOWN GYRO DATA-DIR DRLG & SURVEYS TO 5560' (T.D. CURVE)-PUMP SWEEP & CIR OUT
10/04/98	5560'	1070'	CIR OUT-PUMP 20 BBLS BRINE-L.D. 40 JTS AOH-TOH-L.D. CURVE ASSEM.-P.U. LATERAL ASSEMBLY- ORIENT & TEST-P.U. 40 JTS PIPE-TIH-DIR DRLG & SURVEYS
10/05/98	6630'	272'	DIR DRLG & SURVEYS TO 6902' (TD LATERAL #1)-PUMP SWEEP & CIR SPLS-PUMP 10 BBLS BRINE-TOH TO WINDOW-PUMP 10 BBLS BRINE-TOH-L.D. LATERAL ASSEMBLY-P.U. RETRIEVING HOOK-TIH-CUT 70' DRLG LINE-HOOK WHIPSTOCK-TOH W/WHIPSTOCK #1-P.U. WHIPSTOCK #2 & STARTER MILL-SET WHIPSTOCK-MILL 5340'TO 5342'-TOH-CHANG OUT MILLS

DAILY ACTIVITY

Operator: MOBIL
Well Name: RATHERFORD UNIT #19-22 NW 1-A HORIZONTAL LATERAL LEG #1

DATE	DEPTH	DAILY	DATE	DEPTH	DAILY
9/30/98	0'	0'			
10/01/98	0'	0'			
10/02/98	5380'	8'			
10/03/98	5370'	190'			
10/04/98	5560'	1070'			
10/05/98	6630'	272'			
	6902'	TD			

BIT RECORD

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #19-22 NW 1-A HORIZONTAL LATERAL LEG #1

RUN	SIZE	MAKE	TYPE	IN/OUT	FTG	HRS	FT/HR
#1 (RR)	4 3/4"	STC	MF-3P	5371'/ 5560'	189'	12.0	15.75
#2	4 3/4"	STC	MF-3P	5560'/ 6902'	1342'	19	70.63

MUD REPORT

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #19-22 NW 1-A HORIZONTAL LATERAL LEG #1

DATE	DEPTH	WT	VIS	PLS	YLD	GEL	PH	WL	CK	CHL	CA	SD	OIL	WTR
9/30/98	0'	NO	CHECK	-	-	-	-	-	-	-	-	-	-	-
10/01/98	0'	NO	CHECK	-	-	-	-	-	-	-	-	-	-	-
10/02/98	5380'	8.4	26	1	1	0/0	8.0	NC	NC	900	120	0%	0%	100%
10/03/98	5371'	8.5	26	1	1	0/0	8.0	NC	NC	9000	800	0%	0%	100%
10/04/98	5590'	8.7	26	1	1	0/0	12.5	NC	NC	39000	1200	0%	1%	99%
10/05/98	6902'	8.9	26	1	1	0/0	10.0	NC	NC	51000	1440	1%	0%	99%

SPERRY-SUN DRILLING SERVICES
SURVEY DATA

Customer ... : Mobil (Utah)
Platform ... : RATHERFORD UNIT
Slot/Well .. : BA25/19-22, 1A1

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
5200.00	0.43	249.22	5199.34	25.13 N	15.55 W	28.07	0.00
5362.00	0.46	290.29	5361.34	25.14 N	16.73 W	28.98	0.19
5371.00	5.20	310.00	5370.32	25.42 N	17.08 W	29.42	52.99
5381.00	9.80	313.30	5380.23	26.29 N	18.04 W	30.72	46.18
5391.00	15.10	314.40	5390.00	27.79 N	19.59 W	32.87	53.05
5401.00	20.30	315.00	5399.52	29.93 N	21.75 W	35.90	52.03
5411.00	25.20	315.40	5408.74	32.67 N	24.48 W	39.75	49.02
5421.00	29.70	319.40	5417.61	36.07 N	27.58 W	44.32	48.61
5431.00	34.20	315.70	5426.09	39.96 N	31.16 W	49.56	49.06
5441.00	39.20	310.60	5434.11	44.04 N	35.53 W	55.52	58.52
5451.00	44.00	308.90	5441.59	48.28 N	40.63 W	62.16	49.31
5461.00	49.20	305.00	5448.46	52.63 N	46.44 W	69.41	59.20
5471.00	54.50	306.80	5454.63	57.24 N	52.81 W	77.25	54.85
5481.00	57.70	310.50	5460.21	62.43 N	59.28 W	85.54	44.34
5491.00	60.00	314.30	5465.38	68.20 N	65.60 W	94.09	39.83
5501.00	60.70	312.50	5470.33	74.17 N	71.91 W	102.77	17.14
5511.00	65.70	312.00	5474.84	80.17 N	78.52 W	111.68	50.20
5521.00	71.20	312.90	5478.51	86.45 N	85.38 W	120.97	55.63
5531.00	77.00	312.70	5481.25	92.98 N	92.43 W	130.57	58.03
5560.00	88.50	309.90	5484.90	111.93 N	114.01 W	159.28	40.79
5600.00	91.10	310.60	5485.04	137.77 N	144.54 W	199.28	6.73
5632.00	92.60	310.90	5484.01	158.64 N	168.77 W	231.26	4.78
5664.00	91.10	311.30	5482.98	179.67 N	192.87 W	263.23	4.85
5696.00	89.90	311.70	5482.70	200.87 N	216.83 W	295.22	3.95
5728.00	89.60	312.20	5482.84	222.26 N	240.63 W	327.20	1.82
5760.00	90.40	312.90	5482.84	243.90 N	264.20 W	359.17	3.32
5791.00	91.00	312.90	5482.46	265.00 N	286.91 W	390.13	1.94
5823.00	91.20	312.90	5481.84	286.78 N	310.35 W	422.08	0.62
5855.00	90.20	313.20	5481.45	308.62 N	333.73 W	454.03	3.26
5887.00	89.90	313.10	5481.43	330.51 N	357.08 W	485.98	0.99
5918.00	89.60	313.10	5481.56	351.69 N	379.71 W	516.94	0.97
5950.00	89.40	312.50	5481.84	373.43 N	403.19 W	548.90	1.98
5982.00	89.20	312.00	5482.23	394.95 N	426.88 W	580.87	1.68
6014.00	88.90	311.10	5482.76	416.17 N	450.82 W	612.86	2.96
6045.00	90.30	311.30	5482.98	436.59 N	474.14 W	643.85	4.56
6077.00	90.50	309.90	5482.75	457.41 N	498.44 W	675.84	4.42
6109.00	90.30	309.20	5482.53	477.78 N	523.11 W	707.84	2.27
6141.00	89.90	308.50	5482.48	497.86 N	548.03 W	739.83	2.52

SPERRY-SUN DRILLING SERVICES
SURVEY DATA

Customer ... : Mobil (Utah)
Platform ... : RATHERFORD UNIT
Slot/Well .. : BA25/19-22, 1A1

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
6172.00	90.00	308.00	5482.50	517.05 N	572.38 W	770.82	1.64
6204.00	90.10	308.10	5482.47	536.77 N	597.58 W	802.80	0.44
6235.00	90.10	307.60	5482.42	555.79 N	622.06 W	833.78	1.61
6267.00	89.80	307.80	5482.45	575.36 N	647.37 W	865.75	1.13
6298.00	90.20	308.10	5482.45	594.43 N	671.82 W	896.73	1.61
6330.00	91.20	309.00	5482.06	614.37 N	696.84 W	928.72	4.20
6362.00	89.60	309.40	5481.83	634.59 N	721.64 W	960.72	5.15
6393.00	89.90	309.70	5481.97	654.33 N	745.54 W	991.71	1.37
6425.00	90.80	310.10	5481.77	674.86 N	770.09 W	1023.71	3.08
6457.00	91.90	310.40	5481.02	695.53 N	794.51 W	1055.70	3.56
6488.00	92.40	311.00	5479.86	715.73 N	817.99 W	1086.68	2.52
6520.00	93.00	310.10	5478.35	736.51 N	842.28 W	1118.64	3.38
6552.00	92.30	309.70	5476.87	757.01 N	866.80 W	1150.61	2.52
6584.00	92.00	309.40	5475.67	777.37 N	891.46 W	1182.58	1.33
6615.00	92.10	309.00	5474.56	796.95 N	915.47 W	1213.56	1.33
6647.00	90.40	309.60	5473.86	817.22 N	940.22 W	1245.55	5.63
6679.00	89.60	309.70	5473.86	837.63 N	964.86 W	1277.55	2.52
6711.00	90.10	309.20	5473.95	857.97 N	989.57 W	1309.55	2.21
6743.00	88.00	308.50	5474.48	878.04 N	1014.49 W	1341.53	6.92
6773.00	88.80	309.40	5475.31	896.89 N	1037.81 W	1371.52	4.01
6804.00	89.80	309.60	5475.69	916.60 N	1061.73 W	1402.51	3.29
6835.00	91.30	309.70	5475.40	936.38 N	1085.59 W	1433.51	4.85
6867.00	92.10	309.40	5474.45	956.75 N	1110.26 W	1465.49	2.67
6902.00	92.10	309.40	5473.16	978.95 N	1137.29 W	1500.47	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 310.00 (TRUE).
CALCULATION METHOD: MINIMUM CURVATURE.

* 6902 EXTRAPOLATED TO BIT

SAMPLE DESCRIPTIONS

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #19-22 NW 1-A HORIZONTAL LATERAL LEG #1

DEPTH	LITHOLOGY

5371.00 5390.00 "LS crm-tan-wh,brn,occ gybrn,crpxl-micxl,arg-rhty,occ plty-chk,cln-dns ip,sl dol,anhy ip,rr micfos,tt,NFSOC,bcmg m-dkbrn-gybrn crpxl-micxl DOL occ arg,sl mrly,lmy ip,tt,NFSOC,rr thn blk sbplty calc-dol SH lams,scat brn-dkbrn CHT frag"

5390.00 5400.00 "LS AA,pred cln-dns,occ arg,tt,NFSOC,w/thnintbd DOL AA,incr lmy ip,sl mrly,scat CHT & SH AA"

5400.00 5410.00 "LS tan-crm,occ m-dkbrn-gybrn,crpxl-micxl,cln-rthy,occ arg,rr Crin fos,dol-v dol,scat CALC xl,mrly,tt,NFSOC,tr DOL brn-mgybrn micxl occ crpxl dns-rthy lmy mrly,scat blk sl carb calc-dol SH ptgs-lams,rr CHT frag,grdg to lmy & dol MRLST"

5410.00 5420.00 "LS crm-tan-brn,occ gybrn AA,scat CHT frag,sl anhy-v rr ANHY xl,v mrly-grdg to lmy MRLST,tt,NFSOC,intbd DOL brn-dkbrn-gybrn AA tt NFSOC,scat blk sbblky carb dol-lmy SH"

5420.00 5430.00 "DOL brn-occ ltbrn,crpxl,cln-dns,sl calc-lmy ip,tt,NFSOC,w/LS & SH AA"

5430.00 5440.00 "LS lt-mgybrn,tan,occ ltgy,crm,tr brn-ltbrn,crpxl-micxl,rhty-sl shy,chk-mrly,sl anhy,tr dkbrn CHT,sl dol occ grdg to arg sl carb dol SH,tt-rr intxl POR,NFSOC"

5440.00 5450.00 "LS lt-mgybrn,incr tan-ltbrn,occ ltgy,crm-wh,tr dkbrn,crpxl-micxl,occ vfxl,rhty-sl shy/tr slty-sdy strk,chk-mrly,sl anhy/rr xln ANHY,rr CHT AA,sl dol AA,occ grdg to vf gr SS/sl calc mtx & pp LS incl,tt-rr intxl POR,NFSOC"

5450.00 5460.00 "LS lt-m-occ dkgy,bcmg incr lt-mgybrn/depth,micxl-vfxl-incr crpxl/depth,rthy-slty/tr sdy strk,occ grdg to SS AA,intbd/xln wh-trnsl ANHY,sl-incr dol/depth,tt-rr intxl POR,v fnt dull orng mnrl FLOR,NSOC"

5460.00 5470.00 "DOL lt-mbrn,micxl-crpxl,rthy,sl calc-lmy-grdg to dol LS ip,occ arg,cln,dns,tt-rr intxl POR,fr-tr dull yel FLOR,tr ltbrn-rr dkgy-blk STN,fr slow stmg mlky CUT,w/intbd LS AA,n-fnt dull orng mnrl FLOR,NSOC"

5470.00 5490.00 "SH dkbrnblk-blk,sblky-sbplty-plty,sft-mfrm-occ hd,carb,vsl-calc-occ lmy ip,tr pp mica,w/decr scat LS & DOL cvgs AA"

5490.00 5500.00 "SH AA w/tr-rr LS & DOL cvgs AA"

5500.00 5510.00 "LS lt-mgybrn-ltgy,occ tan-ltbrn,tr off wh,dkbrn,micxl-crpxl,rthy,sl slty-sdy ip,chky-sl anhy/tr xln ANHY-POR fl,tr MRLST prtgs,tt-tr intxl POR,NFSOC,w/SH cvgs AA"

DEPTH	LITHOLOGY

5510.00 5520.00 "LS AA/tr sl ool-agl GRNST frag,pred rthy,sl slty-sdy ip, chky-sl anhy/tr xln ANHY-POR fl,tt-tr intxl-rr ool-agl POR,tr scat dull-mod bri yel FLOR,fr ltbrn/rr brn STN,fr slow-mod fast stmg mlky CUT,w/ SH AA"

5520.00 5540.00 "LS tan-ltbrn,tr dkbrn,crm-wh,ltgy,vfxl-gran-sl micsuc,occ micxl-crpxl,ool-sl oom-agl GRNST,tr intbd dns PKST,sl dol/tr DOL cmt,sl chky-anhy/tr xln ANHY-POR fl-rr prtgs,g-fr ool-sl oom/tr intxl POR,g even mod bri-spty bri yel FLOR,fr ltbrn-brn STN,CUT AA"

5540.00 5550.00 "LS AA,ool-sl oom-agl GRNST/tr intbd dns PKST,sl dol/tr DOL cmt,sl incr chky-anhy/tr xln ANHY-POR fl-prtgs,POR-FLOR AA,fr-mg ltbrn-tr brn STN,g slow-mod fast stmg mlky CUT"

5550.00 5560.00 "LS tan-ltbrn,rr dkbrn,crm-wh,ltgy,vfxl-gran-sl micsuc, micxl-tr crpxl,ool-sl oom-agl GRNST/intbd dns PKST,dol/tr DOL cmt,sl chky-anhy/tr xln ANHY-POR fl-prtgs,g ool-sl oom/tr intxl POR,g even mod bri-spty bri yel FLOR,fr ltbrn-tr brn STN,CUT AA,w/SH cvgs"

5560.00 5580.00 "LS tan-ltbrn,occ crm-ltgy,micxl-vfxl,gran-micsuc ooc-oom GRNST,w/rr scat chk-plty dns occ anhy PKST,decr SH & DOL cvg,occ tt-mfr-mg intxl-ool POR,fr-g bri yel FLOR,mfr brn-v rr blk STN,mfr-mg mod fast-rr fast CUT"

5580.00 5610.00 "LS crm-tan-ltbrn,rr wh-ltgybrn,micxl-vfxl,gran-micsuc ooc-oom GRNST,w/sl tr dns occ chk-plty v sl ool PKST,sl anhy-tr ANHY xl-POR fl,v sl DOL cmt,tt-v g intxl-fr ool POR,mg bri yel FLOR,fr-mg ltbrn STN,tr blk dd o STN,mfr-mg slow-mod fast stmg CUT"

5610.00 5640.00 "LS AA,pred ooc-oom GRNST,v rr tr ALG mat,w/rr scat dns PKST,POR AA w/sl tr ANHY flg,FLOR-STN-CUT AA"

5640.00 5660.00 "LS tan-ltbrn,rr crm-wh,micxl-vfxl,gran-micsuc ooc-oom GRNST v sl alg,w/scat dns occ chk-plty v sl ool PKST,sl anhy-tr ANHY xl-POR fl,v sl DOL cmt,tt-v g intxl-fr ool-rr alg POR,mg bri yel FLOR,fr-mg ltbrn STN,tr blk dd o STN,fr mod fast-tr fast stmg CUT"

5660.00 5680.00 5665.64 0 "LS AA,ooc-oom v sl alg GRNST,w/v rr scat PKST incl-dns mtx AA,POR-FLOR-STN-CUT AA"

5680.00 5700.00 "LS pred ooc-oom GRNST w/v rr alg mat,v rr scat dns sl anhy-anhy v sl ool PKST incl,POR-FLOR-STN-CUT AA,w/v rr ANHY fl POR"

5700.00 5730.00 "LS tan-ltbrn,rr crm-wh,micxl-vfxl,gran-micsuc ooc-oom GRNST rr alg mat,w/scat dns occ chk-plty v sl ool PKST,sl anhy-tr ANHY xl-POR fl,v sl DOL cmt,mg intxl-fr ool-rr alg POR,mg bri yel FLOR,fr-mg ltbrn STN,mfr blk dd o STN,fr mod fast-tr fast stmg CUT"

5730.00 5750.00 "LS AA,w/POR-FLOR-STN-CUT AA"

5750.00 5770.00 "LS AA,w/sl incr blk dd o STN & ANHY fl POR,fr-mg POR-FLOR-STN-CUT AA"

DEPTH		LITHOLOGY

5770.00 5800.00 "LS tan-ltbrn,rr crm-wh,micxl-vfxl,gran-micsuc ooc-oom GRNST rr alg mat,w/scat dns occ chk-plty v sl ool PKST,sl anhy-rr ANHY xl-POR fl,rr DOL cmt,mg intxl-tr ool-v rr alg POR,mg bri yel FLOR,fr-mg ltbrn STN,mfr blk dd o STN,fr mod fast-tr fast stmg CUT"

5800.00 5820.00 "LS AA,pred GRNST AA w/v rr scat PKST frag-incl,mg-g intxl-fr ool POR-v rr vis alg POR,mg bri yel FLOR,mfr ltbrn STN-rr-tr blk dd o STN,fr-mg slow-mod fast stmg mlky CUT"

5820.00 5860.00 "LS tan-ltbrn/occ crm-off wh incl,tr brn-m gybrn,gran-vfxl-micsuc,tr micxl-crpxl,ool-sl oom GRNST/tr scat-occ intbd dns sl ool PKST,sl chky-anhy/tr POR fl-rr xln ANHY & prtgs,dol/tr DOL rich cmt,sl arg ip,g mg ool-sl oom/tr intxl POR,g even mod bri-bri yel FLOR,mg-fr ltbrn/tr brn & blk pp dd o STN,g fast stmg-sl blooming mlky CUT"

5860.00 5910.00 "LS tan-ltbrn/tr crm-off wh incl,tr brn,gran-vfxl-micsuc ip,tr micxl-crpxl,ool-sl ooom GRNST/tr intbd-scat dns sl ool PKST,sl chky-anhy/tr POR fl-rr xln ANHY & prtgs,dol/tr DOL rich cmt,rr agl mat,POR-FLOR AA,mg-fr ltbrn/tr brn & blk pp dd o STN,CUT AA"

5910.00 5930.00 "LS AA,vfxl-gran-micsuc,micxl-crpxl,ooc-sl ool-oom GRNST/rr alg mat,tr PKST AA,sl chky-anhy/tr ANHY xl-POR fl-rr prtgs,dol/tr DOL cmt,g-mg ool-sl oom/tr intxl-rr alg POR,g even mod bri-bri yel FLOR,fr-g ltbrn/tr brn & blk pp dd o STN, g fast-mod fast stmg mlky CUT "

5930.00 5950.00 "LS AA,GRNST AA w/rr scat PKST frag-incl,g-mg ool-sl oom/tr intxl-rr agl POR,g even bri-mod bri yel FLOR,g-mg ltbrn/tr brn-rr blk pp dd o STN,g fast-mod fast stmg/tr sl blooming mlky CUT"

5950.00 5990.00 "LS tan-ltbrn/tr crm-off wh incl,tr brn,vfxl-gran-micsuc,tr micxl-crpxl,ooc-sl oom-ool GRNST,tr intbd-scat dns sl ool PKST,sl chky-anhy/tr POR fl-prtgs,rr xln ANHY,dol/DOL cmt,rr agl incl,g ool-sl oom/rr intxl POR,FLOR AA,mg-g ltbrn/tr brn-blk dd o STN,g mod fast-slow stmg mlky CUT"

5990.00 6020.00 "LS tan-ltbrn/tr crm-off wh incl,tr brn,vfxl-gran-micsuc,tr micxl-crpxl,ooc-sl oom-ool GRNST/tr scat-intbd dns sl ool PKST,sl chky-anhy/tr POR fl-rr prtgs,rr xln ANHY,fr DOL cmt,POR AA,g even bri-mod bri yel FLOR,mg-g ltbrn/tr brn & blk pp dd o STN,CUT AA"

6020.00 6040.00 "LS AA,GRNST AA w/tr scat-intbd PKST,sl anhy-v sl chky/rr POR fl & xln ANHY,dol/fr DOL cmt,g-mg ool-sl oom/tr intxl-rr agl POR,g even bri-mod bri yel FLOR,mg-g ltbrn/tr brn-blk pp dd o STN,g fast stmg-sl blooming mlky CUT"

6040.00 6070.00 "LS AA,vfxl-gran-micsuc,tr micxl-crpxl,ooc-sl ool-oom GRNST/rr alg mat,tr scat-intbd dns sl ool-agl PKST,sl chky-anhy/tr ANHY xl-POR fl-rr prtgs,dol/fr DOL cmt,POR-FLOR AA,fr-g ltbrn/tr brn & blk pp dd o STN,g mod fast-fast stmg mlky CUT"

DEPTH	LITHOLOGY

6070.00 6090.00 "LS tan-ltbrn/tr crm-off wh incl,tr brn,AApred ooc-sl oom-ool GRNST/tr scat-intbd dns sl ool PKST,sl chky-anhy/tr POR fl-rr prtgs,rr xln ANHY,fr DOL cmt,POR AA,g even bri-mod bri yel FLOR,mg-g ltbrn/tr brn & blk pp dd o STN,CUT AA"

6090.00 6120.00 "LS ltbrn-tan/tr crm-off wh incl,tr brn,vfxl-gran-micsuc,tr micxl-crpxl,ooc-sl ool-oom GRNST,tr scat-intbd dns sl ool PKST,sl chky-anhy/tr POR fl-xln ANHY,rr plty prtgs,dol/fr DOL cmt,rr ltbrn-tan CHT,mg-g ool-sl oom-rr agl/tr intxl POR,g even mod bri-scat bri yel FLOR,mg-g ltbrn/tr brn-blk pp dd o STN,g mod fast-slow stmg mlky CUT"

6120.00 6150.00 "LS AA,GRNST AA/tr scat-intbd PKST AA,sl chky-anhy/tr POR fl & xln ANHY,rr plty prtgs,fr DOL cmt,tr CHT AA,g-mg ool-sl oom/tr intxl-rr agl POR,FLOR AA,mg-g ltbrn/tr brn-blk pp dd o STN,g mod fast-slow stmg mlky CUT"

6150.00 6180.00 "LS AA,vfxl-gran-micsuc,tr micxl-crpxl,ooc-sl oom-ool GRNST/tr scat-intbd dns sl ool PKST,sl chky-anhy/tr POR fl-rr prtgs,rr xln ANHY,fr DOL cmt,POR AA,g even bri-mod bri yel FLOR,mg-g ltbrn/tr brn & blk pp dd o STN,CUT AA"

6180.00 6210.00 "LS ltbrn-tan/tr crm-off wh incl,tr brn,AA,ooc-sl ool-oom GRNST,tr scat-intbd dns sl ool PKST,sl chky-anhy/tr POR fl-rr xln ANHY,dol/fr DOL cmt,rr ltbrn-tan CHT,POR-FLOR AA,mg-g ltbrn/tr brn-rr blk dd o STN,CUT AA"

6210.00 6250.00 "LS AA,vfxl-gran-micsuc,tr micxl-crpxl,ooc-sl ool-oom GRNST,tr scat-intbd dns sl ool PKST,chky-sl anhy/sl incr POR fl-tr xln ANHY,v rr plty prtgs,dol/fr DOL cmt,mg-g ool-sl oom/tr intxl POR,g even mod bri-bri yel FLOR,mg-fr ltbrn/tr brn-blk pp dd o STN,g mod fast-slow stmg mlky CUT "

6250.00 6270.00 "LS AA,gran-vfxl-micsuc,tr micxl-crpxl-xln ip,ooc-sl ool-oom GRNST,tr scat-intbd dns sl ool PKST,chky-sl anhy/tr POR fl-xln ANHY,tr tan-bf CHT,v rr plty prtgs,dol/fr DOL cmt,POR-FLOR AA,mgg ltbrn/tr brn & blk pp dd o STN,g mod fast-slow stmg mlky CUT"

6270.00 6300.00 "LS ltbrn-tan/tr crm-off wh incl,tr brn,AA,ooc-sl ool-oom GRNST,tr scat-intbd dns sl ool PKST,chky-sl anhy/tr POR fl-xln ANHY,v rr plty prtgs,dol/fr DOL cmt,tr tan-bf CHT,POR AA,g even mod bri-bri yel FLOR,mg-g ltbrn/tr brn-blk pp dd o STN,CUT AA"

6300.00 6330.00 "LS AA,GRNST AA/tr scat-intbd PKST AA,sl chky-anhy/tr POR fl & xln ANHY,rr plty prtgs,fr DOL cmt,tr CHT AA,g-mg ool-sl oom/tr intxl-rr agl POR,FLOR AA,mg-g ltbrn/tr brn-blk pp dd o STN,g mod fast-slow stmg mlky CUT"

6330.00 6360.00 "LS AA,gran-vfxl-micsuc,tr micxl-crpxl-xln ip,ooc-sl ool-oom GRNST,tr PKST AA,chky-sl anhy/tr POR fl-xln ANHY,incr tan-bf CHT,rr plty prtgs,dol/fr DOL cmt,POR-FLOR AA,mg-g ltbrn/tr brn & blk pp dd o STN,g fast-mod fast stmg mlky CUT"

DEPTH	LITHOLOGY

6360.00 6390.00 "LS tan-ltbrn/sl incr cr m-off wh incl,tr brn,vfxl-gran-micsuc ip,tr micxl-crpxl,rr xln incl,pred ooc-sl ool-oom GRNST,tr dns sl ool PKST,chky-sl anhy/tr POR fl-xln ANHY-plty prtgs,tr CHT AA,dol/fr DOL cmt,g-mg ool-sl oom/tr intxl-rr agl POR,g even"

6360.00 6390.00 6379.19 0 "mod bri-bri yel FLOR,mg-g ltbrn/tr brn & blk pp dd o STN,g mod fast-slow stmg mlky CUT"

6390.00 6420.00 "LS AA,ooc-sl ool-oom GRNST,tr scat-intbd dns sl ool PKST,sl chky-anhy/tr POR fl-rr xln ANHY,incr tan-bf CHT,v rr plty prtgs,dol/fr DOL cmt,POR-FLOR AA,mg-g ltbrn/tr brn & blk dd o STN,g mod fast-fast stmg mlky CUT"

6420.00 6450.00 "LS AA,gran-vfxl-micsuc,tr micxl-crpxl-xln ip,GRNST AA,tr scat-intbd dns sl ool PKST,sl chky-anhy/tr POR fl-xln ANHY,tr tan-bf CHT,dol/fr DOL cmt,POR-FLOR AA,mg-g ltbrn/tr brn & blk pp dd o STN,CUT AA"

6450.00 6480.00 "LS tan-ltbrn/tr crm-off wh incl,tr brn,vfxl-gran-micsuc ip,tr micxl-crpxl,rr xln incl,pred ooc-sl ool-oom GRNST,tr dns sl ool PKST,sl chky-anhy/rr POR fl-xln ANHY,tr CHT AA,fr DOL cmt,mg-g ool-sl oom/tr intxl POR,g even mod bri-bri yel FLOR,STN-CUT AA"

6480.00 6500.00 "LS AA,vfxl-gran-micsuc ip,micxl-crpxl,rr xln incl,pred ooc-sl ool-oom GRNST,tr dn s sl ool PKST,sl chky-anhy/tr POR fl-rr xln ANHY & plty prtgs,rr CHT AA,rr agl mat,dol/fr DOL cmt,g-mg ool-sl oom/tr intxl-rr agl POR,FLOR-STN AA,g mod fast-slow stmg CUT"

6500.00 6520.00 "LS AA,pred ooc-sl ool-oom GRNST,tr dns sl ool PKST,sl chky-anhy/rr POR fl-xln ANHY,v rr plty prtgs,v rr tan-bf CHT,dol/fr DOL cmt,g-mg ool-sl oom/tr intxl-rr agl POR,g even mod bri-bri yel FLOR,mg ltbrn/tr brn-blk dd o STN,g fast-mod fast stmg mlky CUT"

6520.00 6550.00 "LS AA,GRNST AA/tr scat-intbd PKST AA,sl chky-anhy/tr POR fl & xln ANHY,v rr plty prtgs,fr DOL cmt,g-mg ool-sl oom/tr intxl-rr agl POR,FLOR AA,mg-g ltbrn/tr brn-blk pp dd o STN,g fast-mod fast stmg mlky CUT"

6550.00 6580.00 "LS AA,ooc-sl ool-oom GRNST/tr scat-intbd dns sl ool PKST,sl chky-anhy/tr POR fl & xln ANHY,v rr plty prtgs,fr DOL cmt,g-mg ool-sl oom/tr intxl-rr agl POR,FLOR-STN-CUT AA"

6580.00 6600.00 "LS tan-ltbrn/tr crm-off wh incl,rr brn,vfxl-gran-micsuc ip,tr micxl-crpxl,rr xln,pred ooc-sl ool-oom GRNST,tr PKST AA,sl chky-anhy/tr POR fl-rr xln ANHY,v rr plty prtgs,v rr agl mat,dol/fr DOL cmt,g-mg ool-fr oom-tr intxl-rr agl POR,FLOR-STN-CUT AA"

6600.00 6620.00 "LS AA,vfxl-gran-micsuc,rr micxl-crpxl,bcmg pred ool-oom GRNST,rr dns sl ool PKST,v sl chky-anhy/rr POR fl-xln ANHY,v rr plty prtgs,dol/fr DOL cmt,g ool-oom/tr intxl POR,g even mod bri-bri yel FLOR,mg ltbrn/incr blk dd o STN,g fast stmg-sl blooming CUT"

DEPTH		LITHOLOGY

6620.00 6640.00 "LS AA,pred ool-oom-sl ooc GRNST,rr PKST AA,v sl chky-anhy/rr POR fl-xln ANHY,rr agl mat,dol/fr DOL cmt,g ool-oom/tr intxl-rr agl POR,FLOR AA,mg-g ltbrn/scat blk dd o STN,g fast stmg-sl blooming mlky CUT"

6640.00 6660.00 "LS tan-ltbrn/sl incr crm-off wh incl,rr brn,vfxl-gran-micsuc,tr micxl-crpxl,rr xln incl,pred GRNST AA/sl incr PKST AA,v sl chky-anhy/rr POR fl-xln ANHY & plty prtgs,v rr agl mat,dol/fr DOL cmt,v rr crm CHT,POR-FLOR-STN-CUT AA"

6660.00 6680.00 "LS AA,pred GRNST AA w/tr PKST AA,v sl chky-anhy AA,dol/tr DOL cmt,POR-FLOR AA,mg-g ltbrn/scat blk dd o STN,g mod fast-fast stmg mlky CUT"

6680.00 6710.00 "LS tan-ltbrn/crm-off wh,rr brn,vfxl-gran-sl micsuc,micxl-crpxl,ool-oom GRNST/tr intbd-scat PCKST AA,incr chky-anhy/sl incr xln ANHY-tr POR fl,tr tan-bf CHT,rr agl mat,dol/tr DOL rich cmt,POR-FLOR AA,mg-fr ltbrn/tr blk dd o STN,g slow stmg mlky CUT"

6710.00 6740.00 "LS AA,pred GRNST AA w/tr scat-intbd dns sl ool PKST,chky-sl ahny/tr xln ANHY-POR fl,tr CHT AA,v rr agl mat,dol/tr DOL cmt,g-mg ool/tr intxl-v rr alg POR,g even mod bri-bri yel FLOR,mg-g ltbrn/decr blk dd o STN,g slow-mod fast stmg mlky CUT"

6740.00 6770.00 "LS AA,vfxl-gran,micxl-crpxl,tr micsuc,ooc-sl oom-ooc GRNST,tr scat-intbd dns sl ool PKST,chky-sl anhy/tr POR fl-xln ANHY,v rr plty prtgs,dol/tr DOL cmt,mg-fr ool-sl oom/tr intxl POR,FLOR AA,mg ltbrn/tr brn & blk dd o STN,g slow-fr mod fast stmg mlky CUT"

6770.00 6800.00 "LS AA,pred GRNST AA w/tr scat-intbd PKST AA,chky-sl anhy/tr POR fl-rr xln ANHY,v rr plty prtgs,v rr crm CHT,dol/DOL cmt,POR AA,g even bri-mod bri yel FLOR,mg-g ltbrn/tr blk dd o STN,g slow-mod fast stmg mlky CUT"

6800.00 6830.00 "LS tan-ltbrn/crm-off wh,rr brn,crpxl-vfxl,gran-sl micsuc,ool-oom GRNST w/v rr alg mat sl anhy-tr ANHY fl POR,w/tr scat dns v sl ool occ chky sl anhy PCKST,v rr trnsl CHT,rr DOL rich cmt,mg intxl-ool-rr alg POR,mg bri yel FLOR,fr ltbrn STN-rr blk dd o STN,mfr-mg mod fast-fast stmg mlky CUT"

6830.00 6860.00 "LS AA,pred GRNST AA,w/v rr scat dns PKST AA,occ ANHY fl POR,POR-FLOR-STN-CUT AA"

6860.00 6890.00 "LS tan-ltbrn,rr brn-crm,crpxl-vfxl,gran-sl micsuc,ool-oom GRNST w/v rr alg mat sl anhy-tr ANHY fl POR,w/rr dns v sl ool occ chky sl anhy PCKST,v rr CHT frag,DOL rich cmt ip,mg intxl-ool-rr alg POR,mg bri yel FLOR,fr ltbrn-rr blk STN,fr-mg mod fast CUT"

6890.00 6902.00 "LS AA,POR-FLOR-STN-CUT AA"

FORMATION TOPS

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #19-22 NW 1-A HORIZONTAL LATERAL LEG #1

FORMATION NAME		SAMPLES MEASURED DEPTH	SAMPLES TRUE VERTICAL DEPTH	DATUM KB:4752'
LOWER ISMAY		5406'	5403'	-651'
GOTHIC SHALE		5479'	5459'	-707'
DESERT CREEK		5503'	5471'	-719'
UPPER DC 1-A ZONE		5510'	5474'	-722'
TOP BEST POROSITY IN 1-A ZONE		5519'	5478'	-726'

GEOLOGICAL SUMMARY

AND

ZONES OF INTEREST

The Mobil Exploration and Production U.S., Inc., Ratherford Unit #19-22 Northwest Horizontal Lateral Leg #1 was a re-entry of the Mobil Ratherford Unit #19-22 located in Section 19, T41S, R24E, and was sidetracked in a northwesterly direction from 5371' measured depth, 5371' true vertical depth, on October 3, 1998. The lateral reached a measured depth of 6902', true vertical depth of 5473.2' at total depth, with a horizontal displacement of 1500' and true vertical plane of 309.4 degrees on October 5, 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 objective of the Ratherford Unit #19-22 southeast lateral Leg #1 was to penetrate and drill 1500' horizontally in the Desert Creek 1-A porosity zone; to identify and define its lithology, and to evaluate the effective porosity and permeability of the zone. In this northwesterly direction, the 1-A porosity zone appeared to have a very consistent and well developed porosity, thus was the target for drilling in this lateral. These objectives were met in the 1-A porosity zone of the Desert Creek. The lithology of the porosity penetrated in this northwesterly lateral was predominately an oolicastic to oomoldic, very slightly algal limestone grainstone facies, and had a fair to good hydrocarbon and gas show, with good visible effective porosity and permeability. As the lateral bumped the top of the 1-A zone, a very minor increase in dense, very slightly oolitic, occasionally platy and chalky limestone packstone was noted. These packstones had no to very minor porosities and no to extremely poor sample and gas shows.

The curve was begun in the lower portion of the Upper Ismay on October 3, 1998 before encountering the typical sections of the Lower Ismay, Gothic Shale, Desert Creek and the 1-A porosity bench carbonate cycle of the Upper Paradox Formation.

The curve section was began at measured depth of 5371', 5370' true vertical depth in the lower third of the Upper Ismay carbonate cycle of the Upper Paradox Formation. The lower Upper Ismay was penetrated from a measured depth of 5371', to a measured depth of 5406', true vertical depth 5403'. This lower 32' of the Upper Ismay member was a predominately a clean to dense, occasionally argillaceous, tight limestone, with scattered interbeds of earthy to argillaceous dolomites, very thin black carbonaceous shale partings and scattered chert fragments. The limestones were cream to white, some light gray to medium gray brown to brown, cryptocrystalline to microcrystalline, clean and dense, with streaks of an earthy to argillaceous to chalky texture. These limestones had no visible porosity or sample show. The thin interbedded dolomites were brown to medium brown to gray brown, cryptocrystalline to microcrystalline, earthy to argillaceous, limey, becoming marly with depth, and had scattered Crinoid fossils. The dolomites also had no visible porosity or sample shows. The shale parting were black to dark gray, some light gray, subblocky to subplaty, occasionally fissile, very slightly silty, micaceous, and calcareous to slightly dolomitic, and had very minor Crinoid fossils. Scattered throughout the Upper Ismay carbonates were translucent to buff to dark brown chert fragments. The basal carbonates became increasingly marly and graded into the thin, very fossiliferous, carbonaceous Hovenweep Shale. The Hovenweep Shale, which defines the Upper and

Lower Ismay contact, was represented by an moderate increase in the black carbonaceous, dolomitic to calcareous, occasionally silty shale. This contact is moderately well represented in the samples from measured depths of 5399' and 5406', true vertical depths 5397' to 5403'.

The top of the Lower Ismay member of the Upper Paradox Formation was picked at a measured depth of 5406', true vertical depth 5403', based primarily on sample identification and a decrease in the rate of penetration. The upper 28' of the Lower Ismay was thinly interbedded tan to cream to brown, some gray brown, dense, very slightly anhydritic, fossiliferous limestones; some argillaceous, brown to medium brown dolomites, and very thin black carbonaceous shale partings and rare brown to dark brown chert fragments. The Lower Ismay, from measured depths of 5440' to 5465', became a white to cream to light gray, crypto to microcrystalline limestone, with granular streaks, a trace of chalky texture, slightly to very silty, occasionally anhydritic and occasionally dolomitic in part. This limestone had streaks of well cemented very silty limestone grainstones, some scattered translucent to light to dark brown chert fragments, and very rare thin brown, earthy to slightly argillaceous dolomites. It was also noted that these limestones occasionally graded to very limey siltstones. Associated with the very thin dolomites were very rare streaks of intercrystalline porosity, and a very minor sample show. The basal 14 feet of the Lower Ismay, from a measured depth of 5465' to a measured depth of 5479', was a very dense, slightly dolomitic limestone packstone and earthy limey dolomites. These limestones and dolomites became slightly to very marly with depth, and had scattered anhydrite interclasts and very rare chert fragments. The basal limestones and thin dolomites showed no visible porosity or visible sample show. The basal limestones and dolomites of the Lower Ismay carbonates graded into limey to dolomitic carbonaceous shales of the Gothic Shale.

The Gothic Shale was penetrated at a measured depth of 5479', true vertical depth 5459', and gradationally underlies the Lower Ismay. The top of the Gothic was picked at an increase in the penetration rate below the dense limestone and dolomite marlstones and a significant increase in the amount of black carbonaceous shale in the cuttings. This shale member of the Upper Paradox Formation was seen to be ten feet thick in this northwesterly direction. This shale is black to dark gray shale, 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, cream to tan limestones and clean to very argillaceous, limey, brown to medium gray brown dolomites were noted in this shale member. The Gothic overlays the top of the Desert Creek Member with a sharp contact.

The top of the Desert Creek Member of the Upper Paradox Formation was picked at a measured depth of 5503', 5471' true vertical depth, at a decrease in penetration rate and an increase in the amount of dense limestone packstone in the samples. The Upper Desert Creek transition zone between the Gothic Shale and the 1-A porosity zone had a true vertical thickness of approximately three feet. This transition zone was predominately a dense limestone packstone, which was occasionally very argillaceous and very slightly fossiliferous in part and had thinly interbedded argillaceous limey dolomites and very thin black carbonaceous shale partings. The limestones of the transition zone are light brown to cream to white to light gray, some medium to dark brown, cryptocrystalline to microcrystalline, dense to slightly silty, some chalky to anhydritic and very slightly dolomitic. Scattered in the limestones are very thin, dark brown, very argillaceous, very shalely, limey marlstones; some black, dolomitic, slightly micaceous, calcareous, very slightly carbonaceous shales. The transition zone had poor to a slight trace of intercrystalline porosity, but no visible sample show. Near the base of the transition zone the dense limestones became increasingly oolitic and graded in to the oolicastic to oomoldic limestones of the upper 1-A porosity bench.

The top of the Desert Creek Upper 1-A porosity zone was encountered at a measured depth of 5510', true vertical depth of 5474', with a horizontal displacement of approximately 110'. The top was picked on the lithology becoming predominately a good oolicastic to oomoldic limestone grainstone with a significant increase in the penetration rate, but only a minor increase in gas. These oolicastic to oomoldic limestone grainstones marked the upper 1-A porosity zone, which was split into

two benches. The upper porosity streak was only two vertical feet thick in this northwesterly direction. These limestone grainstones are tan to light brown to cream, microcrystalline to very fine crystalline, with a trace of granular to slightly microsucrosic texture, very slightly dolomitic, with very rare light brown chert fragments. The grainstones have a very minor amount of anhydrite crystal growth in the oolicasts and molds as well as in the intercrystalline matrix. The grainstone facies had a moderately good oomoldic to oolicastic fabric to very poor algal material, with a moderately fair oolitic to fair intercrystalline and very poor algal porosity development. The sample show was moderately fair with a trace of brown to light brown oil stain and had minor traces of black bitchimum stain* filling on the crystal faces and in the oolicasts and molds. The grainstones had a spotty trace of bright to occasionally dull yellow fluorescence and a moderately fair slow streaming to trace fast streaming cut. An approximately two foot thick hard streak was encountered near the top of the Upper 1-A zone, from a measured depth of 5515', with a true vertical depth 5476' to a measured depth of 5519', and 5578' true vertical depth. This dense, very slightly oolitic limestone packstone facies was cream to tan, occasionally white, cryptocrystalline to very slightly microcrystalline, slightly chalky to occasionally platy, clean and very slightly anhydritic. These packstones had no to very minor streaks of very slightly oolicastic to oomoldic limestone grainstone, with a very poor sample show.

The top of the best porosity of the 1-A zone was penetrated at the measured depth of 5519', true vertical depth 5478', with a horizontal displacement of approximately 119'. The lithology of the best porosity of the 1-A zone was a very good oolicastic limestone grainstone, like the upper bench as described above. However, porosity was better developed and had a fair to moderately good sample show. As soon as the 1-A zone was penetrated an increase in the background gases and an intermittent flare of 1' to 2' was noted. The best porosity in the 1-A was the target zone for the entire northwest lateral, as it appeared to be very well developed on the vertical well log for the Ratherford #19-22 as well as on the offset logs, than did the underlying 1-B zone.

The curve portion of the lateral was completed at a measured depth of 5560', true vertical depth 5485', with a horizontal displacement of 159', bearing 310 degrees, and an inclination of 88.5 degrees, on October 3, 1998, in the best porosity of the 1-A zone. At this point a trip was made to lay down the curve assembly and pickup the lateral assembly.

Drilling of the northwest lateral was resumed also on October 4, 1998, in the Upper Desert Creek 1-A porosity zone of the Upper Paradox Formation. The lateral was slid for the first 43' in order to turn the well path upward to the target line, make an adjustment in horizontal plane direction and to put the lateral assembly out far enough to begin rotating. The lateral was begun in the good oolicastic to oomoldic, very slightly algal limestone grainstone facies. This limestone grainstone was a tan to light brown, some brown to cream, microcrystalline to very fine crystalline, granular to microsucrosic, slightly dolomitic, with occasionally calcite and anhydrite cement and cast filling. These grainstones had a fair to good oolitic to intercrystalline porosity, with a minor amount of algal porosity. The sample show had moderately good bright yellow fluorescence, a moderately fair light brown to brown oil stain, with trace to poor black bitchimum* stain, and a moderate to moderately fair fast to slow streaming cut. Scattered throughout the porosity zone, were very rare amounts of dense, very slightly oolitic, and occasionally chalky to platy, light gray limestone packstone.

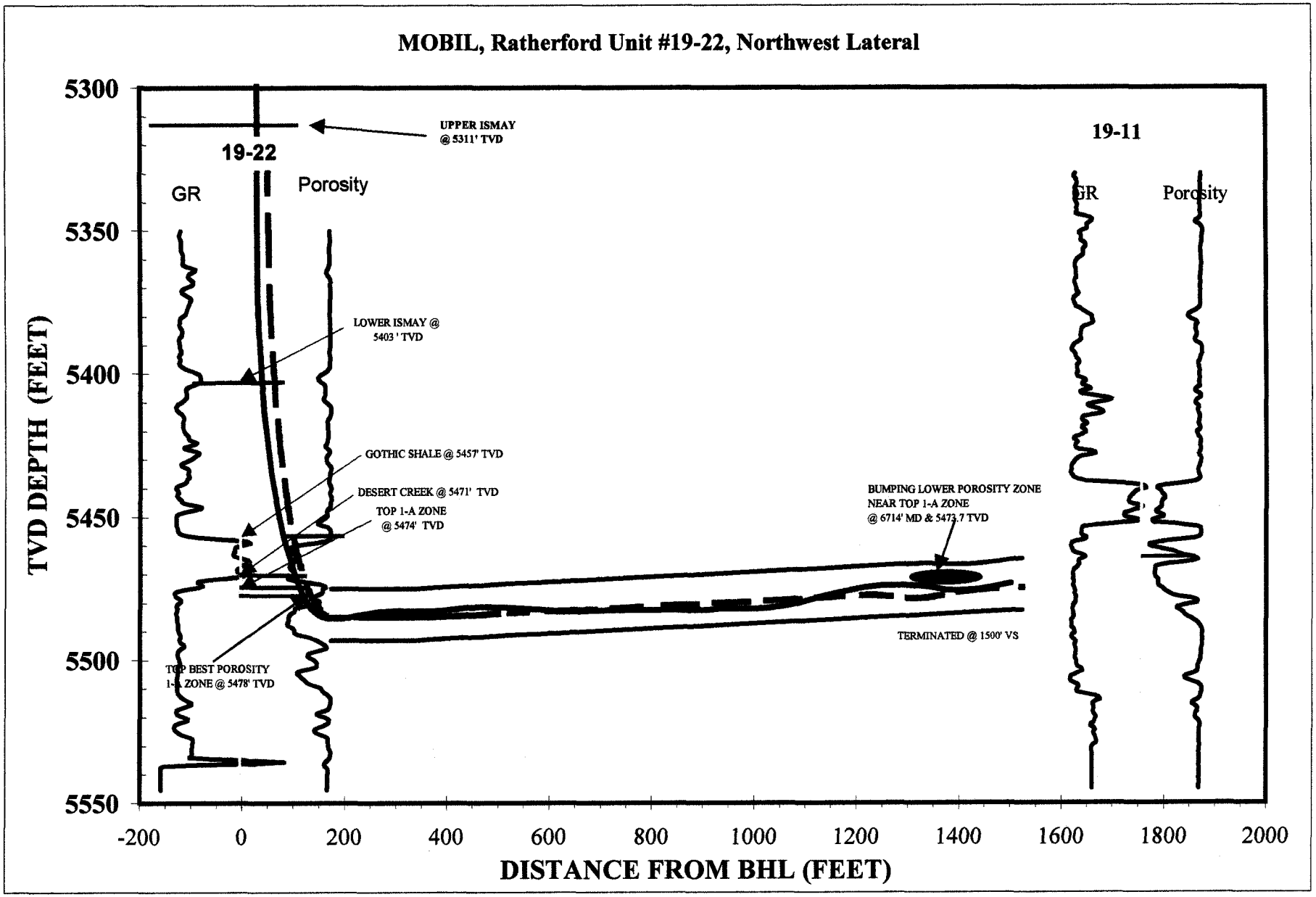
As the well path was rotated ahead from the measured depth of 5603', 5485' true vertical depth, with a horizontal displacement of 201', the well path tracked the target line in the very good oolitic to intercrystalline, slightly algal limestone grainstone. The well bore remained predominately within two vertical feet of the target line throughout the length of the lateral. The lateral required only minor slideing to control the horizontal plane and vertical depth. The lithology of the 1-A zone throughout the lateral length, remained the tan to light brown, rare brown to cream, microcrystalline to very fine crystalline, granular to microsucrosic, slightly dolomitic limestone grainstone, with rare calcite and anhydrite cement and cast filling. These grainstones had a fair to good oolitic to intercrystalline porosity, with a minor amount of algal porosity. The sample shows throughout the length of lateral were also very consistent. These limestone grainstone had a moderately good to good

bright yellow fluorescence, a moderately fair to fair light brown to brown oil stain, with rare to occasionally trace amounts of black bitchimum* stain, and a moderately fair to good fast to moderately fast streaming cut. A very minor increase in the amount of dense limestone packstones was noted at a measured depth of 6715', 5473.8' true vertical depth when a zone of lower porosity or the base of the hard streak near the top of the 1-A zone was encountered. At this horizontal displacement of 1314', the well path glanced off this harder streak and turned the well path downward at a very shallow angle. The well path continued and allowed to very slowly drift upward of its own accord to the laterals termination at the measured depth of 6902', 5473.2' true vertical depth, with a horizontal displacement of 1500.5'. The lateral reached it's termination point on October 5, 1998', within the best porosity of the 1-A zone, and within one and one half feet of the proposed target line. From the beginning of the lateral section to its termination a 1' to 2' flare which increased to approximately 6' was seen.

In tracking the lateral in this northwesterly direction, the oolicastic to oomoldic limestone grainstone porosity had good sample shows, which remained consistent throughout the laterals length, with only very minor packstones noted. From the beginning of the lateral to it's termination the hard streak seen just below the top of the 1-A zone was possibly encountered only once. The oolicastic to oomoldic, very slightly algal limestone grainstones of the 1-A porosity bench, showed predominately good oolitic to intergranular porosity, rare to a trace of algal porosity, with a good sample show. The rare, dense limestone packstones were of no significance in this lateral. The lateral at its termination was only one and one half feet above the proposed target line. The well path varied from the proposed well path an average of one and one half feet, with a variation of three feet being the maximum.

From the beginning of the 19-22 northwest lateral leg #1 to its termination on October 5, 1998, at a measured depth of 6902', 5473.2' true vertical depth and a horizontal displacement of 1500', the porosities remained consistent. The oolitic to intercrystalline to very slightly algal porosities are well enough developed to enhance the production performance of the R. U. 19-22 well.

*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 producable 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 Unit #19-22, Northwest Lateral
19-22
GR
Porosity
19-11
GR
Porosity
UPPER ISMAY @ 5311' TVD
LOWER ISMAY @ 5403 ' TVD
GOTHIC SHALE @ 5457' TVD
DESERT CREEK @ 5471' TVD
TOP 1-A ZONE @ 5474' TVD
BUMPING LOWER POROSITY ZONE NEAR TOP 1-A ZONE @ 6714' MD & 5473.7 TVD
TERMINATED @ 1500' VS
TOP BEST POROSITY 1-A ZONE @ 5478' TVD
TVD DEPTH (FEET)
5300
5350
5400
5450
5500
5550
-200
0
200
400
600
800
1000
1200
1400
1600
1800
2000
DISTANCE FROM BHL (FEET)

Form 3160-4
(July 1992)

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 19-22

9. API WELL NO.: 43-037-31046

10. FIELD AND POOL, OR WILDCAT: GREATER ANETH

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SEC. 19, T41S, R24E

12. COUNTY OR PARISH: SAN JUAN

13. STATE: UT

1a. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] DRY [ ] Other

b. TYPE OF COMPLETION: NEW WELL [ ] WORK OVER [ ] DEEP-EN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] Other X 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: SE/NW 1840' FNL & 1980' FWL
At top prod. interval reported below: LAT 1:979' FNL & 1137' FWL/SURF SPOT
At total depth: LAT 2:1300'FSL & 1246' FEL/SURF SPOT

14. PERMIT NO.: NA
DATE ISSUED: NA

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
9-02-98	10-20-98	11-10-98	4738' GR, 4751.5 RKB	

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
*#24	*#24		→	X	

24. PRODUCING INTERVAL(S), OF THIS COMPLETION - TOP, BOTTOM, NAME (MD AND TVD)*
LAT #1 (5362-6902'TMD)(5361-5473' TVD) LAT #2 (5340-7256' TMD)(5339-5515' TVD)

25. WAS DIRECTIONAL SURVEY MADE: YES

26. TYPE ELECTRIC AND OTHER LOGS RUN
NO Geology Report, Computer Colored Log (Mud Log) 12-29-98

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"	54.5#	130'	17 1/2"	150 SXS SURFACE	
9 5/8"	36#	1616'	12 1/4"	600 SXS SURFACE	
7"	23 & 26#	5550'	8 3/4"	700 SXS	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	56181'	5181' TAC

RECEIVED
DEC 28 1998

31. PERFORATION RECORD (Interval, size and number)

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping - size and type of pump)	WELL STATUS (Producing or shut-in)
11-11-98	PUMPING	PRODUCING

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL - BBL.	GAS - MCF.	WATER - BBL.	GAS - OIL RATIO
11-24-98	24			24	10	332	417

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

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

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 Sue Moseley for TITLE SHIRLEY HOUCHINS/ENV & REG TECH DATE 12-23-98

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

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

Form 3160-5
(June 1990)

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

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

1. Type of Well: [X] 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. 19, T41S, R24E
SE/NW 1840' FNL & 1980' FWL

8. Well Name and No.: RATHERFORD 19-22
9. API Well No.: 43-037-31046
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	
[ ] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[X] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[X] Other SIDETRACK	[ ] Dispose Water

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

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

BHL:

LATERAL #1; 979' NORTH & 1137' WEST FROM SURFACE SPOT (ZONE 1a).
LATERAL #2; 1300' SOUTH & 1246' EAST FROM SURFACE SPOT (ZONE 1a).

SEE ATTACHED PROCEDURE. (9-26-98 -- 11-04-98)

14. I hereby certify that the foregoing is true and correct
Signed Sue J Moseley for Title SHIRLEY HOUCHINS/ENV & REG TECH Date 12-23-98

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

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

* See Instruction on Reverse Side

DRILLED FOOTAGE CALCULATION FOR DIRECTIONAL AND HORIZONTAL WELLS

Unit, Well Name:	Ratherford Unit, Well 19-22
API Well #:	43-037-31046
Well Completion:	Horizontal, Producer, 2 Laterals

First leg description:	Lateral #1
KOP MD:	5362.00
EOL MD:	6902.00
Footage drilled:	1540.00
Max. TVD Recorded	5485.05

Second leg description:	Lateral #2
KOP MD:	5340.00
EOL MD:	7256.00
Footage drilled:	1916.00
Max. TVD Recorded	5514.59

Total Footage Drilled (MD):	***3456.00***
Deepest point (TVD):	***5514.59***

ATTACHMENT - FORM 3160-5
RATHERFORD UNIT - WELL #19-22
14-20-603-353
NAVAJO TRIBAL
SAN JUAN, UTAH

09-26-98 MIRU NAVAJO WEST #15, DIG, LINE, & FENCE RESERVE PIT. SDFN.

09-27-98 NOTIFIED NAVAJO EPA BY VOICE MAIL OF PLAN TO HAVE A RESERVE PIT DUG, FENCED, & LINED BY MONDAY. CALL MADE AT 22:00 HRS, 27-SEPT-98. NOTIFIED BLM BY VOICE MAIL OF PLAN TO START PREP FOR DRILLING WORK ON MONDAY. CALL MADE AT 22:15 HRS 27-SEPT-98. SD FOR SUNDAY.

09-28-98 TBG DEAD, BACKSIDE HAD 10PSI GAS, BLED DN CSG, PULLED PUMP, TOOH W/SUCKER RODS & PUMP, POOH W/TBG, ADD 14BBLS 10.3# BRINE TO BACKSIDE BY GRAVITY FLOW FROM RIG PIT, POOH W/86STDS TBG, SI SDFN.

09-29-98 RIH W/RBP TO 5351', UNLATCH TBG FROM/RBP NU/RIG PUMPS & LINES. PRESSURE TST CSG/RBP T/ 1000PSI CHARTED TEST POOH DN TBG. ND BOP, ISSUE HOT WORK PERMIT, DIG UP BRADEN HEAD VALVE, BLEED BRADEN HEAD TO 0 PSI, RU WELDER ADD A 4" NPL TO 7' CSG IN ORDER TO GET A GOOD SEAL. WELD ON NPL. NU WH TEST WELL HEAD TO1000 PSI. TEST GOOD, SI SDFN.

09-30-98 RIG DOWN AND MOVE OFF UNIT. RELEASED AND READY FOR ROTARY RIG TO MOVE IN. MIRU NAVAJO WEST 25. NOTIFIED JIM THOMPSON W/STATE UTAH.

10-01-98 FINISH RU NAVAJO WEST 25. PRESSURE TEST BOP STACK, CHOKE MANIFOLD, VALVES. TO 2000 PSI HIGH AND 250 PSI LOW. STRAP AND TIH W/DP TO 5350' AND LATCH RBP. LET EQUALIZE (VACUMM) AND RELEASE. RAN RBP TO 5400' RECIPROCATE RBP FROM 5350'-5400'. POOH AND LAY DOWN RBP. RU SCHULMBERGER. SET TIW PKR. AT 5380'. TIH W/ANCHOR LATCH ASSY. AND LATCH INTO PKR. ATTEMPT TO PUMP DOWN UP. (DP PLUGGED) PREPARE TO POOH.

10-02-98 TOOH W/ANCHOR LATCH ASSY. TIH W/SAME ASSY. AND LATCH INTO TIW PKR AT 5380'. PUMP THRU DP TO CLEAN OUT OK. RU GYRO DATA. FOUND KEYWAY IN PKR. 189 GTF. AND LOG TO SURFACE. MIX AND PUMP 120 BBLS. MAGNA FIBER PILLS TO REGAIN CIRC. TOOH W/ANCHOR LATCH ASSY. AND LATCH INTO PKR. PUMP THRU DP. RU GYRO DATA. GTF 295. POOH W/ANCHOR LATCH ASSY. PU RIH W/ANCHOR LATCH ASSY. DEBRI, SHEAR TOOL, 7" WHIPSTOCK AND STARTER MILL, AOHDP, LATCHED INTO TIW PKR. AT 5380' KEYWAY AT 295 GTF. SHEAR BOLT. POWER SWIVEL. MILL 7" CSG. FROM 5362'-5364' CIRC. CLEAN. START OUT OF HOLE W/STARTER MILL.

10-03-98 FINISH OUT OF HOLE W/STARTER MILL AND LAY DOWN SAME. PU CSG. AND WATERMELON MILL. MILL WINDOW FROM 5361'-5371' (1' FORMATION). PUMP SWEEP AND CIRC. OUT. POOH LD. DP AND MILLS. PU CURVE BUILDING ASSY. RU GYRO DATA. RIH AND ORIENT TOOLFACE. TIME DRILL FROM 5371'-96' USING GYRO FOR SURVEYS. RD GYRO DATA. SLIDE DRILL FROM 5396'-5410' USING MWD FOR SURVEYS.

10-04-98 SLIDE/DRILL AND SURVEYS FROM 5410' TO T.D. OF CURVE AT 5560'. (PROJECTED SURVEY AT BIT MD OF 5560', 5484.42', AZ. 310, ANGLE 90, VS 159') CIRC. POOH LD. DP AND CURVE BUILDING ASSY. PU LAT BLD ASSY. PH6 TBG. AND DP TO 5560'. RU POWER SWIVEL. SLIDE/ROTATE DRILL AND SURVEYS FROM 5560' TO 5921'. LAST SURVEY AT 5855' MD, 5481.45' TVD, ANGLE 90.20, AZ., 313.20, VERTICAL SECTION 454.03.

10-05-98 SLIDE/ROTATE DRILL AND SURVEYS FROM 5921' TO T.D. OF 6902' MD, TVD, 5473.16', PUMP AND CIRC. SWEEP. PULL INTO CSG. DISPLACE HOLE W/10# BRINE. POOH LAYING DOWN LATERAL ASSY. TIH W/SUPER HOOK AND LATCH INTO WHIPSTOCK. WORKED WHIPSTOCK AND RELEASED. PULLING OUT OF HOLE W/WHIPSTOCK.

10-06-98	FINISH PULLING OUT OF HOLE WITH WHIPSTOCK FOR LAT #1 AND LAY DOWN SAME. FINAL REPORT FOR LAT. 1A1. PU WHIPSTOCK FOR LAT. #2 AND ORIENT. RIG REPAIRS (HYDROMATIC). RU POWER SWIVEL AND FILL PIPE. SHEAR BOLT AND CUT WINDOW FROM 5340'-42' W/STARTER MILL. TOOH W/STARTER MILL. CHANGE OUT MILLS AND TIH. CUT WINDOW FROM 5340'-48' PLUS 1 FT. FORMATION TO 5349'. POOH W/DP AND MILLS. PU CURVE ASSY. TIH TO TOP OF WHIPSTOCK AT 5340'.
10-07-98	DRILLED CURVE LAT #2 FROM 5348'-5385' W/ GYRO. POH W/ GYRO. DRILLED CURVE LAT #2 FROM 5385'-5576' MD, 5485' TVD, CIRC HOLE CLEAN, KILLED WELL. POH W/ CURVE ASSEMBLY. RIH W/ LATERAL ASSEMBLY.
10-08-98	FIN RIH W/ MUD MOTOR. DRILLED LATERAL 2A1 FROM 5576'-7102'.
10-09-98	DRILLED LATERAL 2A1 FROM 7102'-7256' TD, 5514' TVD, POH & LD MWD & MUD MOTOR. RIH 7" GUIBERSON UNI-6 PKR. TOP OF PKR @ 5259' PRESS TESTED PKR & CSG TO 500#, OK. POH & LD DP, PH6 TBG & DC'S.
10-10-10	RIGGED DOWN & REL MWS RIG 25. FINAL REPORT FOR LATERAL 2A1.

COMPLETION:

10-27-98	MIRU MONTEZUMA RIG # 36. START CHANGING OUT THE DRILLING LINE. SDFN.
10-28-98	FINISH CHANGING OUT DRILLING LINE. ND WELLHEAD. BOP, RIH W/(ON/OFF) TOOL TO 5270', CIRCULATE, RU SLICKLINE TO PUNCTURE DISK IN PROFILE PLUG. FISH PLUG, SITP WAS 720 PSI.
10-29-98	SITPP WAS 850 PSI AT 06:30 BLEED TUBING PRESSURE DWN TO 700PSIG. KILL TUBING. AFTER BULLHEADING MUD INTO CSG. SET PACKER. BLEED GAS CUT MUD OUT OF TUBING. KILL TUBING. UNSET PACKER. EQUALIZE TBG AND CSG. WELL DEAD POOH W/ ON/OFF TOOL, PACKER, PH6 TAIL PIPE. RIH WITH WEATHERFORD SUPER HOOK AND WRK STRING. SI SDFN.
10-30-98	BLEED 50 PSI OFF OF CSG, WELL DEAD. PICK UP WORK STRING AND FINISH RIH TO WHIPSTOCK AT 5344'. FISH FOR WHIPSTOCK. LATCH HOOK INTO WHIPSTOCK. START POOH WITH WHIPSTOCK. POOH W/ WORKSTRING AND LAY DOWN. SHUT DOWN FOR RIG REPAIR.
10-31-98	OPERATOR AND ONE HAND WERE ON LOCATION TO FIX THE BRAKE LINKAGE ON THE RIG.
11-01-98	SHUT DOWN DUE TO LACK OF CREW.
11-02-98	FINISH POOH AND LAYING DOWN WORK STRING AND WHIPSTOCK, LAY DOWN WORK STRING. RIH BULL PLUG, MUD ANCHOR, PERF SUB, SN, TUBING ANCHOR & 2 7/8" TUBING.
11-03-98	CHK WELL FOR PRESSURE. SITP=0 PSI, SICP=0 PSI. ND BOPS. SET TAC W/ 15K# TENSION. NU WELLHEAD. TEST TO 400 PSI-OK. SDFN.
11-04-98	STROKE PUMP W/ RIG. RIG DDPU OFF WELL. WILL RELEASE TO PROD ONCE CLEAR & CLEAN.

Mobil

San Juan County
Utah
Ratherford Unit
RU 19-22 - MWD Leg #1

SURVEY REPORT

15 December, 1998

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

Survey Ref: svy3371

Sperry-Sun Drilling Services

Survey Report for RU 19-22

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)
Gyro								
	0.00	0.000	0.000	0.00	0.00 N	0.00 E	0.00	
	200.00	0.490	166.170	200.00	0.83 S	0.20 E	-0.69	0.245
	400.00	0.390	165.360	399.99	2.32 S	0.58 E	-1.94	0.050
	600.00	0.300	231.230	599.99	3.31 S	0.34 E	-2.39	0.191
	800.00	0.710	294.300	799.98	3.12 S	1.19 W	-1.09	0.317
	1000.00	1.440	315.000	999.95	0.84 S	4.10 W	2.60	0.408
	1200.00	1.810	320.090	1199.87	3.36 N	7.90 W	8.22	0.198
	1400.00	1.910	324.110	1399.76	8.49 N	11.88 W	14.56	0.082
	1600.00	1.630	322.980	1599.66	13.46 N	15.55 W	20.56	0.141
	1800.00	1.410	308.640	1799.59	17.26 N	19.18 W	25.79	0.219
	2000.00	0.820	296.310	1999.56	19.44 N	22.39 W	29.64	0.317
	2200.00	0.490	298.230	2199.54	20.47 N	24.43 W	31.87	0.165
	2400.00	0.270	316.500	2399.54	21.22 N	25.50 W	33.18	0.124
	2600.00	1.120	46.360	2599.52	22.91 N	24.41 W	33.43	0.576
	2800.00	1.280	49.100	2799.48	25.72 N	21.31 W	32.86	0.085
	3000.00	1.130	39.620	2999.44	28.70 N	18.36 W	32.52	0.124
	3200.00	0.720	36.480	3199.41	31.23 N	16.36 W	32.61	0.206
	3400.00	0.500	45.480	3399.40	32.86 N	14.99 W	32.60	0.120
	3600.00	0.400	115.950	3599.39	33.16 N	13.74 W	31.84	0.263
	3800.00	0.620	138.650	3799.39	32.05 N	12.40 W	30.10	0.147
	4000.00	0.490	148.740	3999.38	30.50 N	11.24 W	28.22	0.081
	4200.00	0.340	162.070	4199.37	29.21 N	10.61 W	26.90	0.089
	4400.00	0.450	192.450	4399.37	27.87 N	10.60 W	26.04	0.116
	4600.00	0.480	237.120	4599.36	26.65 N	11.47 W	25.92	0.177
	4800.00	0.530	252.440	4799.35	25.92 N	13.06 W	26.66	0.072
	5000.00	0.270	255.100	4999.35	25.52 N	14.39 W	27.43	0.130
	5200.00	0.430	249.220	5199.34	25.13 N	15.55 W	28.07	0.082
MWD Leg #1								
	5362.00	0.460	290.290	5361.34	25.14 N	16.73 W	28.98	0.193
	5371.00	5.200	310.000	5370.33	25.42 N	17.08 W	29.42	52.994
	5381.00	9.800	313.300	5380.24	26.29 N	18.04 W	30.72	46.182
	5391.00	15.100	314.400	5390.00	27.79 N	19.59 W	32.87	53.051
	5401.00	20.300	315.000	5399.52	29.93 N	21.75 W	35.90	52.031
	5411.00	25.200	315.400	5408.74	32.67 N	24.48 W	39.75	49.024
	5421.00	29.700	319.400	5417.61	36.07 N	27.59 W	44.32	48.608
	5431.00	34.200	315.700	5426.10	39.96 N	31.16 W	49.56	49.057
	5441.00	39.200	310.600	5434.12	44.04 N	35.53 W	55.52	58.522
	5451.00	44.000	308.900	5441.59	48.28 N	40.63 W	62.16	49.305

Continued...

Sperry-Sun Drilling Services

Survey Report for RU 19-22

Mobil **Utah**
San Juan County **Ratherford Unit**

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
5461.00	49.200	305.000	5448.46	52.63 N	46.44 W	69.41	59.201
5471.00	54.500	306.800	5454.64	57.25 N	52.81 W	77.25	54.854
5481.00	57.700	310.500	5460.22	62.43 N	59.28 W	85.54	44.345
5491.00	60.000	314.300	5465.39	68.20 N	65.60 W	94.09	39.827
5501.00	60.700	312.500	5470.34	74.17 N	71.91 W	102.77	17.138
5511.00	65.700	312.000	5474.84	80.17 N	78.52 W	111.68	50.199
5521.00	71.200	312.900	5478.52	86.45 N	85.38 W	120.97	55.633
5531.00	77.000	312.700	5481.25	92.98 N	92.43 W	130.57	58.032
5560.00	88.500	309.900	5484.91	111.93 N	114.01 W	159.28	40.792
5600.00	91.100	310.600	5485.05	137.77 N	144.54 W	199.28	6.731
5632.00	92.600	310.900	5484.01	158.64 N	168.77 W	231.26	4.780
5664.00	91.100	311.300	5482.98	179.67 N	192.87 W	263.23	4.851
5696.00	89.900	311.700	5482.70	200.87 N	216.83 W	295.22	3.953
5728.00	89.600	312.200	5482.84	222.26 N	240.63 W	327.20	1.822
5760.00	90.400	312.900	5482.84	243.90 N	264.21 W	359.17	3.322
5791.00	91.000	312.900	5482.46	265.00 N	286.91 W	390.13	1.935
5823.00	91.200	312.900	5481.85	286.78 N	310.35 W	422.08	0.625
5855.00	90.200	313.200	5481.46	308.62 N	333.73 W	454.03	3.263
5887.00	89.900	313.100	5481.43	330.51 N	357.08 W	485.98	0.988
5918.00	89.600	313.100	5481.57	351.69 N	379.71 W	516.94	0.968
5950.00	89.400	312.500	5481.84	373.43 N	403.19 W	548.90	1.976
5982.00	89.200	312.000	5482.24	394.95 N	426.88 W	580.87	1.683
6014.00	88.900	311.100	5482.77	416.17 N	450.82 W	612.86	2.964
6045.00	90.300	311.300	5482.98	436.59 N	474.14 W	643.85	4.562
6077.00	90.500	309.900	5482.76	457.41 N	498.44 W	675.84	4.419
6109.00	90.300	309.200	5482.54	477.79 N	523.11 W	707.84	2.275
6141.00	89.900	308.500	5482.48	497.86 N	548.03 W	739.84	2.519
6172.00	90.000	308.000	5482.51	517.05 N	572.38 W	770.82	1.645
6204.00	90.100	308.100	5482.48	536.77 N	597.58 W	802.80	0.442
6235.00	90.100	307.600	5482.42	555.79 N	622.06 W	833.78	1.613
6267.00	89.800	307.800	5482.45	575.36 N	647.38 W	865.75	1.127
6298.00	90.200	308.100	5482.45	594.43 N	671.82 W	896.73	1.613
6330.00	91.200	309.000	5482.06	614.37 N	696.84 W	928.72	4.204
6362.00	89.600	309.400	5481.84	634.59 N	721.64 W	960.72	5.154
6393.00	89.900	309.700	5481.97	654.33 N	745.54 W	991.72	1.369
6425.00	90.800	310.100	5481.78	674.86 N	770.09 W	1023.71	3.078
6457.00	91.900	310.400	5481.02	695.53 N	794.51 W	1055.70	3.563
6488.00	92.400	311.000	5479.86	715.73 N	817.99 W	1086.68	2.518
6520.00	93.000	310.100	5478.35	736.51 N	842.28 W	1118.64	3.378
6552.00	92.300	309.700	5476.87	757.01 N	866.80 W	1150.61	2.519

Continued...

Sperry-Sun Drilling Services

Survey Report for RU 19-22

Mobil **Utah**
San Juan County **Ratherford Unit**

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
6584.00	92.000	309.400	5475.67	777.37 N	891.46 W	1182.58	1.325
6615.00	92.100	309.000	5474.56	796.95 N	915.47 W	1213.56	1.329
6647.00	90.400	309.600	5473.87	817.22 N	940.22 W	1245.55	5.634
6679.00	89.600	309.700	5473.87	837.63 N	964.86 W	1277.55	2.519
6711.00	90.100	309.200	5473.95	857.97 N	989.57 W	1309.55	2.210
6743.00	88.000	308.500	5474.48	878.04 N	1014.49 W	1341.53	6.917
6773.00	88.800	309.400	5475.32	896.89 N	1037.81 W	1371.52	4.013
6804.00	89.800	309.600	5475.70	916.60 N	1061.73 W	1402.51	3.290
6835.00	91.300	309.700	5475.40	936.38 N	1085.60 W	1433.51	4.849
6867.00	92.100	309.400	5474.45	956.75 N	1110.26 W	1465.50	2.670
6902.00	92.100	309.400	5473.17	978.95 N	1137.29 W	1500.47	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 310.000° (True).

Based upon Minimum Curvature type calculations, at a Measured Depth of 6902.00ft.,
The Bottom Hole Displacement is 1500.59ft., in the Direction of 310.721° (True).

Mobil

San Juan County
Utah
Ratherford Unit
RU 19-22 - MWD Leg #2

SURVEY REPORT

15 December, 1998

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

Survey Ref: svy3373

Sperry-Sun Drilling Services

Survey Report for RU 19-22

Mobil **Utah**
San Juan County **Ratherford Unit**

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
Gyro							
0.00	0.000	0.000	0.00	0.00 N	0.00 E	0.00	
200.00	0.490	166.170	200.00	0.83 S	0.20 E	0.74	0.245
400.00	0.390	165.360	399.99	2.32 S	0.58 E	2.07	0.050
600.00	0.300	231.230	599.99	3.31 S	0.34 E	2.62	0.191
800.00	0.710	294.300	799.98	3.12 S	1.19 W	1.42	0.317
1000.00	1.440	315.000	999.95	0.84 S	4.10 W	-2.25	0.408
1200.00	1.810	320.090	1199.87	3.36 N	7.90 W	-7.91	0.198
1400.00	1.910	324.110	1399.76	8.49 N	11.88 W	-14.36	0.082
1600.00	1.630	322.980	1599.66	13.46 N	15.55 W	-20.48	0.141
1800.00	1.410	308.640	1799.59	17.26 N	19.18 W	-25.75	0.219
2000.00	0.820	296.310	1999.56	19.44 N	22.39 W	-29.53	0.317
2200.00	0.490	298.230	2199.54	20.47 N	24.43 W	-31.70	0.165
2400.00	0.270	316.500	2399.54	21.22 N	25.50 W	-32.98	0.124
2600.00	1.120	46.360	2599.52	22.91 N	24.41 W	-33.44	0.576
2800.00	1.280	49.100	2799.48	25.72 N	21.31 W	-33.31	0.085
3000.00	1.130	39.620	2999.44	28.70 N	18.36 W	-33.41	0.124
3200.00	0.720	36.480	3199.41	31.23 N	16.36 W	-33.83	0.206
3400.00	0.500	45.480	3399.40	32.86 N	14.99 W	-34.05	0.120
3600.00	0.400	115.950	3599.39	33.16 N	13.74 W	-33.40	0.263
3800.00	0.620	138.650	3799.39	32.05 N	12.40 W	-31.66	0.147
4000.00	0.490	148.740	3999.38	30.50 N	11.24 W	-29.75	0.081
4200.00	0.340	162.070	4199.37	29.21 N	10.61 W	-28.38	0.089
4400.00	0.450	192.450	4399.37	27.87 N	10.60 W	-27.41	0.116
4600.00	0.480	237.120	4599.36	26.65 N	11.47 W	-27.14	0.177
4800.00	0.530	252.440	4799.35	25.92 N	13.06 W	-27.72	0.072
5000.00	0.270	255.100	4999.35	25.52 N	14.39 W	-28.36	0.130
5200.00	0.430	249.220	5199.34	25.13 N	15.55 W	-28.88	0.082
MWD Leg #2							
5340.00	0.450	285.420	5339.34	25.09 N	16.57 W	-29.56	0.196
5349.00	3.800	136.000	5348.33	24.89 N	16.40 W	-29.29	46.596
5359.00	7.200	142.910	5358.29	24.15 N	15.79 W	-28.34	34.578
5369.00	11.700	145.110	5368.15	22.82 N	14.83 W	-26.72	45.137
5379.00	15.800	146.200	5377.86	20.85 N	13.50 W	-24.37	41.080
5389.00	20.000	146.850	5387.37	18.29 N	11.80 W	-21.35	42.047
5399.00	24.300	147.300	5396.63	15.12 N	9.75 W	-17.65	43.033
5409.00	28.800	150.500	5405.58	11.29 N	7.46 W	-13.30	47.204
5419.00	33.000	151.200	5414.16	6.81 N	4.96 W	-8.34	42.153
5429.00	37.200	147.900	5422.34	1.86 N	2.04 W	-2.75	46.074

Continued...

Sperry-Sun Drilling Services

Survey Report for RU 19-22

Mobil **Utah**
San Juan County **Ratherford Unit**

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
5439.00	40.300	142.800	5430.14	3.28 S	1.53 E	3.42	44.477
5449.00	43.000	139.800	5437.61	8.46 S	5.68 E	10.04	33.557
5459.00	47.800	136.500	5444.63	13.76 S	10.44 E	17.15	53.430
5469.00	51.600	138.900	5451.10	19.40 S	15.57 E	24.77	42.174
5479.00	55.300	138.600	5457.05	25.44 S	20.86 E	32.79	37.078
5489.00	57.900	135.900	5462.56	31.57 S	26.53 E	41.14	34.407
5499.00	61.000	134.100	5467.64	37.65 S	32.62 E	49.75	34.658
5509.00	64.500	136.200	5472.22	43.96 S	38.89 E	58.63	39.665
5519.00	68.600	136.400	5476.20	50.59 S	45.22 E	67.80	41.041
5529.00	72.800	137.300	5479.50	57.47 S	51.68 E	77.24	42.850
5539.00	77.400	138.000	5482.07	64.61 S	58.18 E	86.90	46.494
5549.00	81.700	138.100	5483.88	71.93 S	64.76 E	96.72	43.011
5576.00	90.400	146.000	5485.75	93.13 S	81.28 E	123.46	43.459
5615.00	88.900	144.600	5485.98	125.20 S	103.48 E	161.94	5.261
5647.00	88.600	141.300	5486.68	150.73 S	122.76 E	193.70	10.353
5678.00	88.600	139.900	5487.44	174.67 S	142.43 E	224.59	4.515
5710.00	89.600	140.100	5487.94	199.18 S	162.99 E	256.51	3.187
5742.00	88.700	139.200	5488.42	223.57 S	183.71 E	288.44	3.977
5774.00	88.300	138.300	5489.25	247.62 S	204.80 E	320.39	3.077
5805.00	89.400	138.500	5489.88	270.79 S	225.38 E	351.35	3.607
5837.00	90.700	138.300	5489.85	294.72 S	246.62 E	383.33	4.110
5868.00	90.700	138.300	5489.47	317.87 S	267.25 E	414.30	0.000
5900.00	90.200	138.500	5489.22	341.80 S	288.49 E	446.27	1.683
5932.00	88.800	138.200	5489.50	365.70 S	309.76 E	478.24	4.474
5964.00	88.900	138.200	5490.14	389.56 S	331.08 E	510.21	0.313
5995.00	89.200	138.000	5490.65	412.63 S	351.78 E	541.18	1.163
6025.00	89.900	138.700	5490.89	435.04 S	371.72 E	571.16	3.300
6057.00	91.300	139.000	5490.55	459.13 S	392.77 E	603.12	4.474
6089.00	91.200	139.000	5489.86	483.28 S	413.76 E	635.06	0.313
6121.00	88.300	137.300	5490.00	507.11 S	435.11 E	667.04	10.505
6153.00	87.700	137.800	5491.11	530.71 S	456.69 E	699.01	2.440
6185.00	88.900	138.300	5492.06	554.50 S	478.07 E	730.97	4.062
6216.00	89.400	136.400	5492.52	577.30 S	499.07 E	761.96	6.337
6248.00	88.400	135.700	5493.14	600.33 S	521.28 E	793.95	3.814
6280.00	88.500	135.200	5494.00	623.12 S	543.72 E	825.94	1.593
6312.00	87.700	134.700	5495.06	645.72 S	566.35 E	857.91	2.948
6343.00	87.700	134.300	5496.31	667.43 S	588.45 E	888.88	1.289
6375.00	87.700	134.500	5497.59	689.80 S	611.29 E	920.84	0.624
6407.00	89.100	134.100	5498.48	712.14 S	634.18 E	952.81	4.550
6439.00	88.800	133.200	5499.07	734.23 S	657.33 E	984.78	2.964

Continued...

Sperry-Sun Drilling Services

Survey Report for RU 19-22

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)
6470.00	89.400	132.700	5499.56	755.35 S	680.02 E	1015.73	2.519
6502.00	89.600	131.700	5499.84	776.84 S	703.73 E	1047.66	3.187
6534.00	89.900	131.300	5499.98	798.04 S	727.69 E	1079.56	1.562
6566.00	88.900	131.000	5500.31	819.10 S	751.79 E	1111.44	3.263
6597.00	89.300	133.800	5500.80	840.00 S	774.67 E	1142.38	9.123
6629.00	88.300	133.100	5501.47	862.00 S	797.90 E	1174.34	3.814
6661.00	88.100	132.900	5502.47	883.81 S	821.29 E	1206.28	0.884
6692.00	89.600	135.200	5503.10	905.36 S	843.56 E	1237.25	8.856
6723.00	90.500	135.500	5503.07	927.41 S	865.35 E	1268.25	3.060
6755.00	90.900	135.400	5502.68	950.22 S	887.80 E	1300.24	1.288
6787.00	90.400	135.200	5502.32	972.96 S	910.30 E	1332.24	1.683
6818.00	88.200	135.200	5502.69	994.95 S	932.14 E	1363.23	7.097
6850.00	87.500	134.800	5503.89	1017.56 S	954.76 E	1395.20	2.519
6882.00	88.000	135.500	5505.15	1040.23 S	977.31 E	1427.18	2.687
6915.00	88.100	133.200	5506.27	1063.29 S	1000.89 E	1460.14	6.972
6945.00	87.100	132.200	5507.53	1083.61 S	1022.92 E	1490.06	4.712
6976.00	87.600	131.700	5508.96	1104.31 S	1045.95 E	1520.95	2.280
7008.00	89.300	132.900	5509.83	1125.84 S	1069.61 E	1552.87	6.502
7040.00	90.900	134.700	5509.77	1147.99 S	1092.70 E	1584.85	7.526
7072.00	92.600	135.400	5508.80	1170.62 S	1115.30 E	1616.83	5.745
7103.00	90.700	134.300	5507.90	1192.48 S	1137.26 E	1647.81	7.081
7135.00	87.300	133.900	5508.46	1214.74 S	1160.24 E	1679.78	10.698
7167.00	87.300	134.300	5509.97	1236.98 S	1183.19 E	1711.72	1.249
7222.00	86.900	135.000	5512.75	1275.59 S	1222.27 E	1766.64	1.464
7256.00	86.900	135.000	5514.59	1299.59 S	1246.27 E	1800.58	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).

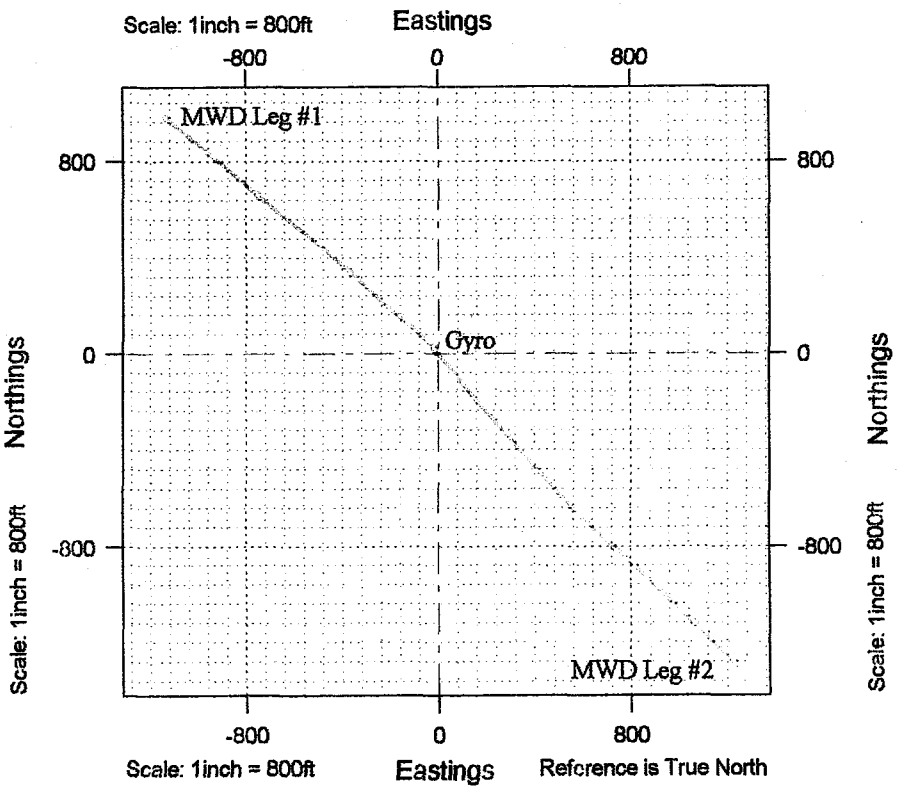
Based upon Minimum Curvature type calculations, at a Measured Depth of 7256.00ft.,
The Bottom Hole Displacement is 1800.59ft., in the Direction of 136.200° (True).

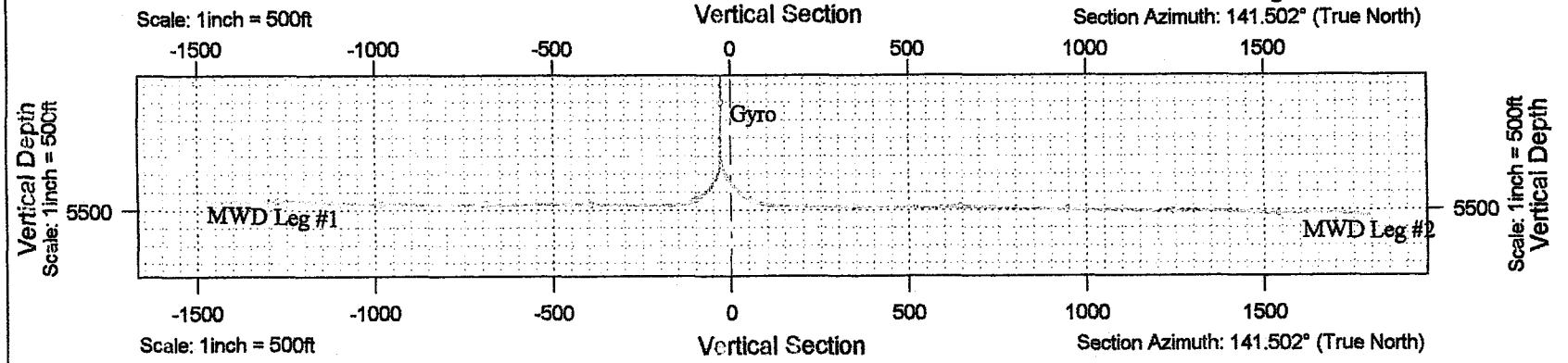
Sperry-Sun Drilling Services

Mobil

DrillQuest

San Juan County
Utah
Ratherford Unit
RU 19-22





Prepared:	Checked:	Approved:

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

ENTITY ACTION FORM - FORM 6

OPERATOR MOBIL PRODUCING TX & NM, INC.

ADDRESS P. O. BOX 633
MIDLAND, TEXAS 79702

OPERATOR ACCT. NO. N

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION QQ	SC	TP	RG	COUNTY	SPUD DATE	EFFECTIVE DATE
			43-037-31046	RATHERFORD 19-22	SE/NW	19	41S	24E	SAN JUAN	9-02-98	11-11-98
WELL 1 COMMENTS: HORIZONTAL COMPLETION											
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)

Sue Moseley for
Signature SHIRLEY HOUCHINS
ENV & REG TECHNICIAN
Title

12-23-98
Date

Phone No. (915) 688-2584

Form 3160-5
(June 1990)

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

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 19-22
9. API Well No.: 43-037-31046
10. Field and Pool, or exploratory Area: GREATER ANETH
11. County or Parish, State: SAN JUAN UT

1. Type of Well: [ ] Oil Well [X] 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. 19, T41S, R24E
SE/NW 1840' FNL & 1980' FWL

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

TYPE OF SUBMISSION	TYPE OF ACTION	
[ ] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[X] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[X] Other SIDETRACK	[ ] Dispose Water

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

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

BHL:

LATERAL #1; 979' NORTH & 1137' WEST FROM SURFACE SPOT (ZONE 1a).
LATERAL #2; 1300' SOUTH & 1246' EAST FROM SURFACE SPOT (ZONE 1a).

SEE ATTACHED PROCEDURE. (9-26-98 -- 11-04-98)

RECEIVED
FEB 01 1999
DIV. OF OIL, GAS & MINING

14. I hereby certify that the foregoing is true and correct
Signed Sue Mosley for Title SHIRLEY HOUCHINS/ENV & REG TECH Date 1-28-99

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

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

* See Instruction on Reverse Side

WTC 3-1-99 RJK

Form 3160-5
(November 1994)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

SUBMIT IN TRIPLICATE – Other instructions on reverse side

5. Lease Serial No.
14-20-603-353

6. If Indian, Allottee or Tribe Name
NAVAJO TRIBAL

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

1. Type of Well
☐ Oil Well ☐ Gas Well ☒ Other

8. Well Name and No.
RATHERFORD 19-22

2. Name of Operator
MOBIL PRODUCING TX & NM INC.*
*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM

9. API Well No.
43-037-31046

3a. Address
P.O. Box 633, Midland TX 79702

3b. Phone No. *(include area code)*
(915) 688-2585

10. Field and Pool, or Exploratory Area
GREATER ANETH

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
SEC. 19, T41S, R24E
SE/NW 1840' FNL & 1980' FWL

11. County or Parish, State
SAN JUAN UT

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

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

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

BHL:
LATERAL #1; 979' NORTH & 1137' WEST FROM SURFACE SPOT (ZONE 1a).
LATERAL #2; 1300' SOUTH & 1246' EAST FROM SURFACE SPOT (ZONE 1a).

05-02-99 MIRU MONTEZUMA 15 TO DETERMINE CONDITION OF 7" CSG.
05-06-99 MILLED OUT BAD PLACE IN CSG F/1317-1318' & 1370-1462', SET RBP, TEST TO 1000# PSI. 30 MIN. OK.
05-10-99 TEST TBG & PUMP TO 500 PSI. OK. RETURN TO PRODUCTION.

RECEIVED
JUN 14
DIV. OF OIL, GAS & MINING

14. I hereby certify that the foregoing is true and correct
Name *(Printed/Typed)* Sue Moseley for

Title SHIRLEY HOUCHINS/ENV & REG TECH

Date 06-10-99

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by WTC 8-16-99 RJK

Title

Date

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

Office

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

(Instructions on reverse)

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

June 27, 2001

ExxonMobil
Production

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

Change of Name – Mobil Oil Corporation to
ExxonMobil Oil Corporation

Dear Mr. Thompson

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

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

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

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

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

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

Very truly yours,

Charlotte H. Harper
Permitting Supervisor

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

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Navajo Area Office
NAVAJO REGION
P.O. Box 1060
Gallup, New Mexico 87305-1060

IN REPLY REFER TO:

RRES/543

AUG 3 0 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

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

Dear Ms. Harper:

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

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

Sincerely,

DENNIS DENETSONE

Regional Realty Officer

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

MINERAL RESOURCES
ADM
NATV AM MIN COORD
SOLID MIN TEAM
PETRO MGMT TEAM
O & G INSPECT TEAM
ALL TEAM LEADERS
LAND RESOURCES
ENVIRONMENT
FILES

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

PR 7/12/2001
GN
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 Jassi

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

DIRECTORS

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

Sincerely,

Alex Correa

This is to certify that the above information pertaining to ExxonMobil Oil Corporation (Corporation) is trust 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

(CORPORATE SEAL)

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.

D. A. Williams
Assistant Secretary

COUNTY OF DALLAS)
STATE OF TEXAS)
UNITED STATES OF AMERICA)
Sworn to and subscribed before me at Irving, Texas, U. S. A. on this the 8th day of June, 2001.

Janice M. Phillips
Notary Public

LISTING OF LEASES OF MOBIL OIL CORPORATION

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

6/1/01

CHUBB GROUP OF INSURANCE COMPANIES

[illegible] South, Suite 1400, Houston, Texas 77027-3301
[illegible] 713) 297-4600 • Facsimile (713) 297-4750

NW Bond

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

BOND NO 8027 31 97
wherein
Mobil Oil Corporation and Mobil Exploration and Producing U.S., Inc. is named as Principal and

FEDERAL INSURANCE COMPANY AS SURETY,

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

in the amount of **$150,000.00**
bond date: 11/01/65

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

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

TO : **ExxonMobil Oil Corporation**

All other terms and conditions of this Bond are unchanged.

Signed, sealed and dated this 12th of June, 2001.

ExxonMobil Oil Corporation

By: _____

FEDERAL INSURANCE COMPANY

By: Mary Pierson
Mary Pierson, Attorney-in-fact

Chubb Surety | **POWER OF ATTORNEY** | **Federal Insurance Company, Vigilant Insurance Company, Pacific Indemnity Company** | **Attn.: Surety Department, 15 Mountain View Road, Warren, NJ 07059**

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

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

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

Kenneth C. Wendel, Assistant Secretary

Frank E. Robertson, Vice President

STATE OF NEW JERSEY }
County of Somerset } ss.

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

KAREN A. PRICE NOTARY PUBLIC NEW JERSEY

Notarial Seal

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

Karen A. Price
Notary Public

CERTIFICATION

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.

FEDERAL INSURANCE COMPANY · INDIANA · PACIFIC INDEMNITY COMPANY INCORPORATED JAN. 16, 1925 WISCONSIN VIGILANT INSURANCE COMPANY · NEW YORK ·

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

15-10-0225 (Ed. 4-99) CONSENT

F010601000187

CSC 45

CERTIFICATE OF AMENDMENT

OF

CERTIFICATE OF INCORPORATION

OF

MOBIL OIL CORPORATION

(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.

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

JANICE M. PHILLIPS
MY COMMISSION EXPIRES
May 16, 2002

CSC 5184334741 06/01 '01 09:01 NO.411 02/02
CSC 06/01 '01 09:06 NO.139 04/04

F010601000187

CSC 45

CERTIFICATE OF AMENDMENT

OF

MOBIL OIL CORPORATION

Under Section 805 of the Business Corporation Law

SAC

100 cc

STATE OF NEW YORK
DEPARTMENT OF STATE
FILED JUN 01 2001
TAX $
BY: SAC

Filed by: EXXONMOBIL CORPORATION
(Name)

5959 Las Colinas Blvd.
(Mailing address)

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

Cust Ref # 1655781MPT

nyl Albany

RECEIVED
JUL 05 2001
DIVISION OF REAL ESTATE SERVICES

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

STATE OF NEW YORK
DEPARTMENT OF STATE
EXCELSIOR

Special Deputy Secretary of State

DOS-1266 (7/00)

Division of Oil, Gas and Mining

OPERATOR CHANGE WORKSHEET

ROUTING
1. GLH
2. CDW ✓
3. FILE

Change of Operator (Well Sold) — Designation of Agent

X Operator Name Change — Merger

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

FROM: (Old Operator):	**TO:** (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**

WELL(S)

NAME	SEC TWN RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
RATHERFORD UNIT 17-33	17-41S-24E	43-037-31134	6280	INDIAN	OW	P
RATHERFORD UNIT 17-11	17-41S-24E	43-037-31169	6280	INDIAN	OW	S
RATHERFORD UNIT 17-22	17-41S-24E	43-037-31170	6280	INDIAN	OW	P
RATHERFORD UNIT 17-42	17-41S-24E	43-037-31177	6280	INDIAN	OW	P
RATHERFORD UNIT 17-31	17-41S-24E	43-037-31178	6280	INDIAN	OW	P
18-11	18-41S-24E	43-037-15733	6280	INDIAN	OW	P
RATHERFORD 18-13	18-41S-24E	43-037-15734	6280	INDIAN	OW	P
RATHERFORD UNIT 18-44	18-41S-24E	43-037-31045	6280	INDIAN	OW	P
RATHERFORD UNIT 18-24	18-41S-24E	43-037-31079	6280	INDIAN	OW	P
RATHERFORD UNIT 18-33	18-41S-24E	43-037-31135	6280	INDIAN	OW	P
RATHERFORD UNIT 18-31	18-41S-24E	43-037-31181	6280	INDIAN	OW	P
RATHERFORD UNIT 18-42	18-41S-24E	43-037-31182	6280	INDIAN	OW	P
RATHERFORD UNIT 18-22	18-41S-24E	43-037-31236	6280	INDIAN	OW	P
19-42	19-41S-24E	43-037-30916	6280	INDIAN	OW	P
RATHERFORD UNIT 19-22	19-41S-24E	43-037-31046	6280	INDIAN	OW	P
RATHERFORD UNIT 19-31	19-41S-24E	43-037-31047	6280	INDIAN	OW	P
RATHERFORD UNIT 19-33	19-41S-24E	43-037-31048	6280	INDIAN	OW	P
RATHERFORD UNIT 19-11	19-41S-24E	43-037-31080	6280	INDIAN	OW	P
RATHERFORD UNIT 19-44	19-41S-24E	43-037-31081	6280	INDIAN	OW	P
RATHERFORD 19-97	19-41S-24E	43-037-31596	6280	INDIAN	OW	P

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 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

DATA ENTRY:

1. Changes entered in the **Oil and Gas Database on:** 04/15/2002
2. Changes have been entered on the **Monthly Operator Change Spread Sheet on:** 04/15/2002
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:

Division of Oil, Gas and Mining

OPERATOR CHANGE WORKSHEET

ROUTING
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: **6/1/2006**

FROM: (Old Operator):	**TO:** (New Operator):
N1855-ExxonMobil Oil Corporation	N2700-Resolute Natural Resources Company
PO Box 4358	1675 Broadway, Suite 1950
Houston, TX 77210-4358	Denver, CO 80202
Phone: 1 (281) 654-1936	Phone: 1 (303) 534-4600

CA No. **Unit:** **RATHERFORD**

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: 4/21/2006
2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 4/24/2006
3. The new company was checked on the **Department of Commerce, Division of Corporations Database on:** 6/7/2006
4. Is the new operator registered in the State of Utah: YES Business Number: 5733505-0143
5. If **NO**, the operator was contacted contacted on:

6a. (R649-9-2)Waste Management Plan has been received on: requested

6b. Inspections of LA PA state/fee well sites complete on: n/a

6c. Reports current for Production/Disposition & Sundries on: ok

7. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM n/a BIA not yet
8. **Federal and Indian Units:** The BLM or BIA has approved the successor of unit operator for wells listed on: not yet
9. **Federal and Indian Communization Agreements ("CA"):** The BLM or BIA has approved the operator for all wells listed within a CA on: n/a
10. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject,** for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: 6/12/2006

DATA ENTRY:

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

BOND VERIFICATION:

1. Federal well(s) covered by Bond Number: n/a
2. Indian well(s) covered by Bond Number: PA002769
3. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number n/a

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:

4. (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:

FORM 9

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

5. LEASE DESIGNATION AND SERIAL NUMBER:	See attached list
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:	Navajo Tribe
7. UNIT or CA AGREEMENT NAME:	Ratherford Unit
8. WELL NAME and NUMBER:	See attached list
9. API NUMBER:	Attached
10. FIELD AND POOL, OR WILDCAT:	Greater Aneth

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER Unit Agreement

2. NAME OF OPERATOR: Resolute Natural Resources Company N2700

3. ADDRESS OF OPERATOR: 1675 Broadway, Suite 1950 CITY Denver STATE CO ZIP 80202 PHONE NUMBER: (303) 534-4600

4. LOCATION OF WELL
FOOTAGES AT SURFACE: See attached list COUNTY: San Juan
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: _____	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☑ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☑ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
_____	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☐ OTHER: _____
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

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 Mallory TITLE Regulatory Coordinator

SIGNATURE Dwight E Mallory DATE 4/20/2006

(This space for State use only)

APPROVED 6/27/06
Earlene Russell
Division of Oil, Gas and Mining
Earlene Russell, Engineering Technician

RECEIVED
APR 24 2006
DIV. OF OIL, GAS & MINING

(5/2000) (See Instructions on Reverse Side)

FORM 9

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

5. LEASE DESIGNATION AND SERIAL NUMBER:

SUNDRY NOTICES AND REPORTS ON WELLS

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ship Rock

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.

7. UNIT or CA AGREEMENT NAME: UTU68931A

1. TYPE OF WELL: OIL WELL ☑ GAS WELL ☐ OTHER

8. WELL NAME and NUMBER: Ratherford

2. NAME OF OPERATOR: ExxonMobil Oil Corporation N1855

9. API NUMBER: attached

3. ADDRESS OF OPERATOR: P.O. Box 4358 CITY Houston STATE TX ZIP 77210-4358

PHONE NUMBER: (281) 654-1936

10. FIELD AND POOL, OR WILDCAT: Aneth

4. LOCATION OF WELL

FOOTAGES AT SURFACE:

COUNTY: San Juan

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: 6/1/2006	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☑ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
Date of work completion:	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☐ OTHER:
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

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 producers and water source wells included in the transfer.

NAME (PLEASE PRINT) Laurie Kilbride TITLE Permitting Supervisor

SIGNATURE Laurie B. Kilbride DATE 4/19/2006

(This space for State use only)

APPROVED 6/27/06
Earlene Russell
Division of Oil, Gas and Mining
Earlene Russell, Engineering Technician

(See Instructions on Reverse Side)

RECEIVED
APR 21 2006
DIV. OF OIL, GAS & MINING

(5/2000)

Ratherford Unit - Producer Well List

minus P&A's

Lease	Number	API #	Status	Lease #	Location					
					Sec	T	R	QTR/QTR	NSFoot	EWFoot
Ratherford	01-14	430373116200S1	Producing	1420603246A	1	41S	23E	SWSW	0660FSL	0660FWL
Ratherford	01-34	430371638501S1	SI	1420603246A	1	41S	23E	SWSE	1133FSL	1980FEL
Ratherford	11-41	430373154400S1	Producing	1420603246A	11	41S	23E	NENE	0860FNL	0350FEL
Ratherford	11-43	430373162201S1	Producing	1420603246A	11	41S	23E	NESE	1980FSL	0660FEL
Ratherford	12-12	430373119000S1	Producing	1420603246A	12	41S	23E	SWNW	1850FNL	0660FWL
Ratherford	12-14	430371584400S1	SI	1420603246A	12	41S	23E	SWSW	0660FSL	4622FEL
Ratherford	12-21	430373120100S1	Producing	1420603246A	12	41S	23E	NENW	0660FNL	1980FWL
Ratherford	12-23	430371584601S1	Producing	1420603246A	12	41S	23E	NESW	1958FSL	3300FEL
Ratherford	12-32	430373120300S1	Producing	1420603246A	12	41S	23E	SWNE	1820FNL	1820FEL
Ratherford	12-34	430373112600S1	Producing	1420603246A	12	41S	23E	SWSE	0675FSL	1905FEL
Ratherford	12-43	430373120200S1	SI	1420603246A	12	41S	23E	NESE	2100FSL	0660FEL
Ratherford	13-12	430373112701S1	Producing	1420603247A	13	41S	23E	SWNW	1705FNL	0640FWL
Ratherford	13-14	430373158900S1	Producing	1420603247A	13	41S	23E	SWSW	0660FSL	0660FWL
Ratherford	13-21	430373112801S1	SI	1420603247A	13	41S	23E	NENW	0660FNL	1920FWL
Ratherford	13-23	430373112900S1	Producing	1420603247A	13	41S	23E	NESW	1980FSL	1930FWL
Ratherford	13-34	430373113001S1	Producing	1420603247A	13	41S	23E	SWSE	0660FSL	1980FEL
Ratherford	13-41	430371585601S1	Producing	1420603247A	13	41S	23E	NENE	660FNL	660FEL
Ratherford	13-43	430373113100S1	Producing	1420603247A	13	41S	23E	NESE	1700FSL	0960FEL
Ratherford	14-32	430371585801S1	Producing	1420603247A	14	41S	23E	SWNE	2130FNL	1830FEL
Ratherford	14-41	430373162300S1	Producing	1420603247A	14	41S	23E	NENE	0521FNL	0810FEL
Ratherford	24-32	430373159300S1	Producing	1420603247A	24	41S	23E	SWNE	2121FNL	1846FEL
Ratherford	24-41	430373113200S1	Producing	1420603247A	24	41S	23E	NENE	0660FNL	0710FEL
Ratherford	17-11	430373116900S1	Producing	1420603353	17	41S	24E	NWNW	1075FNL	0800FWL
Ratherford	17-13	430373113301S1	Producing	1420603353	17	41S	24E	NWSW	2100FSL	0660FWL
Ratherford	17-22	430373117001S1	Producing	1420603353	17	41S	24E	SENW	1882FNL	1910FWL
Ratherford	17-24	430373104400S1	Producing	1420603353	17	41S	24E	SESW	0720FSL	1980FWL
Ratherford	17-31	430373117800S1	Producing	1420603353	17	41S	24E	NWNE	0500FNL	1980FEL
Ratherford	17-33	430373113400S1	Producing	1420603353	17	41S	24E	NWSE	1980FSL	1845FEL
Ratherford	17-42	430373117700S1	Producing	1420603353	17	41S	24E	SENE	1980FNL	0660FEL
Ratherford	17-44	430371573201S1	Producing	1420603353	17	41S	24E	SESE	0660FSL	0660FEL
Ratherford	18-11	430371573300S1	SI	1420603353	18	41S	24E	NWNW	0720FNL	0730FWL
Ratherford	18-13	430371573401S1	Producing	1420603353	18	41S	24E	NWSW	1980FSL	0500FWL
Ratherford	18-22	430373123600S1	Producing	1420603353	18	41S	24E	SENW	2200FNL	2210FWL
Ratherford	18-24	430373107900S1	Producing	1420603353	18	41S	24E	SESW	0760FSL	1980FWL
Ratherford	18-31	430373118101S1	Producing	1420603353	18	41S	24E	NWNE	0795FNL	2090FEL
Ratherford	18-33	430373113501S1	Producing	1420603353	18	41S	24E	NWSE	1870FSL	1980FEL
Ratherford	18-42	430373118200S1	Producing	1420603353	18	41S	24E	SENE	2120FNL	0745FEL
Ratherford	18-44	430373104500S1	SI	1420603353	18	41S	24E	SESE	0660FSL	0660FEL
Ratherford	19-11	430373108000S1	Producing	1420603353	19	41S	24E	NWNW	0660FNL	0660FWL
Ratherford	19-13	430373171900S1	Producing	1420603353	19	41S	24E	NWSW	1980FSL	0660FWL
Ratherford	19-22	430373104601S1	Producing	1420603353	19	41S	24E	SENW	1840FNL	1980FWL
Ratherford	19-24	430373175401S1	Producing	1420603353	19	41S	24E	SESW	0600FSL	1980FWL
Ratherford	19-31	430373104701S1	Producing	1420603353	19	41S	24E	NWNE	510FNL	1980FEL
Ratherford	19-33	430373104800S1	Producing	1420603353	19	41S	24E	NWSE	1980FSL	1980FEL
Ratherford	19-42	430373091600S1	Producing	1420603353	19	41S	24E	SENE	1880FNL	0660FEL
Ratherford	19-44	430373108100S1	Producing	1420603353	19	41S	24E	SESE	0660FSL	0660FEL
Ratherford	19-97	430373159600S1	Producing	1420603353	19	41S	24E	SENE	2562FNL	0030FEL
Ratherford	20-11	430373104900S1	Producing	1420603353	20	41S	24E	NWNW	0500FNL	0660FWL
Ratherford	20-13	430373091700S1	Producing	1420603353	20	41S	24E	NWSW	2140FSL	0500FWL
Ratherford	20-22	430373093000S1	Producing	1420603353	20	41S	24E	SENW	2020FNL	2090FWL
Ratherford	20-24	430373091800S1	Producing	1420603353	20	41S	24E	SESW	0820FSL	1820FWL

Ratherford Unit - Producer Well List

minus P&A's

Lease	Number	API #	Status	Lease #	Location					
					Sec	T	R	QTR/QTR	NSFoot	EWFoot
Ratherford	20-31	430373105001S1	Producing	1420603353	20	41S	24E	NWNE	0660FNL	1880FEL
Ratherford	20-33	430373093100S1	Producing	1420603353	20	41S	24E	NWSE	1910FSL	2140FEL
Ratherford	20-42	430373105100S1	Producing	1420603353	20	41S	24E	SENE	1980FNL	0660FEL
Ratherford	20-44	430373091501S1	Producing	1420603353	20	41S	24E	SESE	0620FSL	0760FEL
Ratherford	20-66	430373159201S1	Producing	1420603353	20	41S	24E	SWNW	1369FNL	1221FWL
Ratherford	20-68	430373159100S1	Producing	1420603353	20	41S	24E	NWSW	1615FSL	1276FWL
Ratherford	15-12	430371571501S1	Producing	1420603355	15	41S	24E	SWNW	1820FNL	0500FWL
Ratherford	15-22	430373044900S1	SI	1420603355	15	41S	24E	SENW	1980FNL	2050FWL
Ratherford	15-32	430371571700S1	Producing	1420603355	15	41S	24E	SWNE	1980FNL	1980FEL
Ratherford	15-33	430371571800S1	Producing	1420603355	15	41S	24E	NWSE	1650FSL	1980FEL
Ratherford	15-41	430371571900S1	TA	1420603355	15	41S	24E	NENE	0660FNL	0660FEL
Ratherford	15-42	430373044800S1	Producing	1420603355	15	41S	24E	SENE	2020FNL	0820FEL
Ratherford	16-13	430373116801S1	Producing	1420603355	16	41S	24E	NWSW	1980FSL	660FWL
Ratherford	16-32	430371572300S1	Producing	1420603355	16	41S	24E	SWNE	1980FNL	1980FEL
Ratherford	16-41	430371572500S1	Producing	1420603355	16	41S	24E	NENE	0660FNL	0660FEL
Ratherford	16-77	430373176800S1	Producing	1420603355	16	41S	24E	NESW	2587FSL	2410FWL
Ratherford	21-23	430371375400S1	Producing	1420603355	21	41S	24E	NESW	1740FSL	1740FWL
Ratherford	21-24	430373172001S1	SI	1420603355	21	41S	24E	SESW	487FSL	2064FWL
Ratherford	21-32	430371575500S1	SI	1420603355	21	41S	24E	SWNE	1880FNL	1980FEL
Ratherford	21-77	430373175801S1	SI	1420603355	21	41S	24E	NWSE	2511FSL	2446FEL
Ratherford	07-11	430373116300S1	Producing	1420603368	7	41S	24E	NWNW	0660FNL	0710FWL
Ratherford	07-13	430373116400S1	Producing	1420603368	7	41S	24E	NWSW	2110FSL	0740FWL
Ratherford	07-22	430373116500S1	Producing	1420603368	7	41S	24E	SENW	1980FNL	1980FWL
Ratherford	07-24	430373116600S1	Producing	1420603368	7	41S	24E	SESW	0880FSL	2414FWL
Ratherford	07-44	430373118900S1	SI	1420603368	7	41S	24E	SESE	0737FSL	0555FEL
Ratherford	08-12	430371599100S1	Producing	1420603368	8	41S	24E	SWNW	1909FNL	0520FWL
Ratherford	08-21	430371599300S1	Producing	1420603368	8	41S	24E	NENW	0616FNL	1911FWL
Ratherford	08-23	430371599400S1	Producing	1420603368	8	41S	24E	NESW	1920FSL	2055FWL
Ratherford	08-32	430371599500S1	Producing	1420603368	8	41S	24E	SWNE	1980FNL	1980FEL
Ratherford	08-34	430371599600S1	Producing	1420603368	8	41S	24E	SWSE	0660FSL	1980FEL
Ratherford	04-34	430371616400S1	Producing	14206034035	4	41S	24E	SWSE	0660FSL	1980FEL
Ratherford	11-14	430371616700S1	Producing	14206034037	11	41S	24E	SWSW	0660FSL	0660FWL
Ratherford	09-34	430371571100S1	SI	14206034043	9	41S	24E	SWSE	0660FSL	1980FEL
Ratherford	10-12	430371571200S1	Producing	14206034043	10	41S	24E	SWNW	1980FNL	0660FWL
Ratherford	10-14	430371571300S1	Producing	14206034043	10	41S	24E	SWSW	0510FSL	0710FWL
Ratherford	10-32	430371571400S1	TA	14206034043	10	41S	24E	SWNE	2080FNL	1910FEL
Ratherford	10-44	430373045100S1	TA	14206034043	10	41S	24E	SESE	0820FSL	0510FEL
Ratherford	29-11	430373105300S1	Producing	1420603407	29	41S	24E	NWNW	0770FNL	0585FWL
Ratherford	29-22	430373108200S1	Producing	1420603407	29	41S	24E	SENW	2130FNL	1370FWL
Ratherford	29-31	430373091401S1	Producing	1420603407	29	41S	24E	NWNE	0700FNL	2140FEL
Ratherford	29-33	430373093200S1	SI	1420603407	29	41S	24E	NWSE	1860FSL	1820FEL
Ratherford	29-34	430371534000S1	SI	1420603407	29	41S	24E	SWSE	0817FSL	2096FEL
Ratherford	29-42	430373093700S1	SI	1420603407	29	41S	24E	SENE	1850FNL	0660FEL
Ratherford	30-32	430371534200S1	Producing	1420603407	30	41S	24E	SWNE	1975FNL	2010FEL
Ratherford	28-11	430373044600S1	Producing	1420603409	28	41S	24E	NWNW	0520FNL	0620FWL

Ratherford Unit - Producer Well List

minus P&A's

Lease	Number	API #	Status	Lease #	Location					
					Sec	T	R	QTR/QTR	NSFoot	EWFoot
Ratherford	09-12	430371512600S1	Producing	14206035045	9	41S	24E	SWNW	1865FNL	0780FWL
Ratherford	09-14	430371512700S1	Producing	14206035046	9	41S	24E	SWSW	0695FSL	0695FWL
Ratherford	04-14	430371616300S1	Producing	14206035446	4	41S	24E	SWSW	0500FSL	0660FWL
Ratherford	03-12	430371562000S1	Producing	14206036506	3	41S	24E	SWNW	2140FNL	0660FWL

Water Source Wells (Feb 2006)

RU	S1	4303700001	Active
RU	S2	4303700002	Active
RU	S3	4303700003	Active
RU	S4	4303700004	Active
RU	S5	4303700005	Active
RU	S6	4303700006	Active
RU	S7	4303700007	Active
RU	S8	4303700008	Active
RU	S9	4303700009	Active
RU	S10	4303700010	Active
RU	S11	4303700011	Active
RU	S12	4303700012	Active
RU	S13	4303700013	Active
RU	S14	4303700014	Active
RU	S16	4303700016	Active
RU	S17	4303700017	Active

FEDERAL APPROVAL OF THIS ACTION IS NECESSARY

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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: 14-20-603-353

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NAVAJO

7.UNIT or CA AGREEMENT NAME: RATHERFORD

1. TYPE OF WELL Oil Well

8. WELL NAME and NUMBER: RATHERFORD UNIT 19-22

2. NAME OF OPERATOR: RESOLUTE NATURAL RESOURCES

9. API NUMBER: 43037310460000

3. ADDRESS OF OPERATOR: 1700 Lincoln Street, Suite 2800 , Denver, CO, 80203 4535

PHONE NUMBER: 303 534-4600 Ext

9. FIELD and POOL or WILDCAT: GREATER ANETH

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1840 FNL 1980 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 19 Township: 41.0S Range: 24.0E Meridian: S

COUNTY: SAN JUAN

STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 11/25/2016	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ SPUD REPORT Date of Spud:	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	✓ OTHER	OTHER: Pump repair / replace

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Resolute Natural Resources respectfully submits this sundry as notice of a pump repair or replacement on the above well. Attached are the procedures and schematics

Accepted by the Utah Division of Oil, Gas and Mining

Date: November 23, 2016

By: Dark K Quist

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Erin Joseph	303 573-4886	Sr. Regulatory Analyst
SIGNATURE N/A		**DATE** 11/21/2016

RECEIVED: Nov. 21, 2016

Procedure
Horsley Witten: No.

1. MIRU WSU, LOTO,
2. Pressure test tubing to 1000 psig.
3. Kill well as necessary.
4. POOH with rods and plunger. Hang rods in derrick. Call Virgil or Nate to inspect rods.
5. ND WH. NU BOPE.
6. Release the TAC @ 5128' KB. Install a packer. Pressure test BOPE.
7. MIRU cap string spooler. TOOH with tubing and capstring. Stand back in derrick.
8. Call and notify Virgil Holly or Nate Dee to inspect tubing.
9. If tubing needs replaced, run new seamless , as necessary.
10. PU bit. Clean out to PBTD of 5374. First window at 5340 - 5349. Second window at 5361 - 5372. Use N2 as necessary. It is not planned to attempt a lateral cleanout. Do not pump into the lateral. POOH.
11. TIH with 2-7/8" orange peel joint; Four ft (4') perf sub, SN,tubing pump barrel, one joint 70XT 2-7/8", TAC, and 2-7/8 tubing to surface. Run capstring as before. Depending upon amount of solids found, if any, the TAC may be moved uphole 500 ft.
12. NDBOP, NUWH.
13. RIH with rods X plunger. Contact Tech Support for pump and rod questions.
14. Long stroke pump to test for good pumping action.
15. Leave enough polished rod for operators to correctly space pump as required.
16. Notify the Area Production Supervisor that well is ready to return to production.
17. RDMOL. Hook up appropriate chemical treatment.

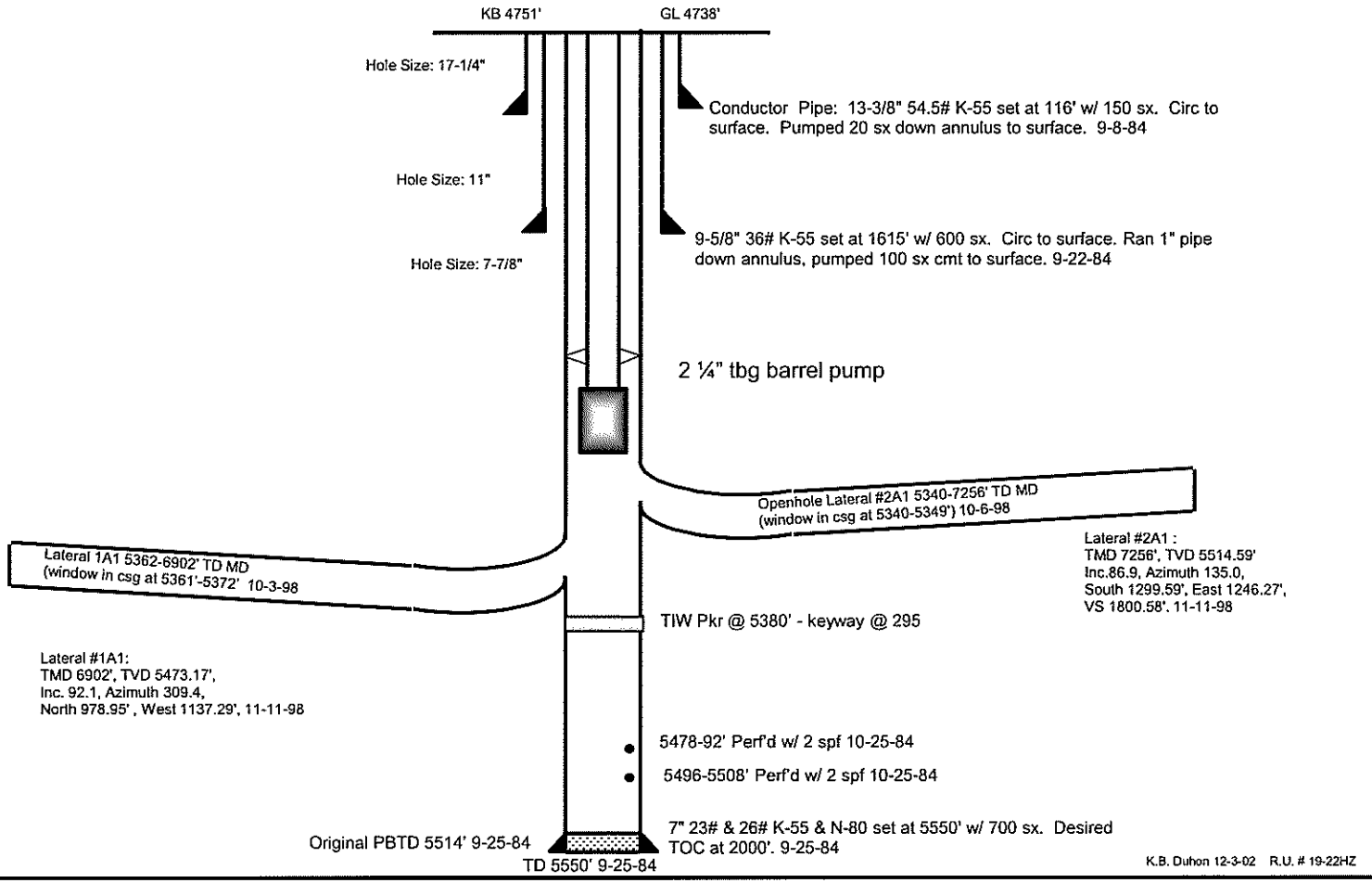
RATHERFORD UNIT # 19-22
GREATER ANETH FIELD
Surface Loc: 1840' FNL & 1980' FWL
SEC 19-T41S-R24E

B.H. Location Lateral #1:
979'N & 1137' W of Surface Location

B.H. Location Lateral #2:
1300' S & 1246' E of Surface Location

PRODUCER

SAN JUAN COUNTY, UTAH
API 43-037-31046



Resolute — Schematic - Current — WellView

Well Name: RU 19-22

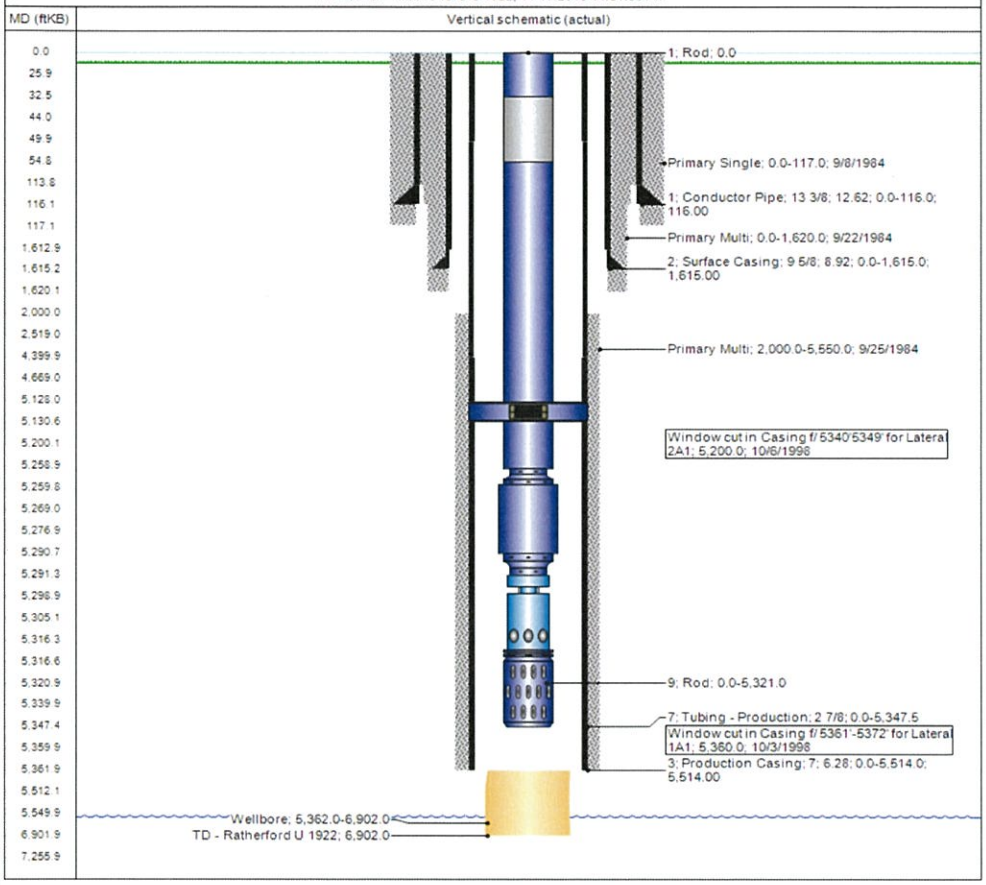
API Number	Qtr/Qtr	Field Name	State/Province	Wellbore Config	Enertia ID#
4303731046	N2 SE NW	Ratherford Unit	Utah	Horizontal	0869.01
Ground Elevation (ft)	**Casing Flange Elevation (ft)**	**KB-Ground Distance (ft)**	**KB-Casing Flange Distance (ft)**	**Regulatory Spud Date**	**Rig Release Date/Time**
5740		12.00		9/23/1984 00:00	11/11/1998 00:00

Most Recent Job

Job Category	Primary Job Type	Secondary Job Type	Start Date	End Date
Completion/Workover	Rod Repair		7/25/2012	8/10/2012

Schematic

Horizontal - Ratherford U 1922, 11/17/2016 11:31:35 AM



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

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER:
14-20-603-353

SUNDRY NOTICES AND REPORTS ON WELLS

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6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
NAVAJO

7.UNIT or CA AGREEMENT NAME:
RATHERFORD

1. TYPE OF WELL
Oil Well

8. WELL NAME and NUMBER:
RATHERFORD UNIT 19-22

2. NAME OF OPERATOR:
RESOLUTE NATURAL RESOURCES

9. API NUMBER:
43037310460000

3. ADDRESS OF OPERATOR:
1700 Lincoln Street, Suite 2800 , Denver, CO, 80203 4535

PHONE NUMBER:
303 534-4600 Ext

9. FIELD and POOL or WILDCAT:
GREATER ANETH

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
1840 FNL 1980 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: SENW Section: 19 Township: 41.0S Range: 24.0E Meridian: S

COUNTY:
SAN JUAN

STATE:
UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
✓ SUBSEQUENT REPORT Date of Work Completion: 12/2/2016	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	✓ OTHER	OTHER: Pump Repair

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Resolute Natural Resources respectfully submits this sundry as notice that the pump repair was successful on the above well. Pump repair was completed on 12/2/2016 according to previously approved procedures

Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY
December 23, 2016

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Erin Joseph	303 573-4886	Sr. Regulatory Analyst
SIGNATURE		**DATE**
N/A		12/15/2016