UTAH OIL AND GAS CONSERVATION COMMISSION

REMARKS: WELL LOG _____ ELECTRIC LOGS X (X WATER SANDS _____ LOCATION INSPECTED _____) SUB. REPORT/abd. _____

980316 Apprv Sidetrck, 1 horiz lat:

DATE FILED 9-27-93 * 1·28·98

LAND: FEE & PATENTED STATE LEASE NO. PUBLIC LEASE NO. INDIAN 14-20-603-353

DRILLING APPROVED: 11-8-93 * 2·3·98

SPUDDED IN: 3-30-94 * 2·13·98

COMPLETED: 5-4-94 WIW PUT TO PRODUCING: * 3-30-98 Compl (WEW)

INITIAL PRODUCTION:

GRAVITY A.P.I.

GOR:

PRODUCING ZONES: 5564-5623 (DSCR) * 1 Lat Horiz; See file

TOTAL DEPTH: 5750' * 3507' MD, 5571.92 TVD

WELL ELEVATION: 4784 GR, 4799' KB

DATE ABANDONED:

FIELD: GREATER ANETH

UNIT: RATHERFORD

COUNTY: SAN JUAN

WELL NO. RATHERFORD UNIT 18-43B API NO. 43-037-31718

LOCATION 2022' FSL FT. FROM (N) (S) LINE, 651' FEL FT. FROM (E) (W) LINE. NE SE 1/4 – 1/4 SEC. 18

TWP.	RGE.	SEC.	OPERATOR	TWP.	RGE.	SEC.	OPERATOR
41S	24E	18	MOBIL EXPLORATION & PROD.				

Form 3160-3
(November 1983)
(formerly 9-331C)

SUBMIT IN 'LICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

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

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

2. NAME OF OPERATOR
MOBIL EXPLORATION & PRODUCING U.S. AS AGENT FOR MPTM/MEPNA

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

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface
651 FEL, 2022.5' FSL SEC.18 T41S R24E
At proposed prod. zone
SAME

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
RATHERFORD UNIT

9. WELL NO.
18-43B

10. FIELD AND POOL, OR WILDCAT
GREATER ANETH

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

12. COUNTY OR PARISH
SAN JUAN

13. STATE
UTAH

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
4 MILES SOUTH OF MONTEZUMA CREEK

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)
APPROX. 8400' FROM RATHERFORD UNIT LEASE LINE

16. NO. OF ACRES IN LEASE
12910

17. NO. OF ACRES ASSIGNED TO THIS WELL
80 ACRES

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.
100' for 18-43 PA'd

19. PROPOSED DEPTH
6000

20. ROTARY OR CABLE TOOLS
ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
GL 4790

22. APPROX. DATE WORK WILL START*
NOV. 15, 1993

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#	80'	111 ft^3 (Circ. to Surf)
12 1/4	9 5/8	36#	1600'	651 ft^3 (Circ. to Surf)
8 3/4	7	23#	5600'	1214 ft^3 (Circ. to Surf)

SEE ATTACHED 8 POINT WELL CONTROL PLAN FOR ADDITIONAL DRILLING INFORMATION.

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

24.
SIGNED Shirley Todd TITLE ENV. & REG TECHNICAIN DATE 9-24-93

(This space for Federal or State office use)

PERMIT NO. 43-037-31768 APPROVAL DATE

APPROVED BY TITLE DATE

CONDITIONS OF APPROVAL, IF ANY:

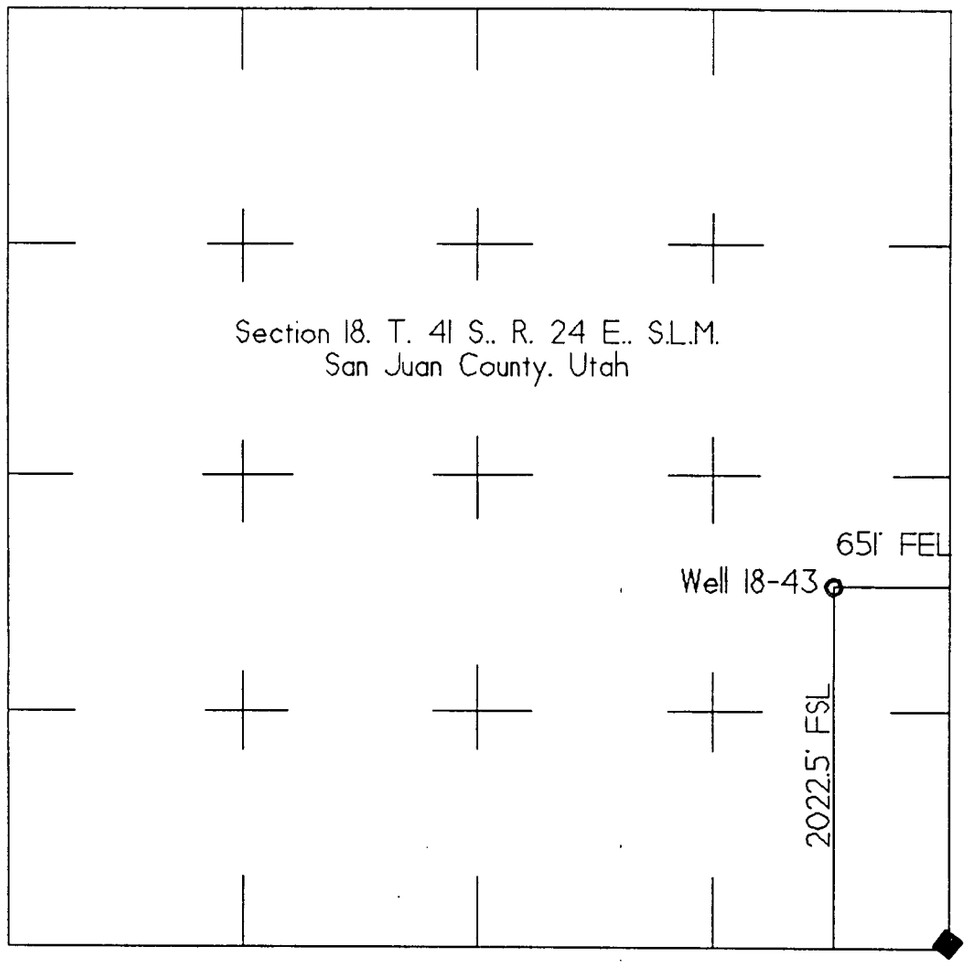
APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS AND MINING
DATE: 11/8/93
BY: J.R. Matthews
WELL: 43-037-31768

*See Instructions On Reverse Side

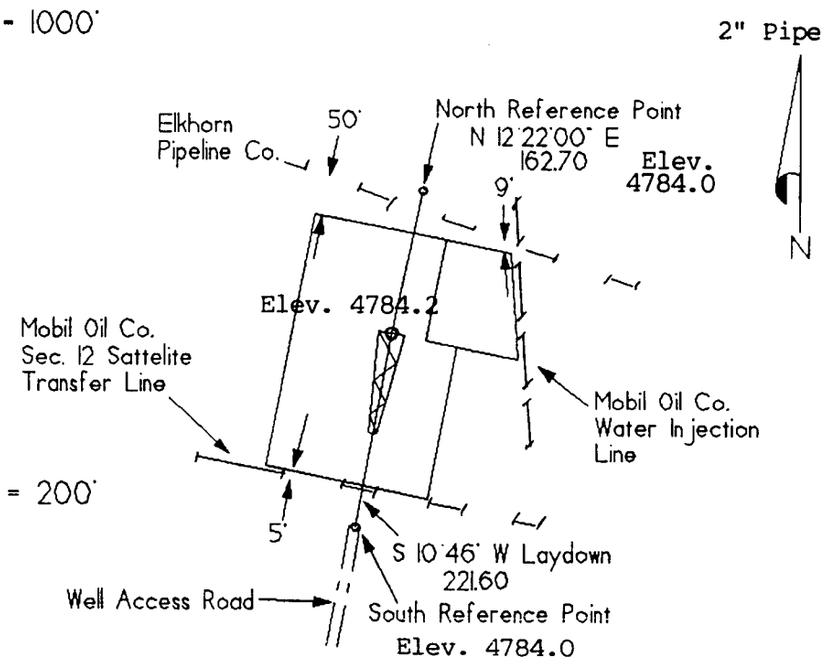
Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Mobil Oil Co - Well 18-43 Ratherford Unit
SE¼ Section 18, T41S, R24E, SLM, San Juan County, Utah
August 18, 1993
Page 1 of 3

MOBIL OIL COMPANY
Well 18-43
Ratherford Unit, NE/4 SE/4 Section 18



Scale: 1" = 1000'



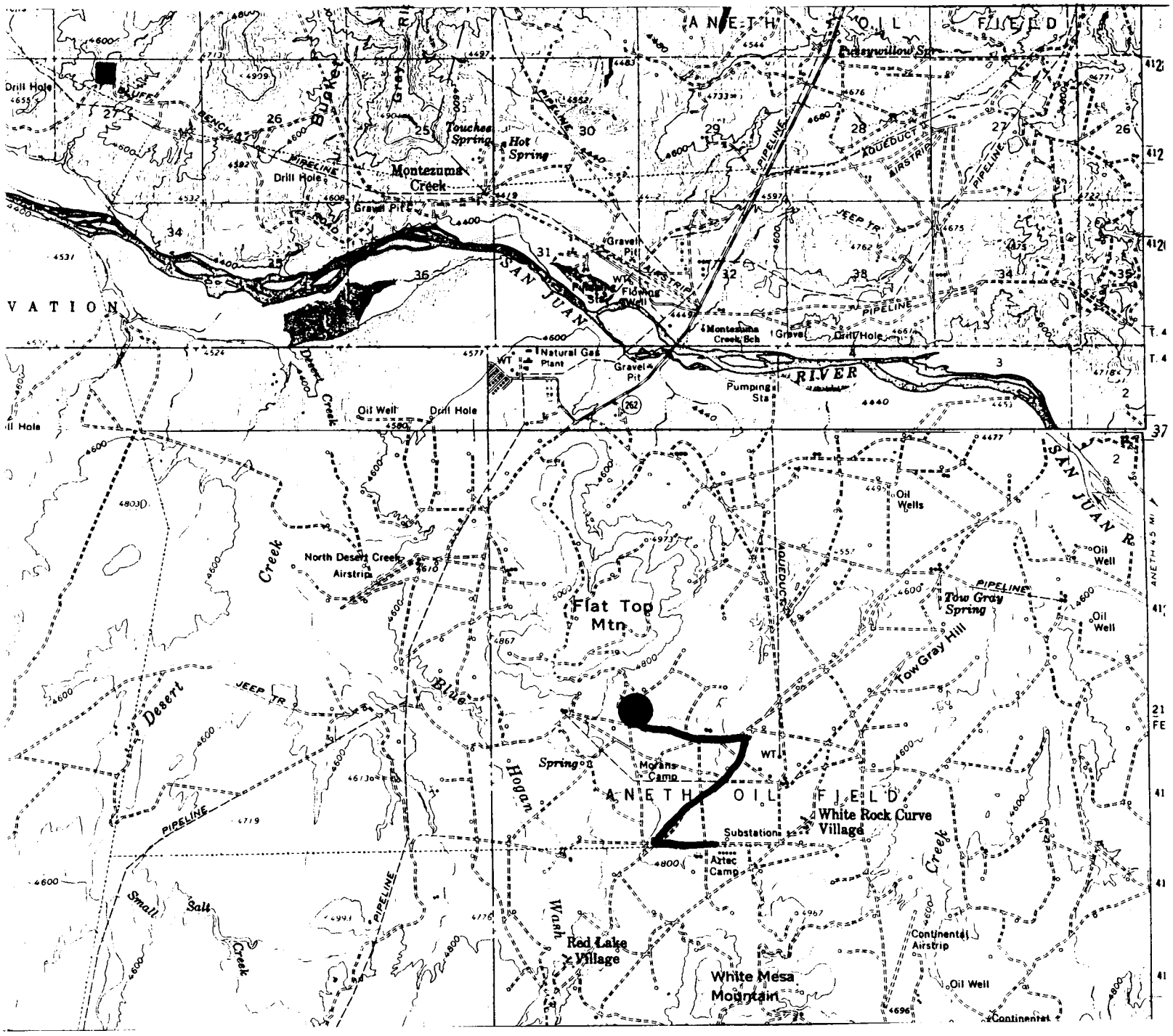
Scale: 1" = 200'

REGISTERED LAND SURVEYOR
No. 5705
GERALD G. HUDDLESTON
STATE OF UTAH

MANESS AND ASSOCIATES, INC.
SURVEYING

PO BOX 1163
215 N. Linden
Cortez, Colorado
565-8845

Mobil Exploration & Producing U.S. Inc.
Ratherford Unit 18-43B
2022.5' FSL & 651' FEL
Sec. 18, T. 41 S., R. 24 E.
San Juan County, Utah



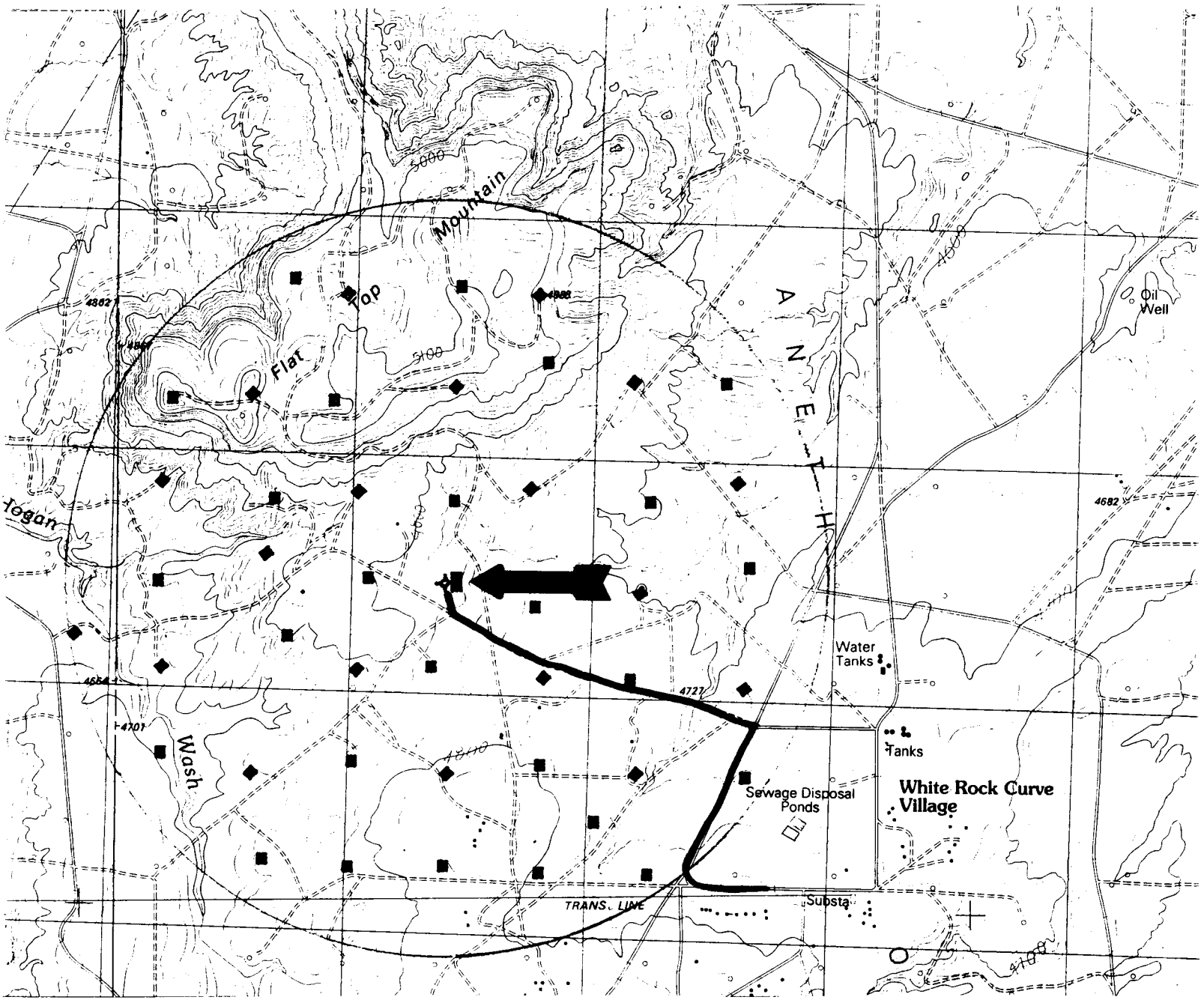
Proposed Well: ●

Access Road: ~

Water Source: ■

PERMITS WEST, INC.
PROVIDING PERMITS for the ENERGY INDUSTRY

Mobil Exploration & Producing U.S. Inc.
Ratherford Unit 18-43B
2022.5' FSL & 651' FEL
Sec. 18, T. 41 S., R. 24 E.
San Juan County, Utah



Proposed 18-43B Well: ■

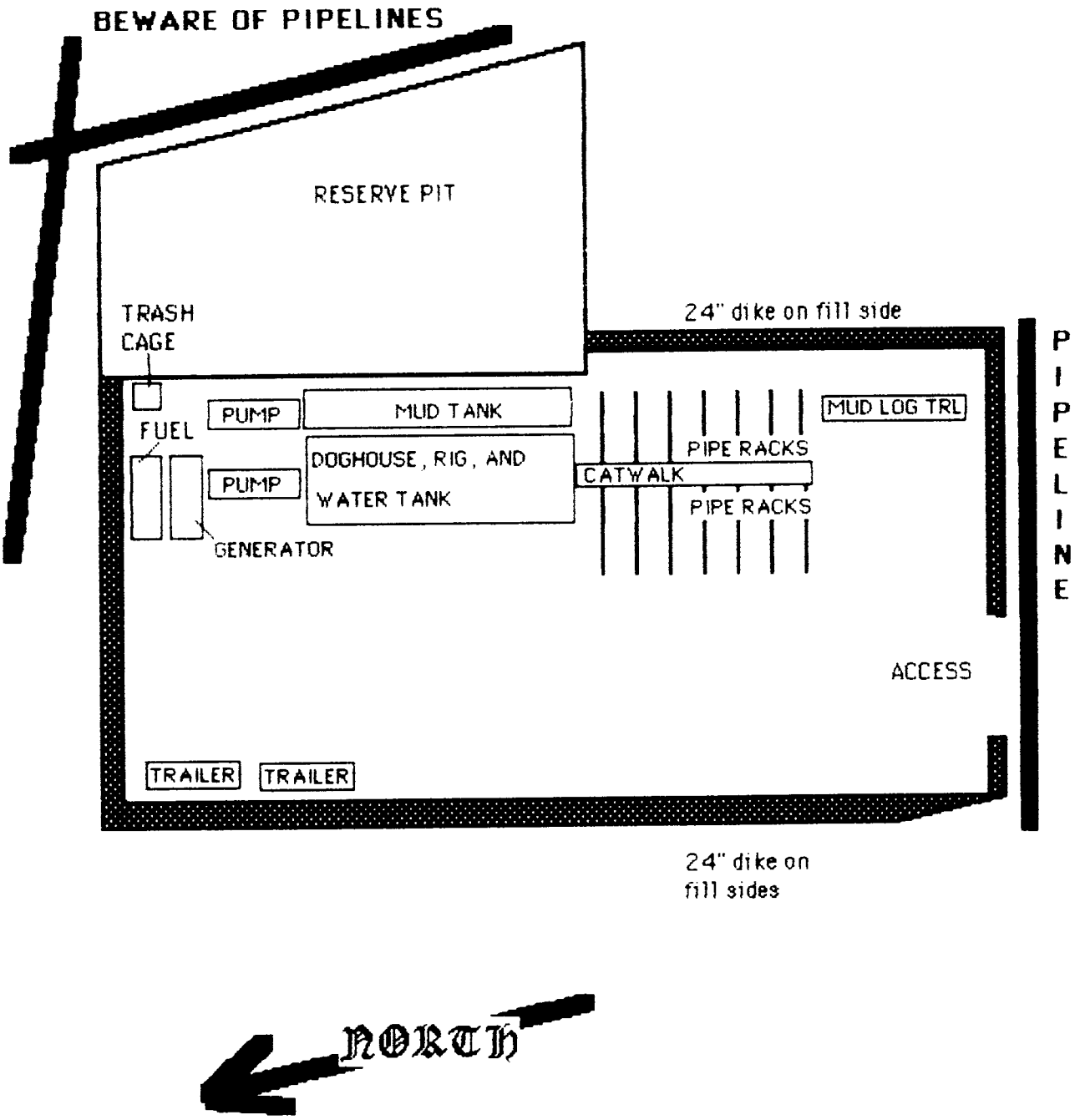
Existing Injection Well: ◆

Existing Oil Well: ■

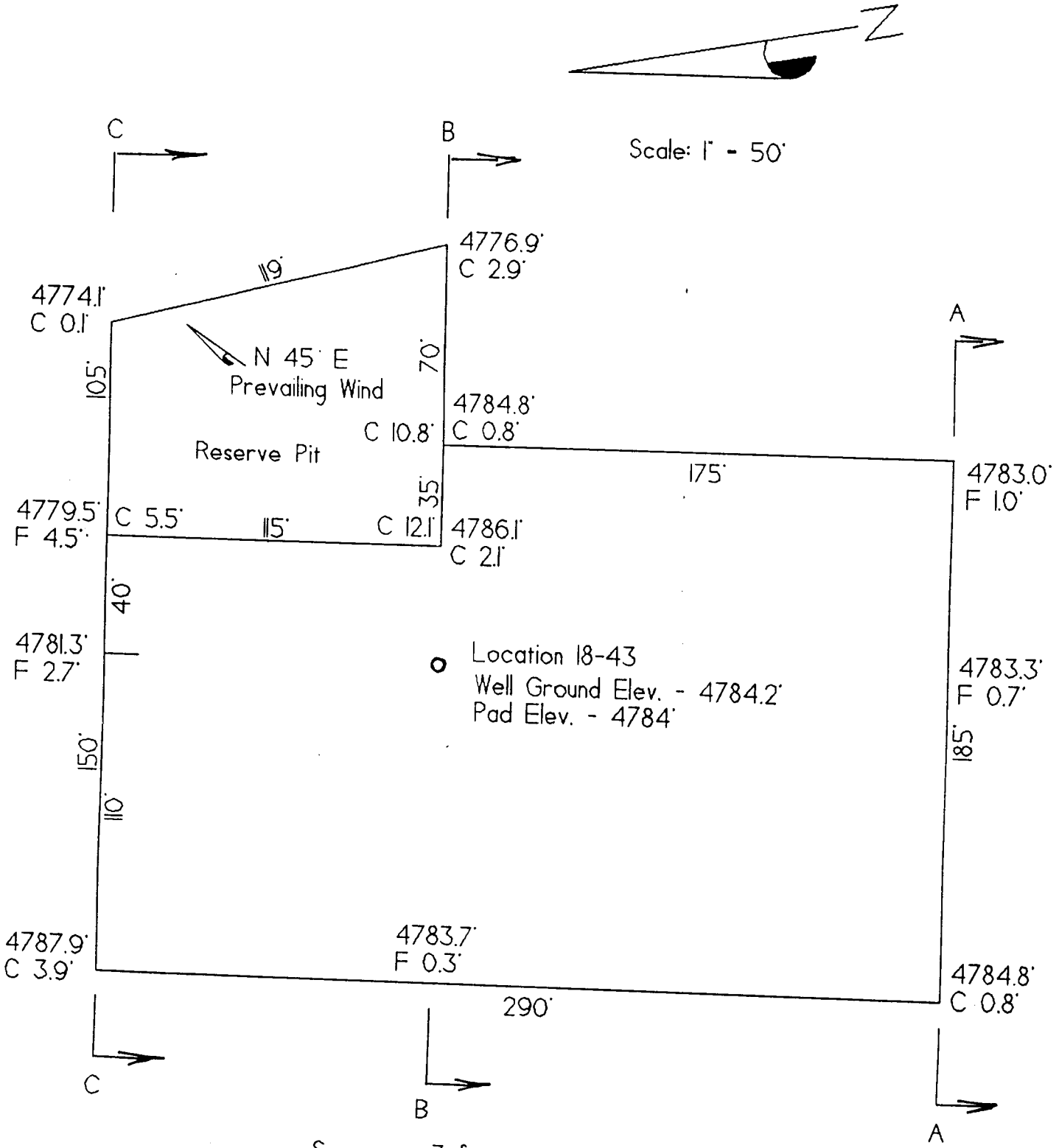
Access Route: ~

PERMITS WEST, INC.
PROVIDING PERMITS for the ENERGY INDUSTRY

Mobil Exploration & Producing U.S. Inc.
Ratherford Unit 18-43B
2022.5' FSL & 651' FEL
Sec. 18, T. 41 S., R. 24 E.
San Juan County, Utah

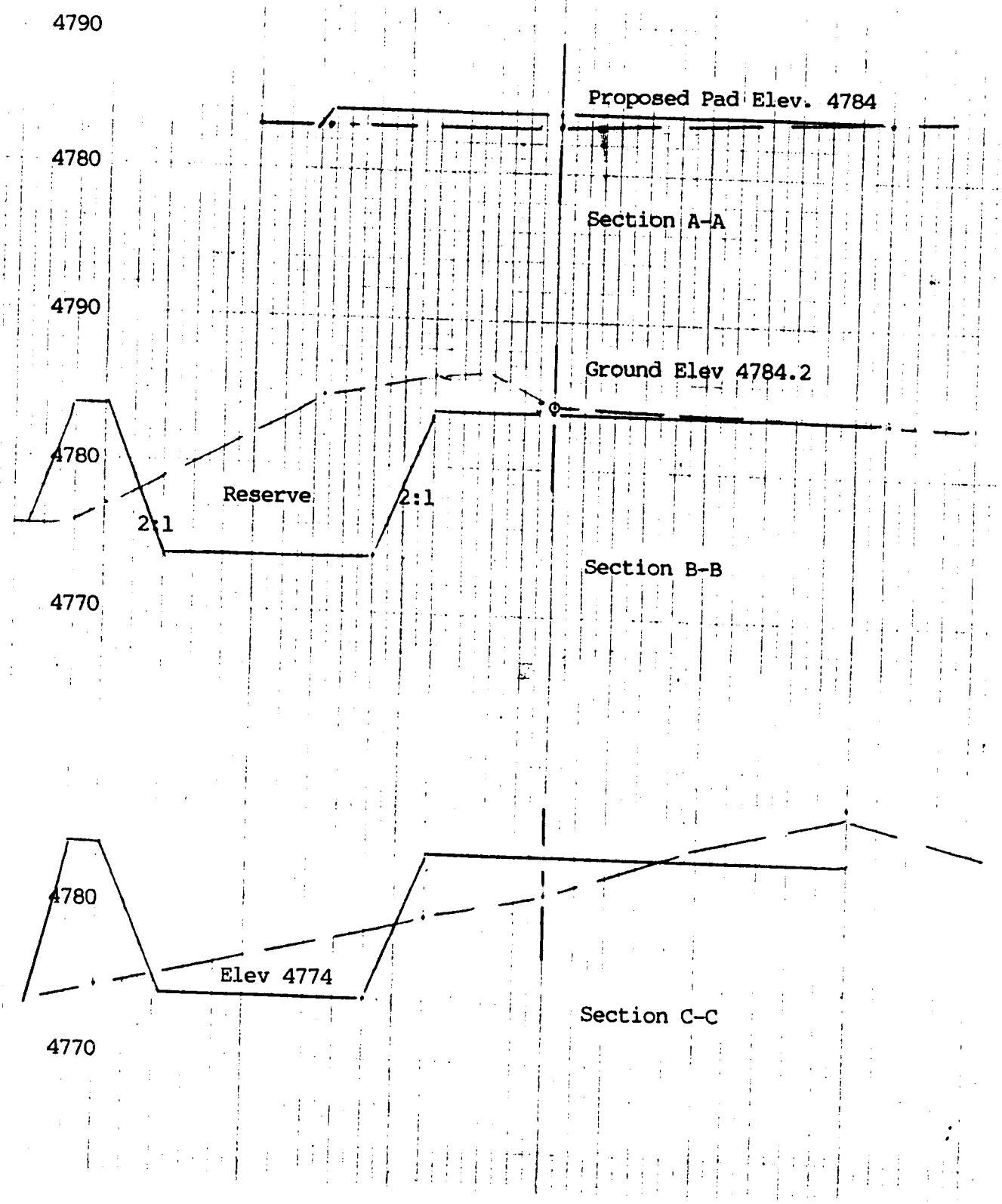


PERMITS WEST, INC.
PROVIDING PERMITS for the ENERGY INDUSTRY



See page 3 for cross sections

MANESS AND ASSOCIATES, INC.
SURVEYING



MANESS AND ASSOCIATES
SURVEYING

Mobil Oil Corporation
Ratherford Unit #18-43B
2020' FSL and 660' FEL
Section 18, T-41-S, R-24-E
San Juan County, Utah

Eight Point Drilling Program

1. ESTIMATED FORMATION TOPS*

Formation Name	Depth from GL	Depth from KB	Subsea Depth
Chinle	1300'	1312'	3490'
DeChelly SS	2650'	2662'	2140'
Hermosa LS	4575'	4587'	215'
Ismay LS	5400'	5412'	-610'
L. Ismay LS	5535'	5547'	-745'
Gothic Shale	5545'	5557'	-755'
Desert Creek I	5560'	5572'	-770'
Desert Creek II	5620'	5632'	-830'
Chimney Rock	5730'	5742'	-940
Total Depth (TD)	5800'	5812'	-1010'

* All depths based on ground level of 4790'

2. NOTABLE ZONES

The estimated formation top depths from GL at which water, oil, gas, or other mineral bearing zones may be encountered are:

Possible Water Zone	Possible Coal Zone	Possible Oil or Gas Zones
DeChelly SS 2650'		Desert Creek I 5560' Desert Creek II 5620'

Propose to drill, complete, and equip an oil producer in the Desert Creek formation.

The well will be cased throughout its length and cemented to the surface, if possible.

3. PRESSURE CONTROL (See "5" on Page 3)

The drilling contract has not yet been awarded, thus the exact types of BOP's to be used are not yet known. Examples of a typical BOP and choke manifold are on Page 3. Maximum anticipated surface pressure will be 2,000 psi.

Once out from under the surface casing, a minimum 11" 3,000 psi system will be used with two hydraulic rams (blind/pipe). The choke manifold will have a minimum 3,000 psi rating.

BOP's will be tested to their working pressure after nippling up and after any use under pressure. Pipe rams will be function tested daily. Blind rams will be function tested after each trip out of the hole. BOP tests will be recorded on IADC reports.

Upper and lower kelly valves, floor safety valve, and drill string inside BOP rated at a minimum 3,000 psi will be maintained on the floor at all times. Upper and lower kelly valves with handler available will be in use at all times. Back pressure and full opening drill string safety valves to fit all drill strings in use will be available on the rig floor at all times.

Mobil Oil Corporation
Ratherford Unit #18-43B
2020' FSL and 660' FEL
Section 18, T-41-S, R-24-E
San Juan County, Utah

4. CASING & CEMENTING

Hole Size	O.D.	Weight	Grade	Conn.	Age	Setting Depth (GL)
17-1/2"	13-3/8"	48#	H40	ST&C	New	0000' - 0080'
12-1/4"	9-5/8"	36#	J55	ST&C	New	0000' - 1600'
8-3/4"	7"	23#	USS50	LT&C	New	0000' - 5600'

Surface Casing (0' to 80'): Cement to surface with 111 ft^3. Volume calculated with 100% excess. Ready-Mix cement.

Intermediate Casing (0' to 1600'): Cement to surface with 651 ft^3. Volume calculated with 30% excess. Lead with slurry of 65:35:6 "B" Poz + 2% $CaCl_2$. Tail with Class "B" + 2% $CaCl_2$. Total of 12 centralizers and one stop collar. One on the shoe joint and one every third collar to 200' from surface.

Production Casing (0' to 5800'): Cement to surface with 1214 ft^3. Volume calculated with 50% excess. Lead with slurry of 50/50 "G" Poz + 8% Gel + .75% Halad-344. Tail with and Elastomeric Cement composed of 100% Latex 2000 + 125% Silica Flour + 25% HAC (high alumina cement). Total of 17 centralizers and 3 stop collars. One centralizer on the float shoe then every third collar.

5. MUD PROGRAM

Depth	Type	Weight	Viscosity	Fluid Loss
0000' - 1600'	FW/Spud Mud	8.4 - 8.8	35 - 45	NC
1600' - 5000'	FW/PHPA	9.0 - 11.5	36 - 48	NC
5000' - 5800'	FW/PHPA	10 - 11.5	36 - 48	10 - 15

6. CORING, TESTING, AND LOGGING

No cores are currently planned. Neutron, Dual Induction, and Sonic logs may be run. A few RFT tests may also be run.

7. DOWNHOLE CONDITIONS

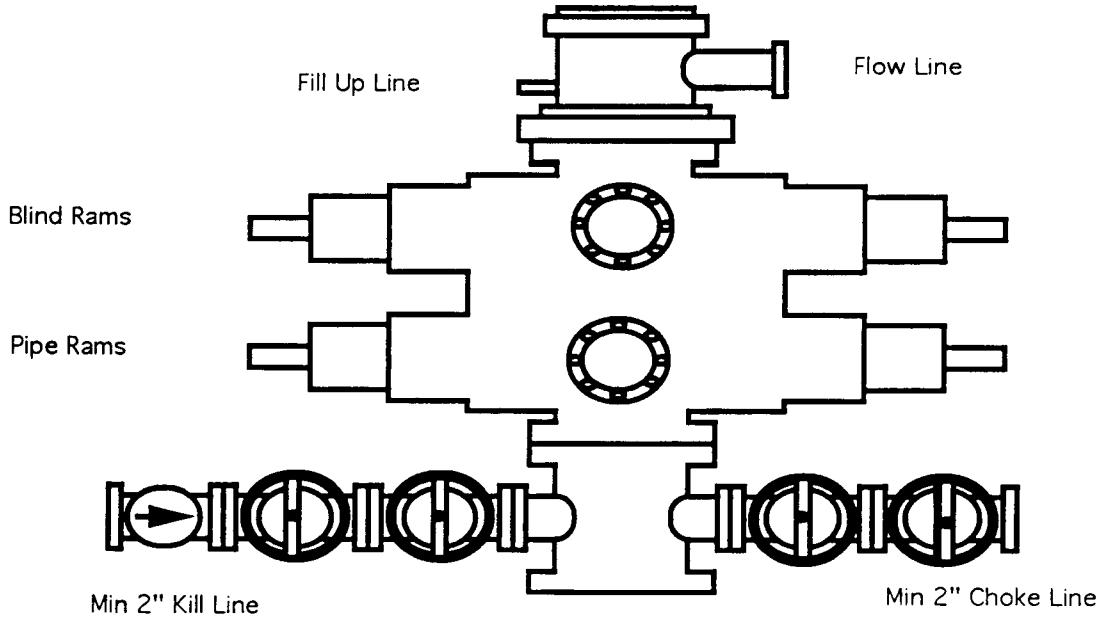
Possible water flows in the DeChelly formation may be encountered.

8. MISCELLANEOUS

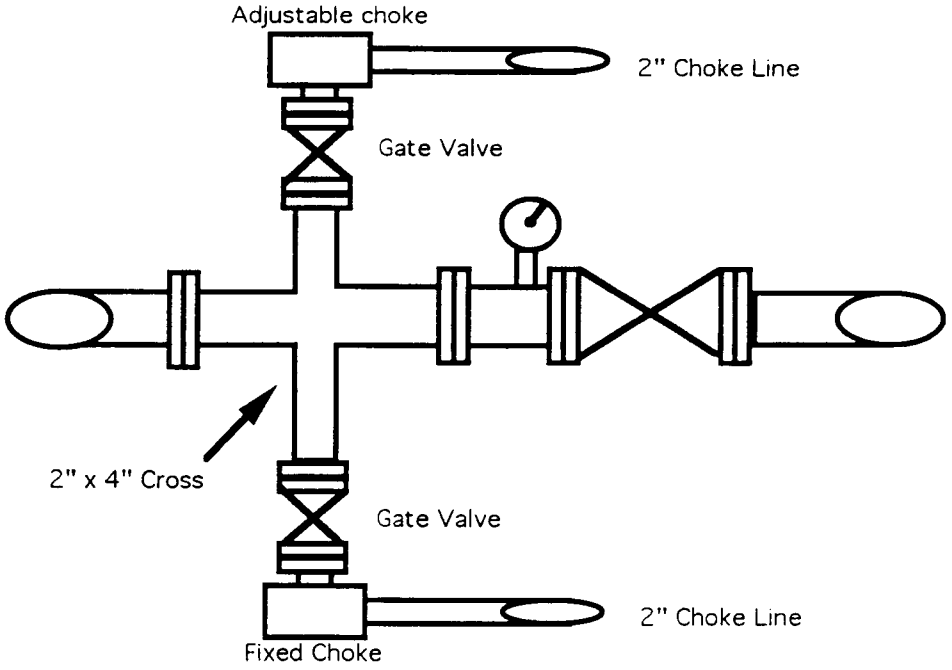
The anticipated spud date is November, 1993. It is expected to take +/- 24 days to drill the well and 10 days to complete the well.

Mobil Oil Corporation
Ratherford Unit #18-43
Sec 18, T-41-S, R-23-E
600' FEL and 1900' FSL
San Juan Co., Utah

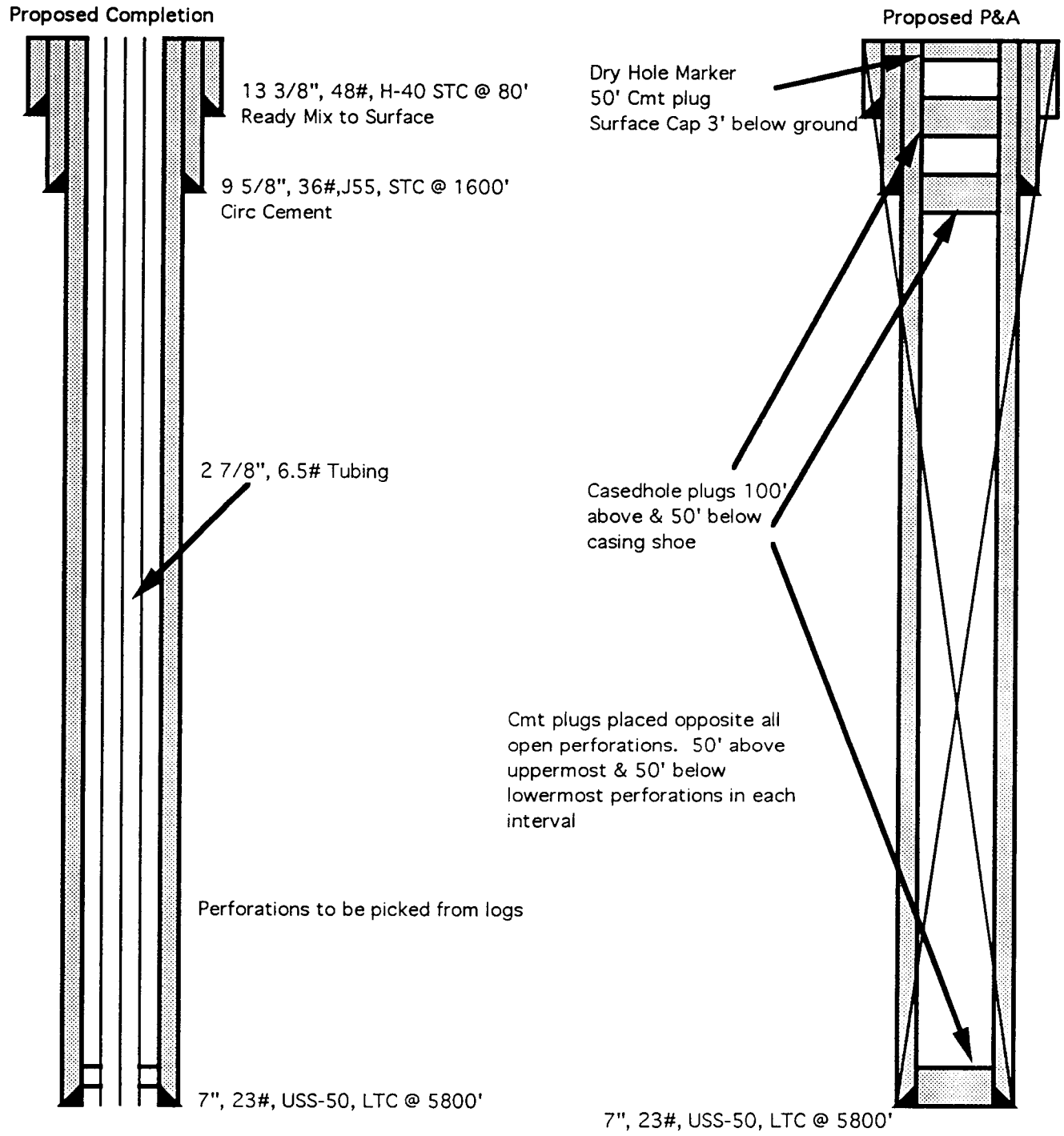
Bop Equipment
11" x 3000 psi Working Pressure



Choke Manifold
3000 psi



Mobil Oil Corporation
Ratherford Unit #18-43
Sec 18, T-41-S, R-23-E
600' FEL and 1900' FSL
San Juan Co., Utah



Mobil Exploration & Producing U.S. Inc.
Ratherford Unit 18-43B
2022.5' FSL & 651' FEL
Sec. 18, T. 41 S., R. 24 E.
San Juan County, Utah

1. DIRECTIONS & EXISTING ROADS

From the Ratherford Unit Field Office, go W 0.2 mi. on a paved field road.
Then turn right and go NE 0.3 mi. on paved BIA Road N-35.
Then turn left and go W 0.8 mi. on a dirt field road.
Then turn right and go N 0.1 mi. on a dirt field road to the 18-43B well.

Roads will be maintained to a standard at least equal to their present condition. Existing roads need no upgrading.

2. ROAD TO BE BUILT

Roads will be neither upgraded nor built. The 18-43B is staked on the plugged and abandoned 18-43 wellpad and uses its road.

3. EXISTING WELLS

There are twenty-six oil, nineteen injection, and one P&A wells within a mile radius. All wells are within the Ratherford Unit. All are shown on an attached map. There are no water or gas wells.

4. PROPOSED PRODUCTION FACILITIES

An injection line will be laid to an existing injection line on the 18-43 wellpad. The $\leq$6" OD welded steel or coiled steel tubing injection line will operate at ≈1500 to ≈3500 psi, be tested to ≈5800 psi, has a burst rating of ≈7200 psi, will be internally coated or lined, and will be buried at least 30" deep. Surface disturbance will be limited to that necessary for pipeline construction. All fill material will be removed from all drainages and the drainages returned to their natural form.

Above ground structures and equipment (only a wellhead is planned) will be painted with non-glare sand (federal standard 595a-30277) or Mobil beige 12-F-38 color. The well will be an injector, and not an oil well.

5. WATER SUPPLY

Water will be trucked from a BLM (San Juan RA of the Moab District) artesian well in NENW 27-40s-23e. Mobil has permission from the Monticello BLM office.

6. CONSTRUCTION MATERIALS & METHODS

Beware of buried pipelines along the north, east, and south sides of the pad. Since no topsoil is present, no soil or brush will be stripped and stored. A 24" high berm will be built along the fill sides of the pad. A minimum 12 mil plastic liner will be installed in the reserve pit. No rock surface is planned.

7. WASTE DISPOSAL

The reserve pit will be fenced sheep tight on 3 sides with woven wire fence topped with barbed wire. The 4th side will be fenced once the rig moves off. The fence will be kept in good repair while the pit dries. Once dry, contents of the reserve pit will be buried in place. An overhead net will be installed after drilling is finished.

All trash will be placed in a portable trash cage. It will be hauled to an approved landfill. Human waste will be disposed of in 10' deep ratholes under trailers or in chemical toilets. Ratholes will be filled when the trailers are removed.

8. ANCILLARY FACILITIES

There will be no air strips or camps. Camper trailers will be on location for the company man, tool pusher, and mud loggers.

9. WELL SITE LAYOUT

See attached pages for depictions of the well pad, cross sections, cut and fill diagrams, reserve pit, trash cage, access road onto the location, parking, living facilities, soil stockpile, and rig orientation.

10. RECLAMATION

Reclamation starts once the reserve pit is dry. It usually takes a year for a reserve pit to fully evaporate. Rock surfacing material will be removed before starting reclamation. All disturbed areas will be recontoured to a natural shape to blend with the surrounding topography. Stockpiled topsoil will be evenly spread. Compacted areas will be plowed or ripped to a depth of 12"-16" before seeding. Seeding will be done between July 1 - August 31 or October 15 - November 30. No seeding will be done when the ground is muddy or frozen. Seed will be drilled 0.5" to 0.75" deep. If broadcast, the rate will be 150% of that shown below and the seed covered with a drag. If the well is a producer, then the reserve pit and any other areas not needed for workovers will be reclaimed in the same manner.

SPECIES FOR ROAD & WELLPAD	*lbs/acre PLS*
Indian ricegrass (Oryzopsis hymenoides)	3
Giant dropseed (Sporobolus giganteus)	2
Needle & thread (Stipa comata)	2
Yellow sweetclover (Melilotus alba)	1
Four wing saltbush (Atriplex canescens)	2

The road will be blocked, water barred, and reclaimed in the same manner as the wellsite. Berms will be built at the top of all slopes. Water bars will be spaced as follows:

% Slope	Spacing
1% - 5%	200 feet
6% - 15%	100 feet
>15%	50 feet

11. SURFACE OWNER

The well, road, and pipeline are all on Navajo Tribal Trust land in the Red Mesa Chapter. Any changes in the surface use plan must be approved by the BIA Branch of Natural Resources, P.O. Box 966, Shiprock, NM 87420. Call Randy Cornett at (505) 368-4427.

12. OTHER INFORMATION

The nearest hospital is a ≈75 minute drive away in northwest Monticello. It is 3 blocks northwest of the intersection of US 666 and US 191. Hospital phone number is (801) 587-2116. Or dial 1-800-332-1911 from anywhere in San Juan County, Ut. The closest medically equipped helicopter is in Farmington NM. Farmington hospital phone number is (505) 325-5011.

13. REPRESENTATION

Anyone having questions concerning the APD should contact:

Mobil Exploration & Producing U.S. Inc.
Ratherford Unit 18-43B
2022.5' FSL & 651' FEL
Sec. 18, T. 41 S., R. 24 E.
San Juan County, Utah

Shirley Todd, Technician
Mobil Exploration & Producing U. S. Inc.
P.O. Box 633
Midland, Tx. 79702
(915) 688-2585

Brian Wood, Consultant
Permits West, Inc.
37 Verano Loop
Santa Fe, NM 87505
(505) 984-8120

The field representative will be:
Ed Barber, Production Foreman
Mobil Exploration & Producing U. S. Inc.
P.O. Drawer G
Cortez, Co. 81321
(303) 565-9049

Mobil Exploration & Producing U. S. Inc. has the necessary consents from the proper lease owners to conduct lease operations in conjunction with this well. Bond coverage pursuant to 43 CFR 3104 for lease activities and operations is being provided by Mobil Exploration & Producing U. S. Inc.

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that 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 Mobil Exploration & Producing U. S. Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

for Diane Klancher
Environmental Regulatory/LP Supervisor

9-23-93
Date

PERMITS WEST, INC.
PROVIDING PERMITS for the ENERGY INDUSTRY

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 09/27/93

API NO. ASSIGNED: 43-037-31718

WELL NAME: RATHERFORD UNIT 18-43B
OPERATOR: MOBIL EXPL. & PROD. (N7370)

PROPOSED LOCATION:
NESE 18 - T41S - R24E
SURFACE: 0651-FEL-2022-FSL
BOTTOM: 0651-FEL-2022-FSL
SAN JUAN COUNTY
GREATER ANETH (R.U.) FIELD (365)

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

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

RECEIVED AND/OR REVIEWED:

Y Plat
Y Bond FEDERAL
(Number _____)
N Potash (Y/N)
N Oil shale (Y/N)
Y Water permit
(Number BLM)
N RDCC Review (Y/N)
(Date: _____)

MICROFICHE

LOCATION AND SITING:

V R649-2-3. Unit: SW-I-4192

___ R649-3-2. General.

___ R649-3-3. Exception.

Y Drilling Unit.
Board Cause no: ~~152-4~~
Date: ~~5/24/84 (40 ACRES)~~
~~INJECTION WELL 80 ACRES~~

COMMENTS: WATER WILL BE PURCHASED FROM A BLM WELL SEC. 27 40S 23E. NO CURRENT POD ON FILE. POD 10/26/93

STIPULATIONS:

INJECTION WELL DATA
(DATA INPUT SHEET FOR COMPUTER)

Township: 41S Range: 24 E Section: 18 Qtr/Qtr: NESE

API No: 43-037-31718

Operator Nm: MOBIL EXPLORATION + PRODUCTION Account No: _____

Well Nm: RATHERFORD 18-W-43B

Field Nm: GREATER ANETH Field No: 365

Unit Nm: RATHERFORD Unit No: 120

Cause No: _____

1st Inj: _____ Surf Csg: _____ Set @: _____

Avg InjP: _____ Int Csg: _____ Set @: _____

Max InjP: _____ Prod Csg: _____ Set @: _____

Max Rate: _____ Liner: _____ Set @: _____

PBTD: _____ Tbg: _____ Set @: _____

TD: _____ Dual Completion: Y N

Inj Zone: _____ Well Type: _____

Formation: DSCR Lease Type: _____

Approval: _____ Surf Owner: _____

PA Date: _____ Indian Country: Y N

****

TEST DATE: _____

TEST TYPE: _____

WITNESSED: Y N

_____ **PSI/HELD** _____

COMMENTS: PERMITTED BY EPA.

INCOMPLETE DATA AVAILABLE

AMENDED

Form 3160-3
November 1983)
(formerly 9-331C)

SUBMIT IN PLICAT
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

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: RATHERFORD UNIT

9. WELL NO.: 18-43B

10. FIELD AND POOL, OR WILDCAT: GREATER ANETH

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

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

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

2. NAME OF OPERATOR: MOBIL EXPLORATION & PRODUCING U.S. AS AGENT FOR MPTM/MEPNA

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

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 651 FEL, 2022.5' FSL SEC.18 T41S R24E
At proposed prod. zone: SAME

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 4 MILES SOUTH OF MONTEZUMA CREEK

12. COUNTY OR PARISH: SAN JUAN 13. STATE: UTAH

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): APPROX. 8400' FROM RATHERFORD UNIT LEASE LINE

16. NO. OF ACRES IN LEASE: 2161

17. NO. OF ACRES ASSIGNED TO THIS WELL: 80 ACRES

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 100' for 18-43 PA'd

19. PROPOSED DEPTH: 6000

20. ROTARY OR CABLE TOOLS: ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.): GL 4790

22. APPROX. DATE WORK WILL START*: NOV. 15, 1993

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#	80'	111 ft^3 (Circ. to Surf)
12 1/4	9 5/8	36#	1600'	651 ft^3 (Circ. to Surf)
8 3/4	7	23#	6000	1214 ft^3 (Circ. to Surf)

SEE ATTACHED 8 POINT WELL CONTROL PLAN FOR ADDITIONAL DRILLING INFORMATION.

This production area has H_2S; therefore, monitoring and safety equipment are required. Safety equipment will be rigged up by 3000'. Federal Requirements for equipment on this well are as follows:

1) Flare line and means of ignition
2) Remote controlled choke
3) Escape breathing apparatus for all crew members
4) H_2S sensors and associated audible/visual alarm(s)
5) At least one (1) portable H_2S monitor
6) Wind direction indicators
7) Caution/danger sign(s) and flag(s)
8) Mud-gas separator
9) Communication from wellsite

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DIVISION OF
OIL, GAS & MINING

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

24.

SIGNED Shirley Todd TITLE ENV. & REG TECHNICAIN DATE 10-8-93

(This space for Federal or State office use)

PERMIT NO. 43-037-31718 APPROVAL DATE APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

DATE: _____
BY: _____
WELL SPACING: _____

*See Instructions On Reverse Side

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

RADIUS OF EXPOSURE

10ppm Radius of Exposure calculated at 83'.

Maximum releasable H_2S calculated at 0.9 lbs/day, based on maximum measured H_2S concentration in a producing well gas stream (100ppm), and 100 MCFD maximum theoretical gas release volume. Maximum theoretical daily gas volume based on lease GOR of 500, and optimistic well test of 200 BOPD.

Mobil Oil Corporation
Ratherford Unit #18-43B
651' FEL, 2022.5 ' FSL
Section 18, T-41-S, R-24-E
San Juan County, Utah

Eight Point Drilling Program

1. ESTIMATED FORMATION TOPS*

Formation	Depth from GL	Drill Depth	Subsea Depth
Chinle	1294.2	1306.2	3502
DeChelly SS	2644.2	2656.2	2152
Hermosa LS	4569.2	4581.2	227
Ismay LS	5394.2	5406.2	-598
L. Ismay Ls	5529.2	5541.2	-733
Gothic Shale	5539.2	5551.2	-743
Desert Creek I	5554.2	5566.2	-758
Desert Creek II	5614.2	5626.2	-818
Chimney Rock	5724.2	5736.2	-928
TD	6000	6012	-1203.8

* All depths based on ground level of 4790'

2. NOTABLE ZONES

The estimated formation top depths from GL at which water, oil, gas, or other mineral bearing zones may be encountered are:

Possible Water Zone	Possible Coal Zone	Possible Oil or Gas Zones
DeChelly SS 2650'		Desert Creek I 5560' Desert Creek II 5620'

Propose to drill, complete, and equip an oil producer in the Desert Creek formation.

The well will be cased throughout its length and cemented to the surface, if possible.

3. PRESSURE CONTROL (See "5" on Page 3)

The drilling contract has not yet been awarded, thus the exact types of BOP's to be used are not yet known. Examples of a typical BOP and choke manifold are on Page 3. Maximum anticipated surface pressure will be 2,000 psi.

Once out from under the surface casing, a minimum 11" 3,000 psi system will be used with two hydraulic rams (blind/pipe). The choke manifold will have a minimum 3,000 psi rating.

BOP's will be tested to their working pressure after nippling up and after any use under pressure. Pipe rams will be function tested daily. Blind rams will be function tested after each trip out of the hole. BOP tests will be recorded on IADC reports.

Upper and lower kelly valves, floor safety valve, and drill string inside BOP rated at a minimum 3,000 psi will be maintained on the floor at all times. Upper and lower kelly valves with handler available will be in use at all times. Back pressure and full opening drill string safety valves to fit all drill strings in use will be available on the rig floor at all times.

Mobil Oil Corporation
Ratherford Unit #18-43B
651' FEL, 2022.5 ' FSL
Section 18, T-41-S, R-24-E
San Juan County, Utah

4. CASING & CEMENTING

Hole Size	O.D.	Weight	Grade	Conn.	Age	Setting Depth (GL)
17-1/2"	13-3/8"	48#	H40	ST&C	New	0000' - 0080'
12-1/4"	9-5/8"	36#	J55	ST&C	New	0000' - 1600'
8-3/4"	7"	23#	USS50	LT&C	New	0000' - 6000'

Surface Casing (0' to 80'): Cement to surface with 111 ft^3. Volume calculated with 100% excess. Ready-Mix cement.

Intermediate Casing (0' to 1600'): Cement to surface with 651 ft^3. Volume calculated with 30% excess. Lead with slurry of 65:35:6 "B" Poz + 2% $CaCl_2$. Tail with Class "B" + 2% $CaCl_2$. Total of 12 centralizers and one stop collar. One on the shoe joint and one every third collar to 200' from surface.

Production Casing (0' to 6000'): Cement to surface with 1214 ft^3. Volume calculated with 50% excess. Lead with slurry of 50/50 "G" Poz + 8% Gel + .75% Halad-344. Tail with and Elastomeric Cement composed of 100% Latex 2000 + 125% Silica Flour + 25% HAC (high alumina cement). Total of 17 centralizers and 3 stop collars. One centralizer on the float shoe then every third collar.

5. MUD PROGRAM

Depth	Type	Weight	Viscosity	Fluid Loss
0000' - 1600'	FW/Spud Mud	8.4 - 8.8	35 - 45	NC
1600' - 5000'	FW/PHPA	9.0 - 11.5	36 - 48	NC
5000' - 6000'	FW/PHPA	10 - 11.5	36 - 48	10 - 15

6. CORING, TESTING, AND LOGGING

No cores are currently planned. Neutron, Dual Induction, and Sonic logs may be run. A few RFT tests may also be run.

7. DOWNHOLE CONDITIONS

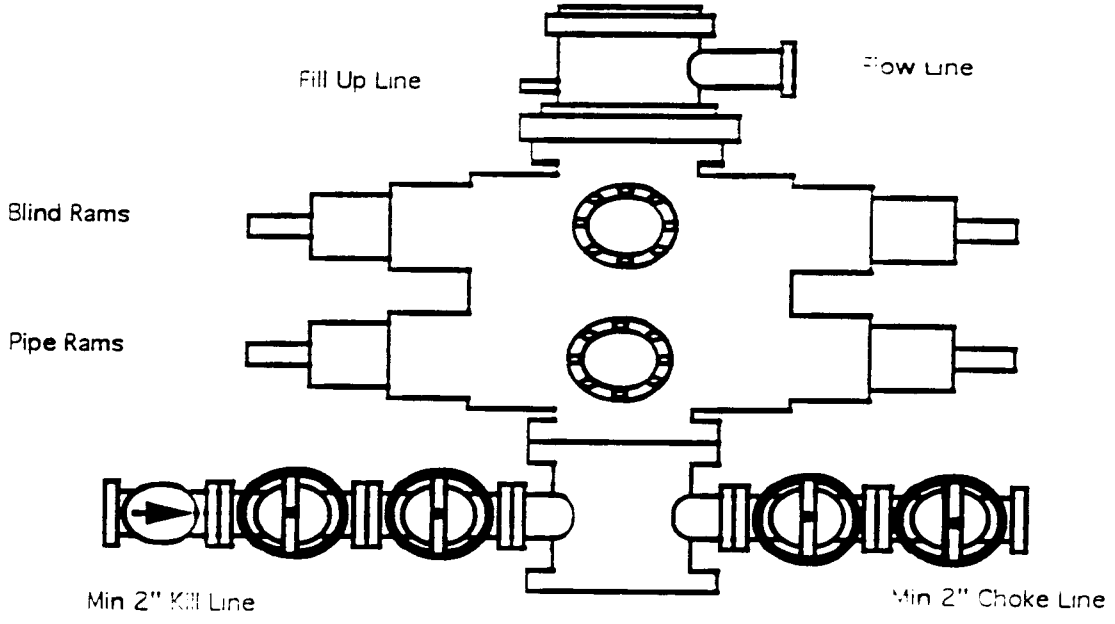
Possible water flows in the DeChelly formation may be encountered.

8. MISCELLANEOUS

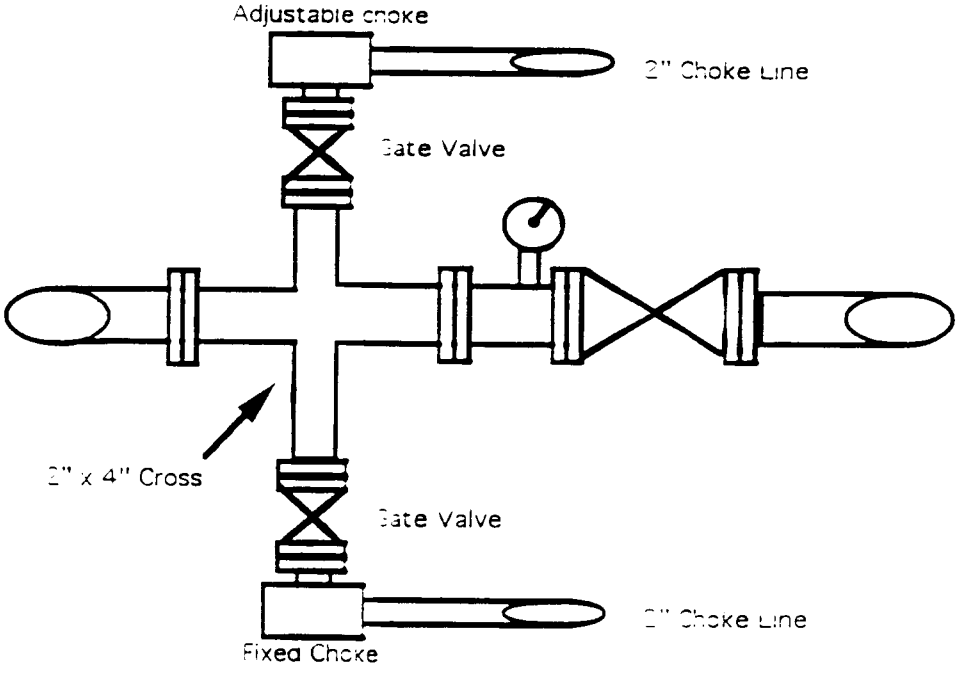
The anticipated spud date is November, 1993. It is expected to take +/- 24 days to drill the well and 10 days to complete the well.

Mobil Oil Corporation
Ratherford Unit #18-43B
Sec 18, T-41-S, R-23-E
651' FEL, 2022.5' FSL
San Juan Co., Utah

Bop Equipment
11" x 3000 psi Working Pressure

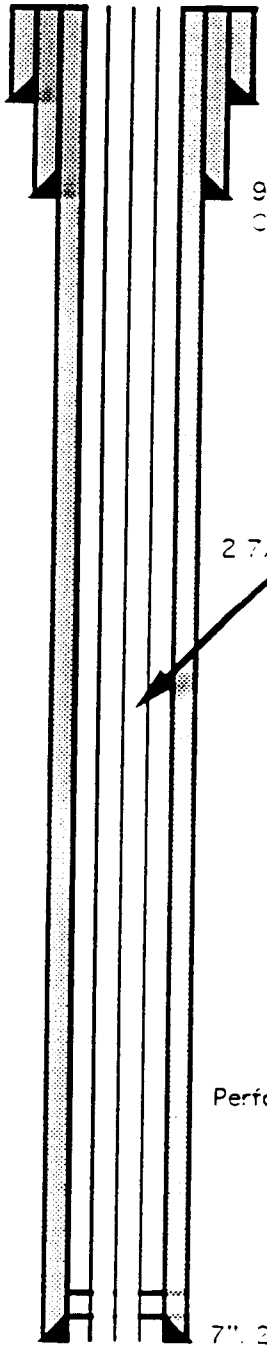


Choke Manifold
3000 psi



Mobil Oil Corporation
Ratherford Unit #18-43B
Sec 18, T-41-S, R-23-E
651' FEL, 2022.5' FSL
San Juan Co., Utah

Proposed Completion



13 3/8", 48#, H-40 STC @ 80'
Ready Mix to Surface

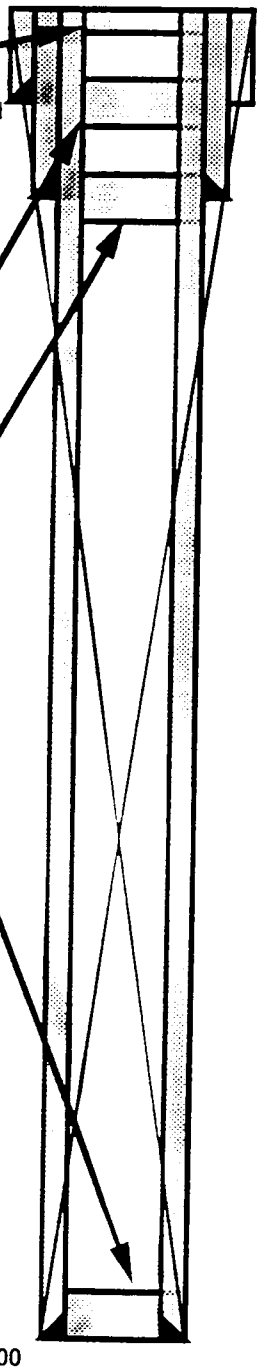
9 5/8", 36#,J55, STC @ 1600'
Circ Cement

2 7/8", 6.5# Tubing

Perforations to be picked from logs

7", 23#, USS-50, LTC @ 6000

Proposed P&A



Dry Hole Marker
50' Cmt plug
Surface Cap 3' below ground

Casehole plugs 100' above & 50' below casing shoe

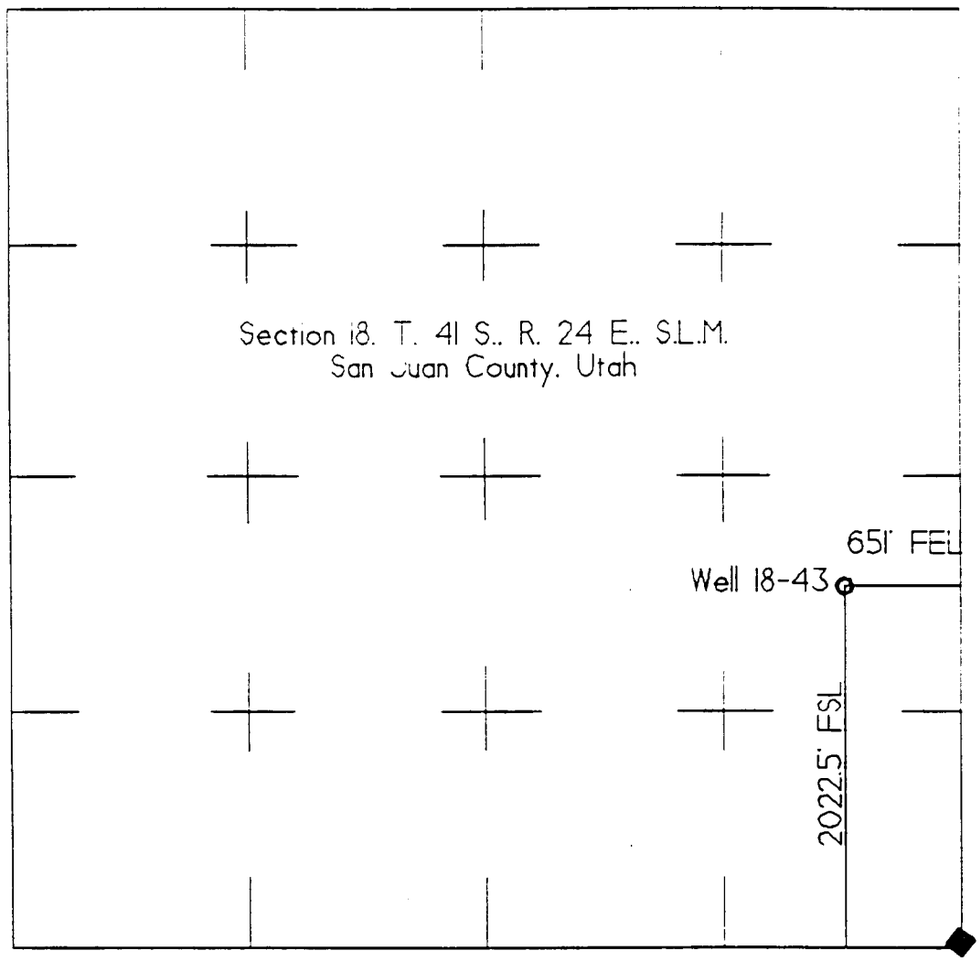
Cmt plugs placed opposite all open perforations. 50' above uppermost & 50' below lowermost perforations in each interval

7", 23#, USS-50, LTC @ 6000

Mobil Oil Co - Well 18-43B Ratherford Unit
SE¼ Section 18, T41S, R24E, SLM, San Juan County, Utah

August 18, 1993
Page 1 of 3

MOBIL OIL COMPANY
Well 18-43
Ratherford Unit, NE/4 SE/4 Section 18



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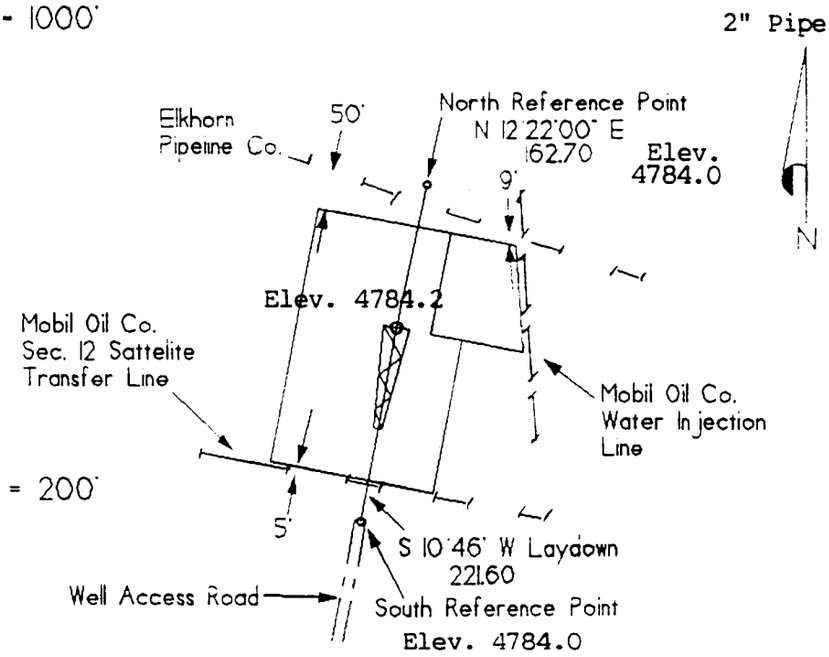

Scale: 1" = 200'

REGISTERED LAND SURVEYOR
No. 5705
GERALD G. HUDDLESTON
STATE OF UTAH

RECEIVED
OCT 12 1993
DIVISION OF
OIL, GAS & MINING

MANESS AND ASSOCIATES, INC.
SURVEYING

PO BOX 1163
215 N. Linden
Cortez, Colorado
565-8845

Mobil Exploration & Producing U.S. Inc.
Ratherford Unit 18-43B
2022.5' FSL & 651' FEL
Sec. 18, T. 41 S., R. 24 E.
San Juan County, Utah

1. DIRECTIONS & EXISTING ROADS

From the Ratherford Unit Field Office, go W 0.2 mi. on a paved field road.
Then turn right and go NE 0.3 mi. on paved BIA Road N-35.
Then turn left and go W 0.8 mi. on a dirt field road.
Then turn right and go N 0.1 mi. on a dirt field road to the 18-43B well.

Roads will be maintained to a standard at least equal to their present condition. Existing roads need no upgrading.

2. ROAD TO BE BUILT

Roads will be neither upgraded nor built. The 18-43B is staked on the plugged and abandoned 18-43 wellpad and uses its road.

3. EXISTING WELLS

There are twenty-six oil, nineteen injection, and one P&A wells within a mile radius. All wells are within the Ratherford Unit. All are shown on an attached map. There are no water or gas wells.

4. PROPOSED PRODUCTION FACILITIES

An injection line will be laid to an existing injection line on the 18-43 wellpad. The $\leq$6" OD welded steel or coiled steel tubing injection line will operate at ≈1500 to ≈3500 psi, be tested to ≈5800 psi, has a burst rating of ≈7200 psi, will be internally coated or lined, and will be buried at least 30" deep. Surface disturbance will be limited to that necessary for pipeline construction. All fill material will be removed from all drainages and the drainages returned to their natural form.

Above ground structures and equipment (only a wellhead is planned) will be painted with non-glare sand (federal standard 595a-30277) or Mobil beige 12-F-38 color. The well will be an injector, and not an oil well.

5. WATER SUPPLY

Water will be trucked from a BLM (San Juan RA of the Moab District) artesian well in NENW 27-40s-23e. Mobil has permission from the Monticello BLM office.

6. CONSTRUCTION MATERIALS & METHODS

Beware of buried pipelines along the north, east, and south sides of the pad. Since no topsoil is present, no soil or brush will be stripped and stored. A 24" high berm will be built along the fill sides of the pad. A minimum 12 mil plastic liner will be installed in the reserve pit. No rock surface is planned.

7. WASTE DISPOSAL

The reserve pit will be fenced sheep tight on 3 sides with woven wire fence topped with barbed wire. The 4th side will be fenced once the rig moves off. The fence will be kept in good repair while the pit dries. Once dry, contents of the reserve pit will be buried in place. An overhead net will be installed after drilling is finished.

All trash will be placed in a portable trash cage. It will be hauled to an approved landfill. Human waste will be disposed of in 10' deep ratholes under trailers or in chemical toilets. Ratholes will be filled when the trailers are removed.

8. ANCILLARY FACILITIES

There will be no air strips or camps. Camper trailers will be on location for the company man, tool pusher, and mud loggers.

9. WELL SITE LAYOUT

See attached pages for depictions of the well pad, cross sections, cut and fill diagrams, reserve pit, trash cage, access road onto the location, parking, living facilities, soil stockpile, and rig orientation.

10. RECLAMATION

Reclamation starts once the reserve pit is dry. It usually takes a year for a reserve pit to fully evaporate. Rock surfacing material will be removed before starting reclamation. All disturbed areas will be recontoured to a natural shape to blend with the surrounding topography. Stockpiled topsoil will be evenly spread. Compacted areas will be plowed or ripped to a depth of 12"-16" before seeding. Seeding will be done between July 1 - August 31 or October 15 - November 30. No seeding will be done when the ground is muddy or frozen. Seed will be drilled 0.5" to 0.75" deep. If broadcast, the rate will be 150% of that shown below and the seed covered with a drag. If the well is a producer, then the reserve pit and any other areas not needed for workovers will be reclaimed in the same manner.

SPECIES FOR ROAD & WELLPAD	*lbs/acre PLS*
Indian ricegrass (Oryzopsis hymenoides)	3
Giant dropseed (Sporobolus giganteus)	2
Needle & thread (Stipa comata)	2
Yellow sweetclover (Melilotus alba)	1
Four wing saltbush (Atriplex canescens)	2

The road will be blocked, water barred, and reclaimed in the same manner as the wellsite. Berms will be built at the top of all slopes. Water bars will be spaced as follows:

% Slope	Spacing
1% - 5%	200 feet
6% - 15%	100 feet
>15%	50 feet

11. SURFACE OWNER

The well, road, and pipeline are all on Navajo Tribal Trust land in the Red Mesa Chapter. Any changes in the surface use plan must be approved by the BIA Branch of Natural Resources, P.O. Box 966, Shiprock, NM 87420. Call Randy Cornett at (505) 368-4427.

12. OTHER INFORMATION

The nearest hospital is a ≈75 minute drive away in northwest Monticello. It is 3 blocks northwest of the intersection of US 666 and US 191. Hospital phone number is (801) 587-2116. Or dial 1-800-332-1911 from anywhere in San Juan County, Ut. The closest medically equipped helicopter is in Farmington NM. Farmington hospital phone number is (505) 325-5011.

13. REPRESENTATION

Anyone having questions concerning the APD should contact:

Mobil Exploration & Producing U.S. Inc.
Ratherford Unit 18-43B
2022.5' FSL & 651' FEL
Sec. 18, T. 41 S., R. 24 E.
San Juan County, Utah

Shirley Todd, Technician
Mobil Exploration & Producing U. S. Inc.
P.O. Box 633
Midland, Tx. 79702
(915) 688-2585

Brian Wood, Consultant
Permits West, Inc.
37 Verano Loop
Santa Fe, NM 87505
(505) 984-8120

The field representative will be:
Ed Barber, Production Foreman
Mobil Exploration & Producing U. S. Inc.
P.O. Drawer G
Cortez, Co. 81321
(303) 565-9049

Mobil Exploration & Producing U. S. Inc. has the necessary consents from the proper lease owners to conduct lease operations in conjunction with this well. Bond coverage pursuant to 43 CFR 3104 for lease activities and operations is being provided by Mobil Exploration & Producing U. S. Inc.

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that 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 Mobil Exploration & Producing U. S. Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

for Diane Klancher
Environmental Regulatory/LP Supervisor

9-23-93
Date

PERMITS WEST, INC.
PROVIDING PERMITS for the ENERGY INDUSTRY

Mobil Exploration & Producing U.S. Inc.
Ratherford Unit 18-43B
2022.5' FSL & 651' FEL
Sec. 18, T. 41 S., R. 24 E.
San Juan County, Utah

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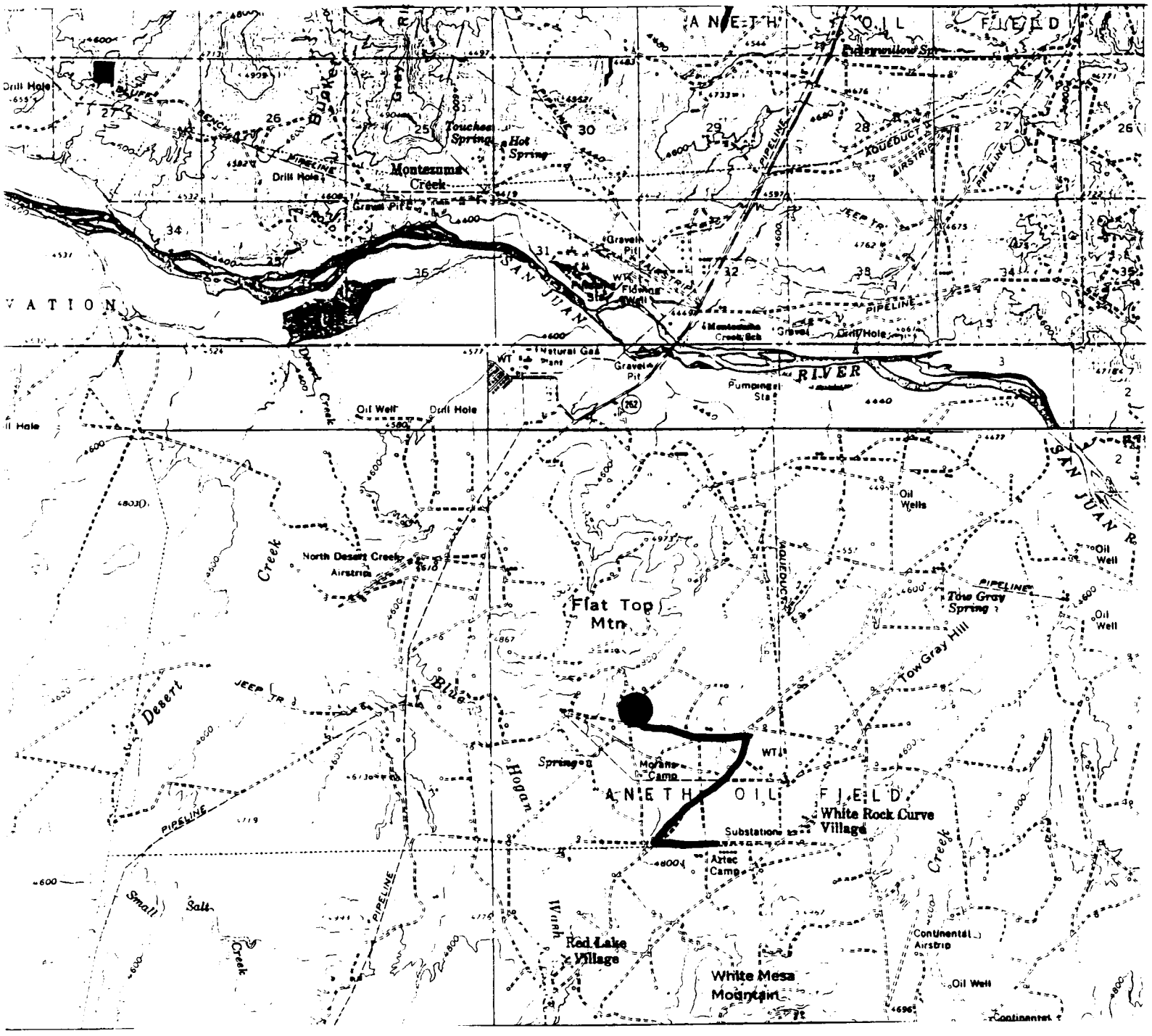

Proposed Well: ●

Access Road: ~

Water Source: ■

PERMITS WEST, INC.
PROVIDING PERMITS for the ENERGY INDUSTRY

Mobil Exploration & Producing U.S. Inc.
Ratherford Unit 18-43B
2022.5' FSL & 651' FEL
Sec. 18, T. 41 S., R. 24 E.
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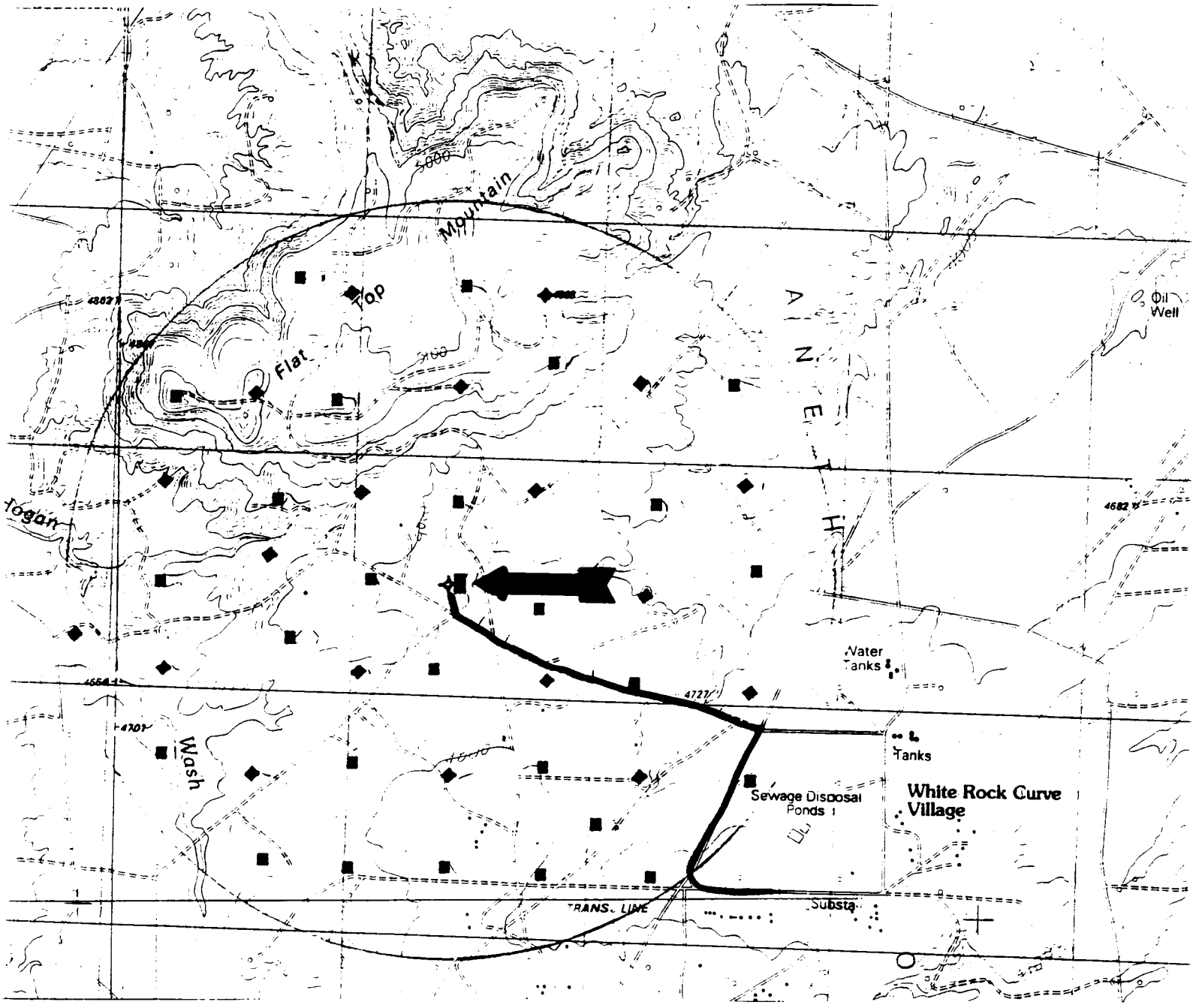

Proposed 18-43B Well: ■

Existing Injection Well: ◆

Existing Oil Well: ■

Access Route: ~

PERMITS WEST, INC.
PROVIDING PERMITS for the ENERGY INDUSTRY

Mobil Exploration & Producing U.S. Inc.
Ratherford Unit 18-43B
2022.5' FSL & 651' FEL
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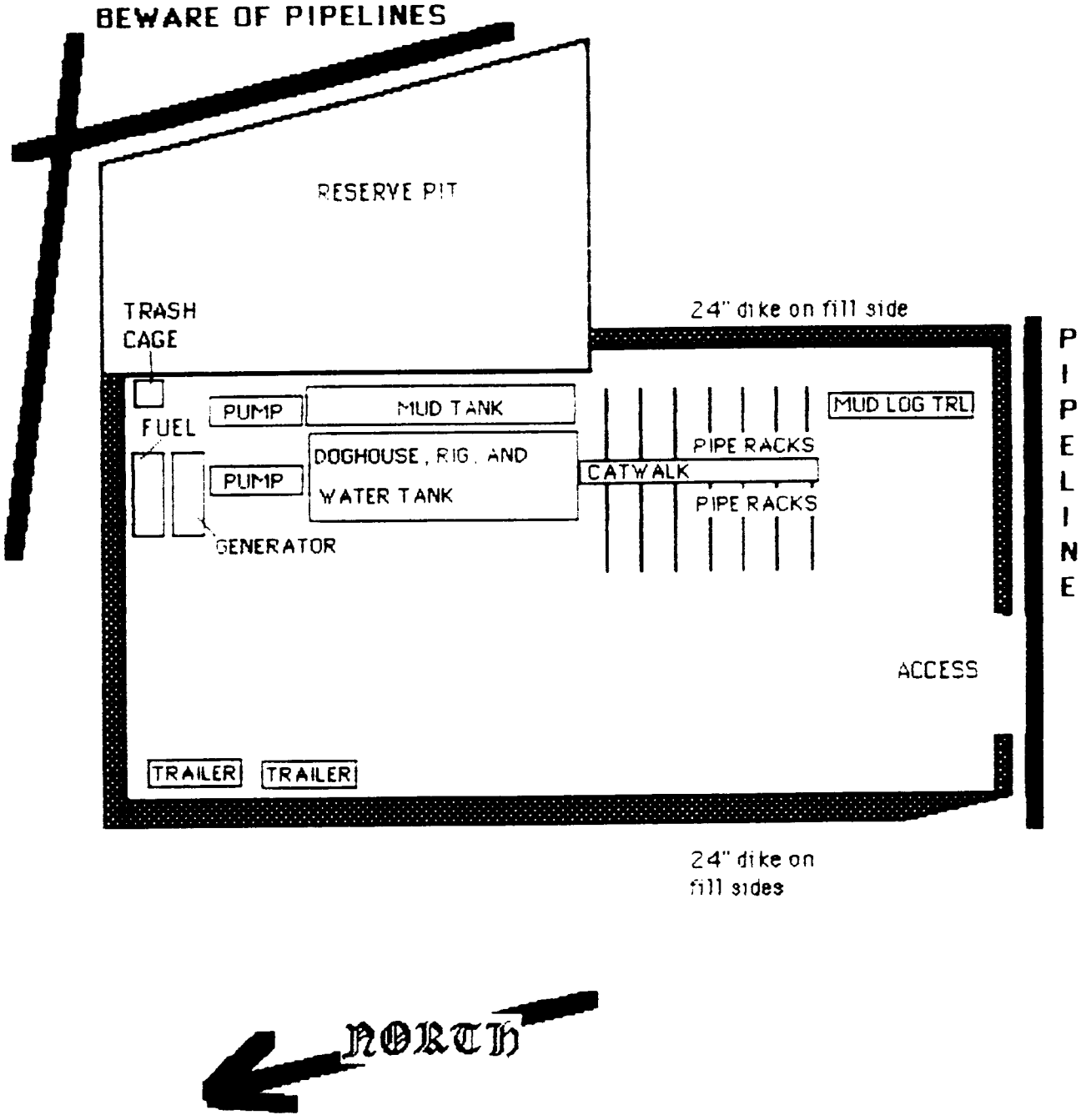
San Juan County, Utah



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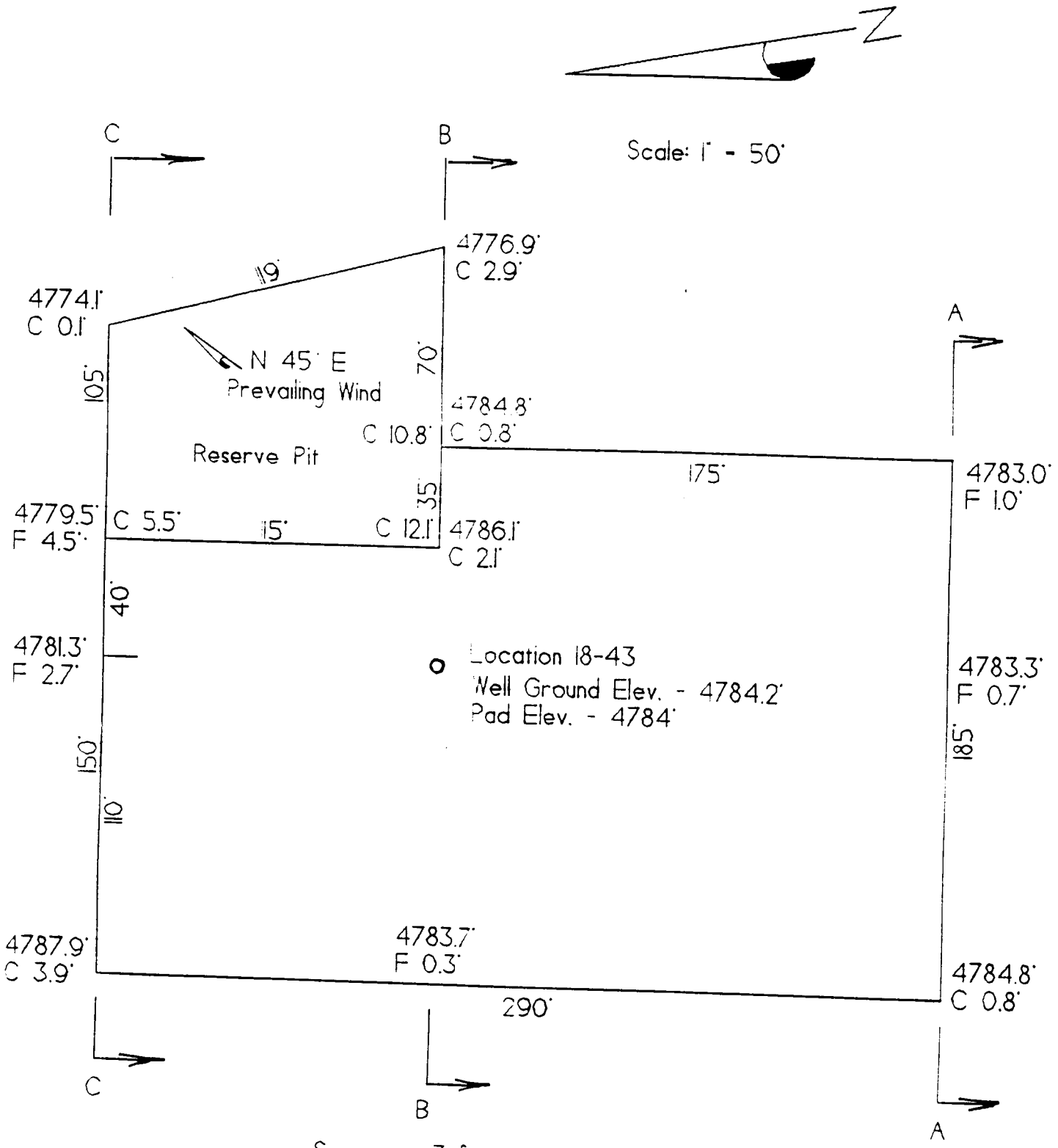
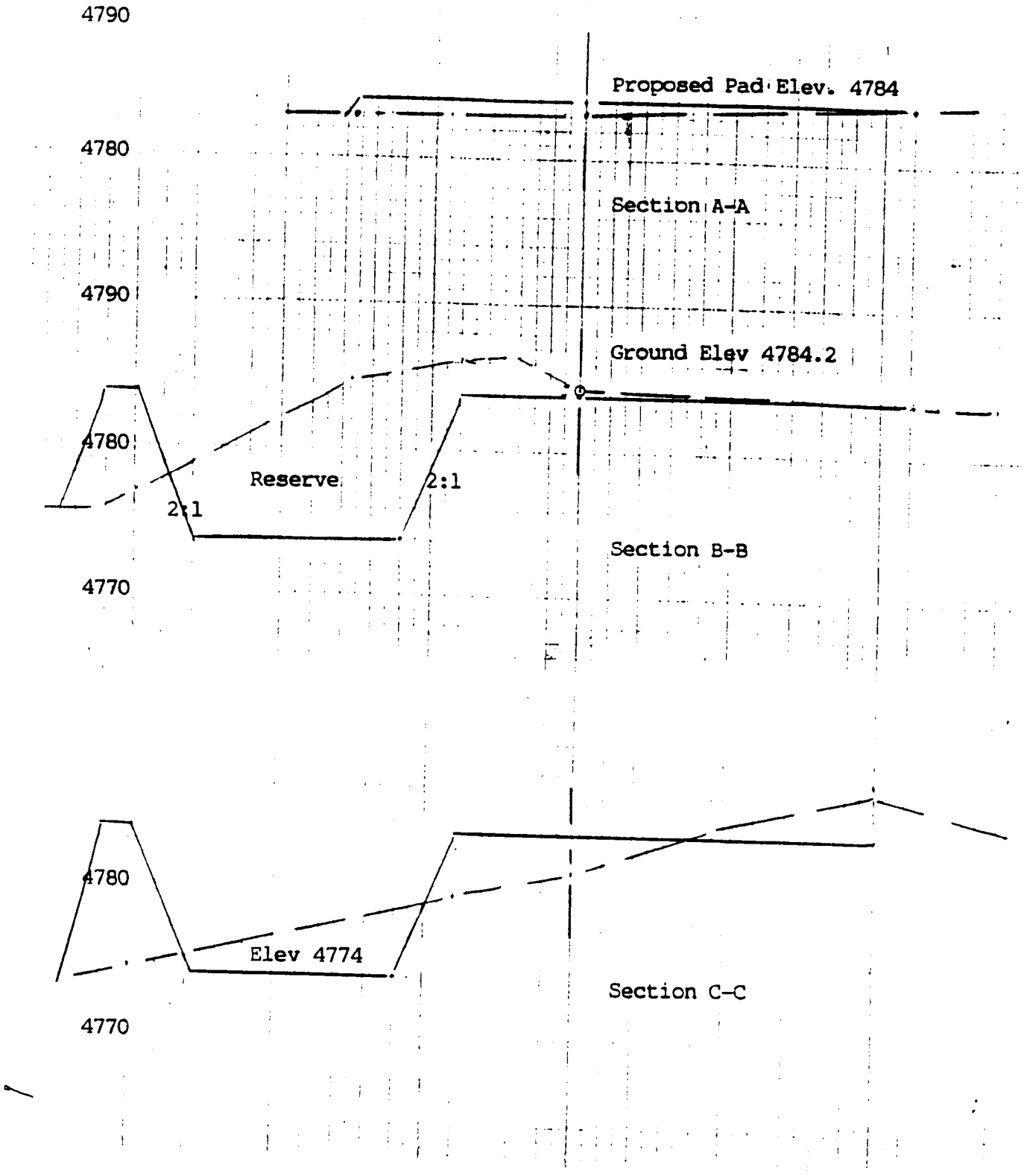


See page 3 for cross sections

MANESS AND ASSOCIATES, INC.
SURVEYING



MANESS AND ASSOCIATES
SURVEYING

AMENDED

Form 3160-3
November 1983)
(formerly 9-331C)

SUBMIT IN TRIPLICATE
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

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: RATHERFORD UNIT

9. WELL NO.: 18-43B

10. FIELD AND POOL, OR WILDCAT: GREATER ANETH

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

12. COUNTY OR PARISH: SAN JUAN 13. STATE: UTAH

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

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

2. NAME OF OPERATOR: MOBIL EXPLORATION & PRODUCING U.S. AS AGENT FOR MPTM/MEPNA

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

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 651 FEL, 2022.5' FSL SEC.18 T41S R24E
At proposed prod. zone: SAME

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 4 MILES SOUTH OF MONTEZUMA CREEK

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): APPROX. 8400' FROM RATHERFORD UNIT LEASE LINE

16. NO. OF ACRES IN LEASE: 2161

17. NO. OF ACRES ASSIGNED TO THIS WELL: 80 ACRES

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 100' for 18-43 PA'd

19. PROPOSED DEPTH: 6000

20. ROTARY OR CABLE TOOLS: ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.): GL 4790

22. APPROX. DATE WORK WILL START*: NOV. 15, 1993

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SEE ATTACHED 8 POINT WELL CONTROL PLAN FOR ADDITIONAL DRILLING INFORMATION.

This production area has H_2S; therefore, monitoring and safety equipment are required. Safety equipment will be rigged up by 3000'. Federal Requirements for equipment on this well are as follows:

1) Flare line and means of ignition
2) Remote controlled choke
3) Escape breathing apparatus for all crew members
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7) Caution/danger sign(s) and flag(s)
8) Mud-gas separator
9) Communication from wellsite

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 Shirley Todd TITLE ENV. & REG TECHNICAIN DATE 10-8-93

(This space for Federal or State office use)

PERMIT NO. 43-037-31718 APPROVAL DATE APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING

APPROVED BY _____ TITLE _____ DATE 11/8/93

CONDITIONS OF APPROVAL, IF ANY: BY: J.M. Matthews

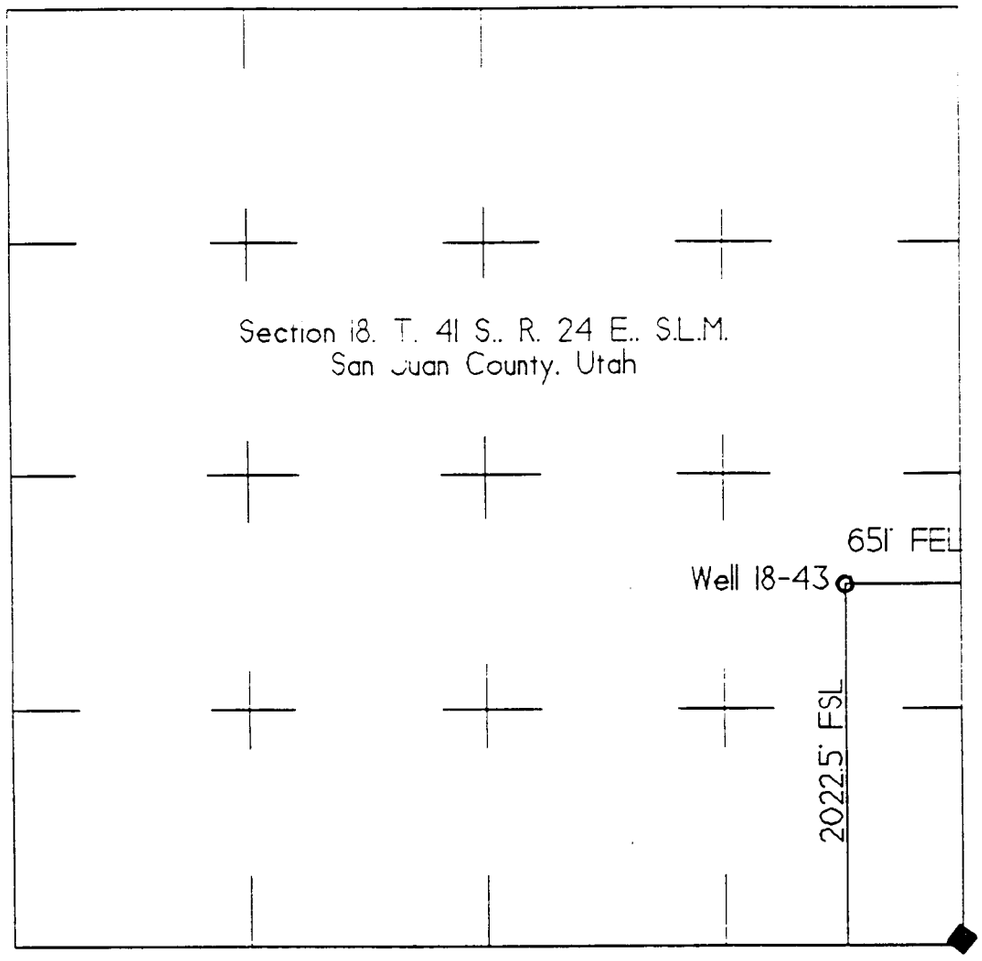
WELL SPACING: 649-2-3

*See Instructions On Reverse Side

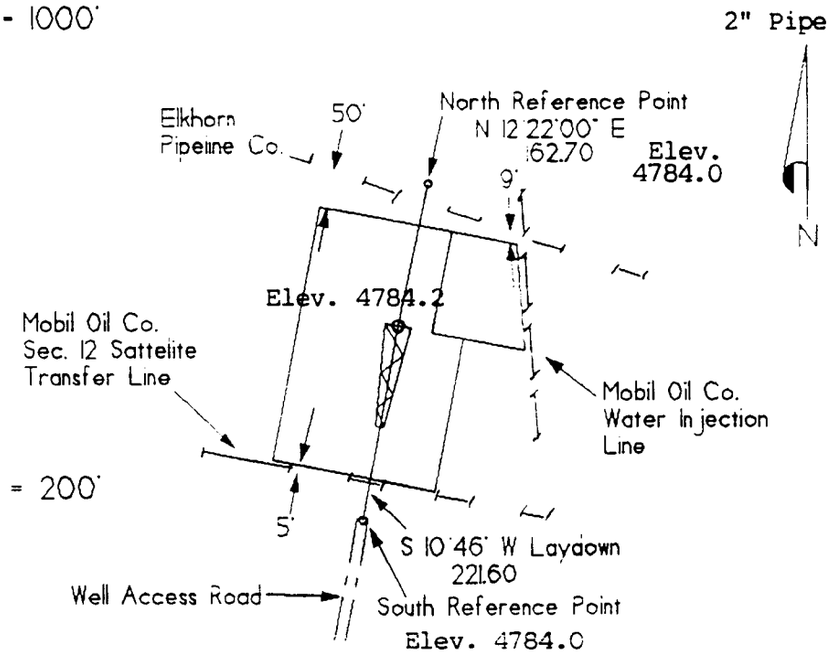
Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Mobil Oil Co - Well 18-43B Ratherford Unit
SE¼ Section 18, T41S, R24E, SLM, San Juan County, Utah
August 18, 1993
Page 1 of 3

MOBIL OIL COMPANY
Well 18-43
Ratherford Unit, NE/4 SE/4 Section 18



Scale: 1" = 1000'



Scale: 1" = 200'

REGISTERED LAND SURVEYOR
No. 5705
GERALD G. HUDDLESTON
STATE OF UTAH

MANESS AND ASSOCIATES, INC.
SURVEYING

PO BOX 1163
215 N. Linden
Cortez, Colorado
565-8845

Mobil Oil Corporation
Rathertord Unit #18-43B
651' FEL, 2022.5 ' FSL
Section 18, T-41-S, R-24-E
San Juan County, Utah

Eight Point Drilling Program

1. ESTIMATED FORMATION TOPS*

Formation	Depth from GL	Drill Depth	Subsea Depth
Chinle	1294.2	1306.2	3502
DeChelly SS	2644.2	2656.2	2152
Hermosa LS	4569.2	4581.2	227
Ismay LS	5394.2	5406.2	-598
L. Ismay Ls	5529.2	5541.2	-733
Gothic Shale	5539.2	5551.2	-743
Desert Creek I	5554.2	5566.2	-758
Desert Creek II	5614.2	5626.2	-818
Chimney Rock	5724.2	5736.2	-928
TD	6000	6012	-1203.8

* All depths based on ground level of 17-4784.2

2. NOTABLE ZONES

The estimated formation top depths from GL at which water, oil, gas, or other mineral bearing zones may be encountered are:

Possible Water Zone	Possible Coal Zone	Possible Oil or Gas Zones
DeChelly SS 2650'		Desert Creek I 5560' Desert Creek II 5620'

Propose to drill, complete, and equip an oil producer in the Desert Creek formation.

The well will be cased throughout its length and cemented to the surface, if possible.

3. PRESSURE CONTROL (See "5" on Page 3)

The drilling contract has not yet been awarded, thus the exact types of BOP's to be used are not yet known. Examples of a typical BOP and choke manifold are on Page 3. Maximum anticipated surface pressure will be 2,000 psi.

Once out from under the surface casing, a minimum 11" 3,000 psi system will be used with two hydraulic rams (blind/pipe). The choke manifold will have a minimum 3,000 psi rating.

BOP's will be tested to their working pressure after nippling up and after any use under pressure. Pipe rams will be function tested daily. Blind rams will be function tested after each trip out of the hole. BOP tests will be recorded on IADC reports.

Upper and lower kelly valves, floor safety valve, and drill string inside BOP rated at a minimum 3,000 psi will be maintained on the floor at all times. Upper and lower kelly valves with handler available will be in use at all times. Back pressure and full opening drill string safety valves to fit all drill strings in use will be available on the rig floor at all times.

Mobil Oil Corporation
Ratherford Unit #18-43B
651' FEL, 2022.5 ' FSL
Section 18, T-41-S, R-24-E
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San Juan County, Utah

4. CASING & CEMENTING

Hole Size	O.D.	Weight	Grade	Conn.	Age	Setting Depth (GL)
17-1/2"	13-3/8"	48#	H40	ST&C	New	0000' - 0080'
12-1/4"	9-5/8"	36#	J55	ST&C	New	0000' - 1600'
8-3/4"	7"	23#	USS50	LT&C	New	0000' - 6000'

Surface Casing (0' to 80'): Cement to surface with 111 ft^3. Volume calculated with 100% excess. Ready-Mix cement.

Intermediate Casing (0' to 1600'): Cement to surface with 651 ft^3. Volume calculated with 30% excess. Lead with slurry of 65:35:6 "B" Poz + 2% $CaCl_2$. Tail with Class "B" + 2% $CaCl_2$. Total of 12 centralizers and one stop collar. One on the shoe joint and one every third collar to 200' from surface.

Production Casing (0' to 6000'): Cement to surface with 1214 ft^3. Volume calculated with 50% excess. Lead with slurry of 50/50 "G" Poz + 8% Gel + .75% Halad-344. Tail with and Elastomeric Cement composed of 100% Latex 2000 + 125% Silica Flour + 25% HAC (high alumina cement). Total of 17 centralizers and 3 stop collars. One centralizer on the float shoe then every third collar.

5. MUD PROGRAM

Depth	Type	Weight	Viscosity	Fluid Loss
0000' - 1600'	FW/Spud Mud	8.4 - 8.8	35 - 45	NC
1600' - 5000'	FW/PHPA	9.0 - 11.5	36 - 48	NC
5000' - 6000'	FW/PHPA	10 - 11.5	36 - 48	10 - 15

6. CORING, TESTING, AND LOGGING

No cores are currently planned. Neutron, Dual Induction, and Sonic logs may be run. A few RFT tests may also be run.

7. DOWNHOLE CONDITIONS

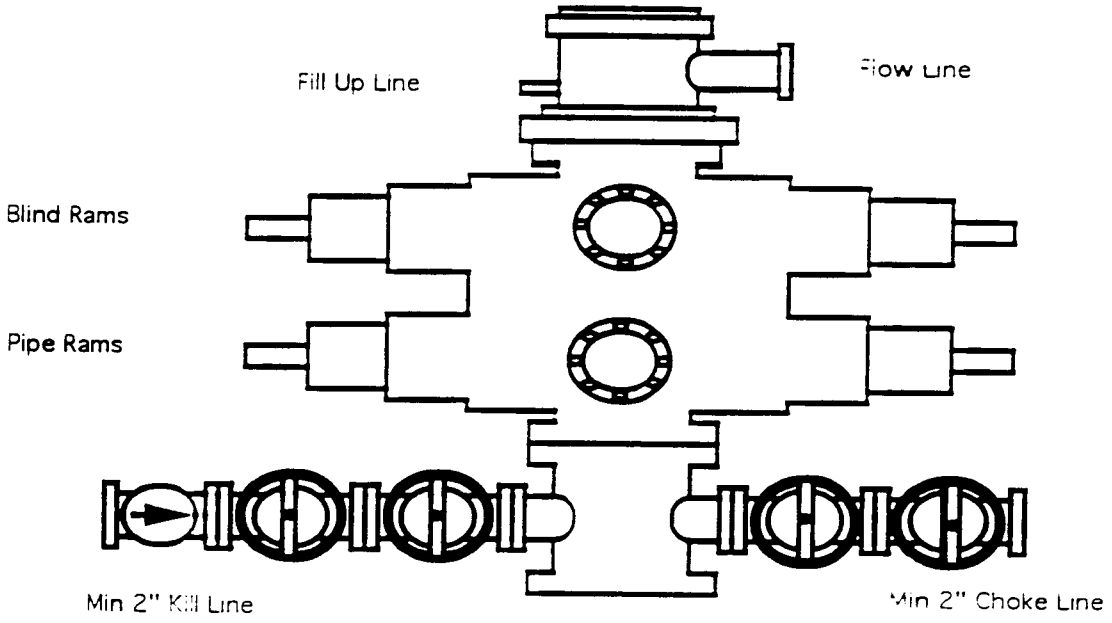
Possible water flows in the DeChelly formation may be encountered.

8. MISCELLANEOUS

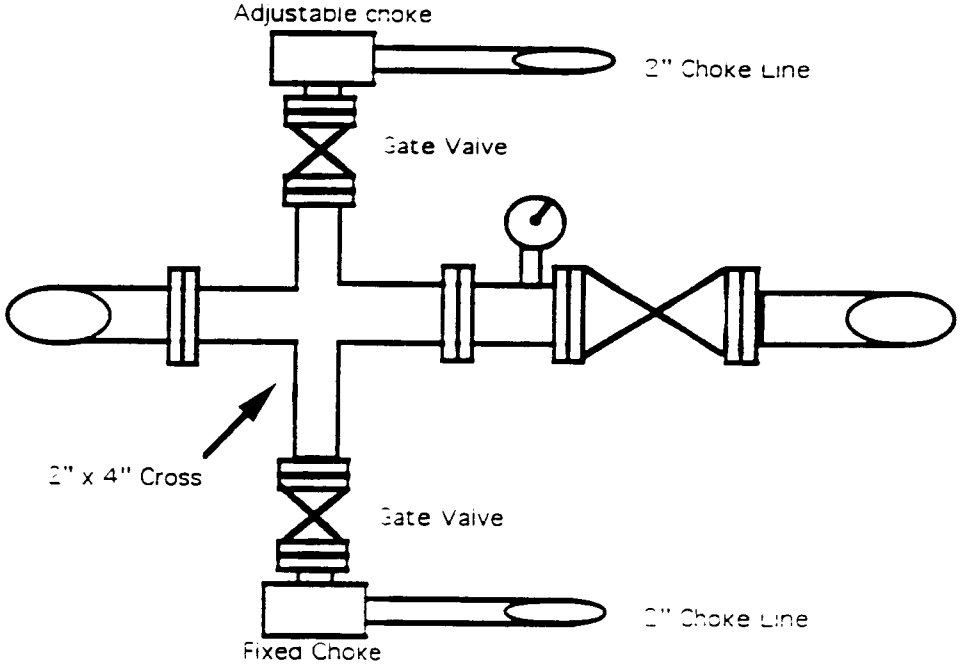
The anticipated spud date is November, 1993. It is expected to take +/- 24 days to drill the well and 10 days to complete the well.

Mobil Oil Corporation
Ratherford Unit #18-43B
Sec 18, T-41-S, R-23-E
651' FEL, 2022.5' FSL
San Juan Co., Utah

Bop Equipment
11" x 3000 psi Working Pressure



Choke Manifold
3000 psi



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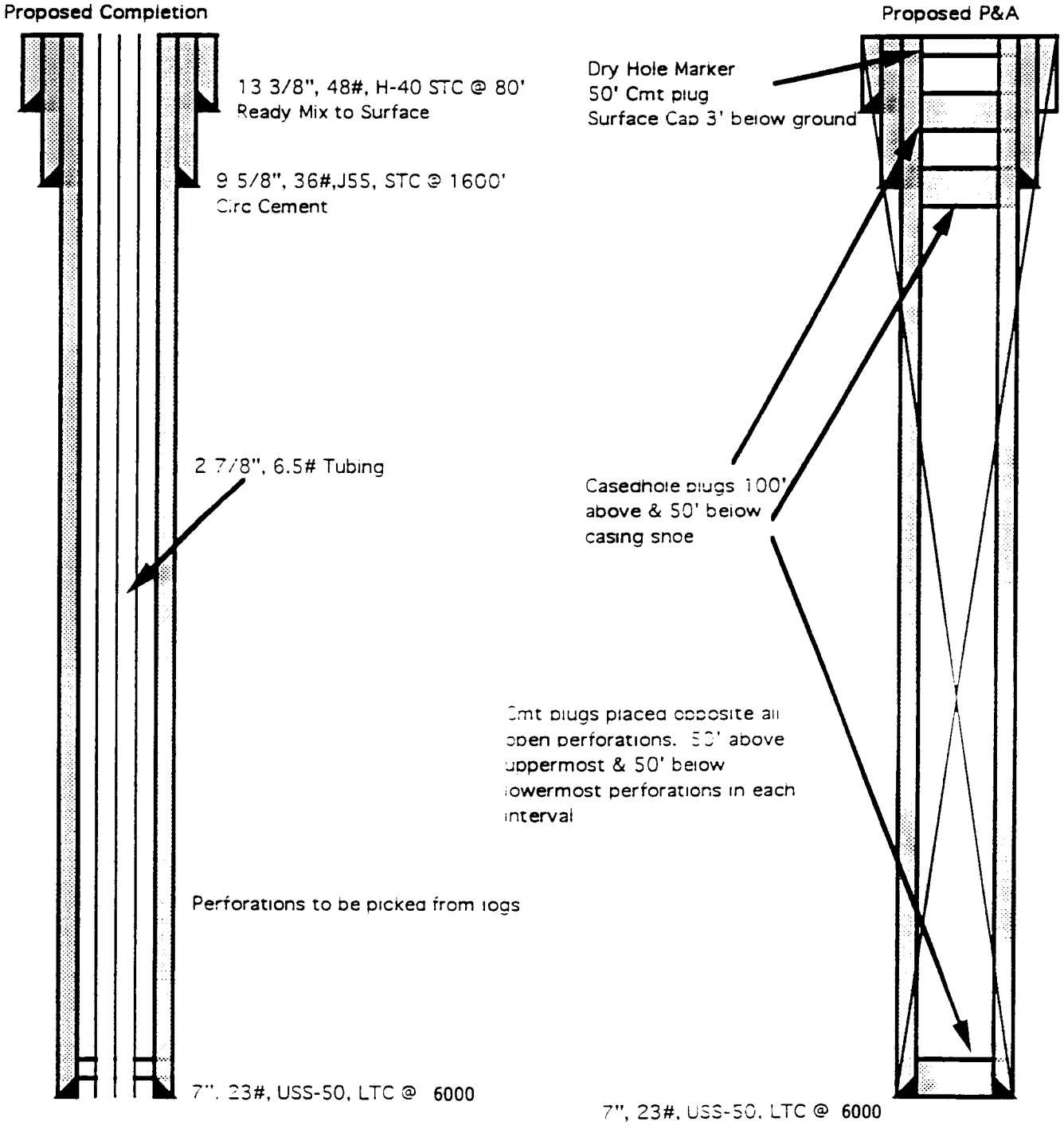

RADIUS OF EXPOSURE

10ppm Radius of Exposure calculated at 83'.

Maximum releasable H_2S calculated at 0.9 lbs/day, based on maximum measured H_2S concentration in a producing well gas stream (100ppm), and 100 MCFD maximum theoretical gas release volume. Maximum theoretical daily gas volume based on lease GOR of 500, and optimistic well test of 200 BOPD.

Mobil Exploration & Producing U.S. Inc.
Ratherford Unit 18-43B
2022.5' FSL & 651' FEL
Sec. 18, T. 41 S., R. 24 E.
San Juan County, Utah

1. DIRECTIONS & EXISTING ROADS

From the Ratherford Unit Field Office, go W 0.2 mi. on a paved field road.
Then turn right and go NE 0.3 mi. on paved BIA Road N-35.
Then turn left and go W 0.8 mi. on a dirt field road.
Then turn right and go N 0.1 mi. on a dirt field road to the 18-43B well.

Roads will be maintained to a standard at least equal to their present condition. Existing roads need no upgrading.

2. ROAD TO BE BUILT

Roads will be neither upgraded nor built. The 18-43B is staked on the plugged and abandoned 18-43 wellpad and uses its road.

3. EXISTING WELLS

There are twenty-six oil, nineteen injection, and one P&A wells within a mile radius. All wells are within the Ratherford Unit. All are shown on an attached map. There are no water or gas wells.

4. PROPOSED PRODUCTION FACILITIES

An injection line will be laid to an existing injection line on the 18-43 wellpad. The $\leq$6" OD welded steel or coiled steel tubing injection line will operate at ≈1500 to ≈3500 psi, be tested to ≈5800 psi, has a burst rating of ≈7200 psi, will be internally coated or lined, and will be buried at least 30" deep. Surface disturbance will be limited to that necessary for pipeline construction. All fill material will be removed from all drainages and the drainages returned to their natural form.

Above ground structures and equipment (only a wellhead is planned) will be painted with non-glare sand (federal standard 595a-30277) or Mobil beige 12-F-38 color. The well will be an injector, and not an oil well.

5. WATER SUPPLY

Water will be trucked from a BLM (San Juan RA of the Moab District) artesian well in NENW 27-40s-23e. Mobil has permission from the Monticello BLM office.

6. CONSTRUCTION MATERIALS & METHODS

Beware of buried pipelines along the north, east, and south sides of the pad. Since no topsoil is present, no soil or brush will be stripped and stored. A 24" high berm will be built along the fill sides of the pad. A minimum 12 mil plastic liner will be installed in the reserve pit. No rock surface is planned.

7. WASTE DISPOSAL

The reserve pit will be fenced sheep tight on 3 sides with woven wire fence topped with barbed wire. The 4th side will be fenced once the rig moves off. The fence will be kept in good repair while the pit dries. Once dry, contents of the reserve pit will be buried in place. An overhead net will be installed after drilling is finished.

All trash will be placed in a portable trash cage. It will be hauled to an approved landfill. Human waste will be disposed of in 10' deep ratholes under trailers or in chemical toilets. Ratholes will be filled when the trailers are removed.

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Ratherford Unit 18-43B
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San Juan County, Utah

8. ANCILLARY FACILITIES

There will be no air strips or camps. Camper trailers will be on location for the company man, tool pusher, and mud loggers.

9. WELL SITE LAYOUT

See attached pages for depictions of the well pad, cross sections, cut and fill diagrams, reserve pit, trash cage, access road onto the location, parking, living facilities, soil stockpile, and rig orientation.

10. RECLAMATION

Reclamation starts once the reserve pit is dry. It usually takes a year for a reserve pit to fully evaporate. Rock surfacing material will be removed before starting reclamation. All disturbed areas will be recontoured to a natural shape to blend with the surrounding topography. Stockpiled topsoil will be evenly spread. Compacted areas will be plowed or ripped to a depth of 12"-16" before seeding. Seeding will be done between July 1 - August 31 or October 15 - November 30. No seeding will be done when the ground is muddy or frozen. Seed will be drilled 0.5" to 0.75" deep. If broadcast, the rate will be 150% of that shown below and the seed covered with a drag. If the well is a producer, then the reserve pit and any other areas not needed for workovers will be reclaimed in the same manner.

SPECIES FOR ROAD & WELLPAD	*lbs/acre PLS*
Indian ricegrass (Oryzopsis hymenoides)	3
Giant dropseed (Sporobolus giganteus)	2
Needle & thread (Stipa comata)	2
Yellow sweetclover (Melilotus alba)	1
Four wing saltbush (Atriplex canescens)	2

The road will be blocked, water barred, and reclaimed in the same manner as the wellsite. Berms will be built at the top of all slopes. Water bars will be spaced as follows:

% Slope	Spacing
1% - 5%	200 feet
6% - 15%	100 feet
>15%	50 feet

11. SURFACE OWNER

The well, road, and pipeline are all on Navajo Tribal Trust land in the Red Mesa Chapter. Any changes in the surface use plan must be approved by the BIA Branch of Natural Resources, P.O. Box 966, Shiprock, NM 87420. Call Randy Cornett at (505) 368-4427.

12. OTHER INFORMATION

The nearest hospital is a ≈75 minute drive away in northwest Monticello. It is 3 blocks northwest of the intersection of US 666 and US 191. Hospital phone number is (801) 587-2116. Or dial 1-800-332-1911 from anywhere in San Juan County, Ut. The closest medically equipped helicopter is in Farmington NM. Farmington hospital phone number is (505) 325-5011.

13. REPRESENTATION

Anyone having questions concerning the APD should contact:

Mobil Exploration & Producing U.S. Inc.
Ratherford Unit 18-43B
2022.5' FSL & 651' FEL
Sec. 18, T. 41 S., R. 24 E.
San Juan County, Utah

Shirley Todd, Technician
Mobil Exploration & Producing U. S. Inc.
P.O. Box 633
Midland, Tx. 79702
(915) 688-2585

Brian Wood, Consultant
Permits West, Inc.
37 Verano Loop
Santa Fe, NM 87505
(505) 984-8120

The field representative will be:
Ed Barber, Production Foreman
Mobil Exploration & Producing U. S. Inc.
P.O. Drawer G
Cortez, Co. 81321
(303) 565-9049

Mobil Exploration & Producing U. S. Inc. has the necessary consents from the proper lease owners to conduct lease operations in conjunction with this well. Bond coverage pursuant to 43 CFR 3104 for lease activities and operations is being provided by Mobil Exploration & Producing U. S. Inc.

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that 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 Mobil Exploration & Producing U. S. Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

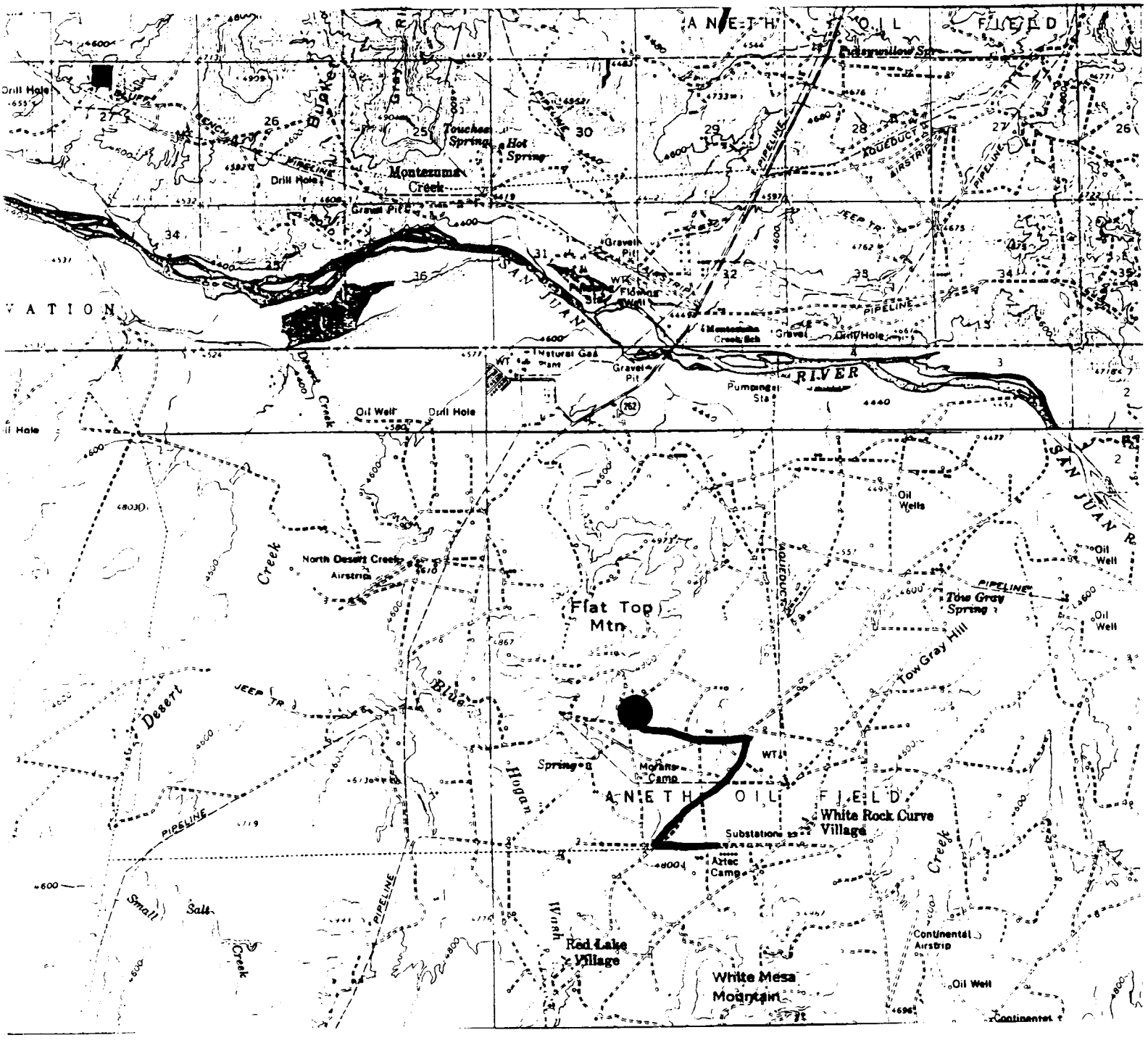
for Diane Klancher
Environmental Regulatory/LP Supervisor

9-23-93
Date

PERMITS WEST, INC.
PROVIDING PERMITS for the ENERGY INDUSTRY

Mobil Exploration & Producing U.S. Inc.
Ratherford Unit 18-43B
2022.5' FSL & 651' FEL
Sec. 18, T. 41 S., R. 24 E.
San Juan County, Utah

RECEIVED
OCT 1 2 1993
DIVISION OF
OIL, GAS & MINING



Proposed Well: ●

Access Road: ~

Water Source: ■

PERMITS WEST, INC.
PROVIDING PERMITS for the ENERGY INDUSTRY

Mobil Exploration & Producing U.S. Inc.
Ratherford Unit 18-43B
2022.5' FSL & 651' FEL
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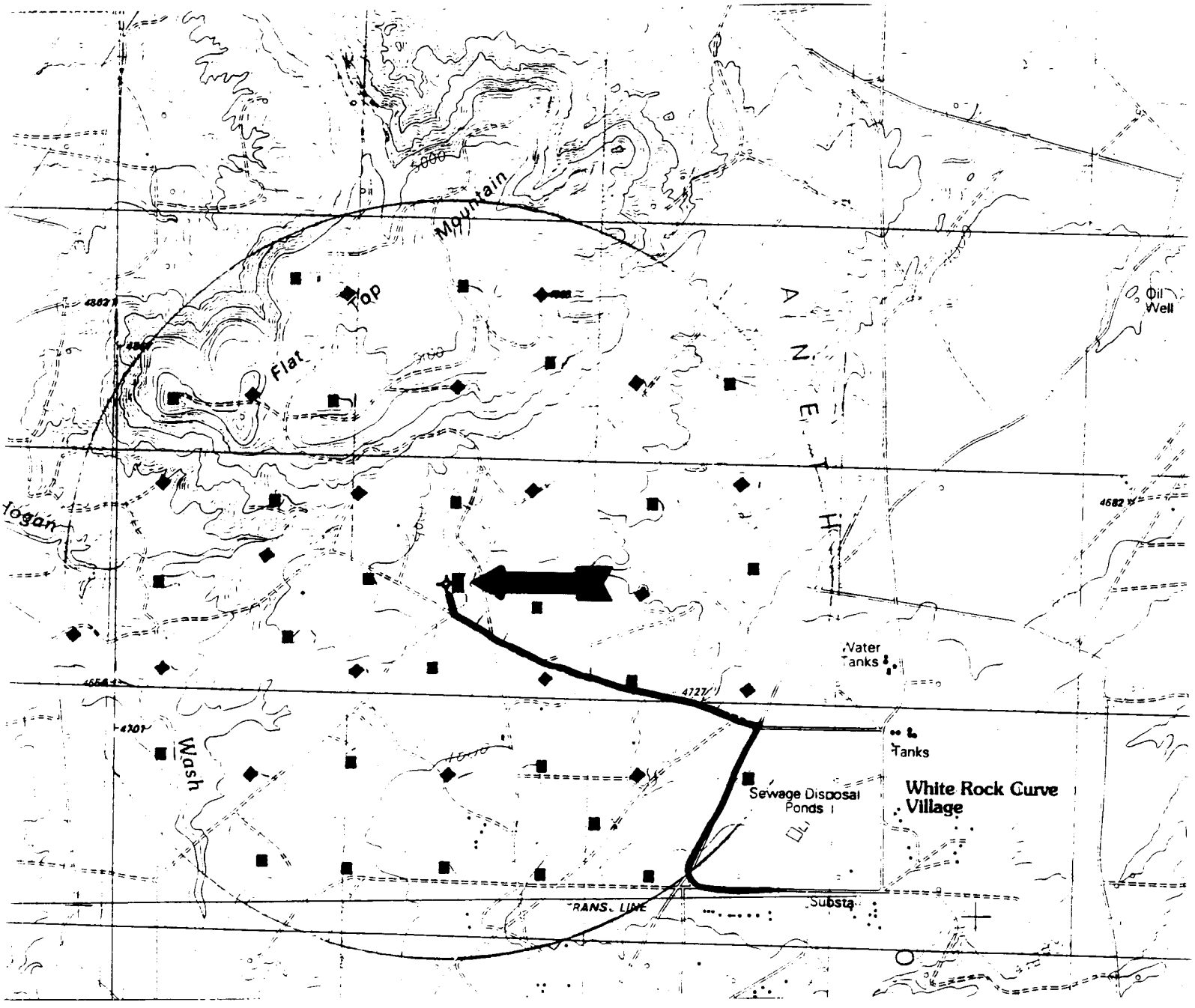


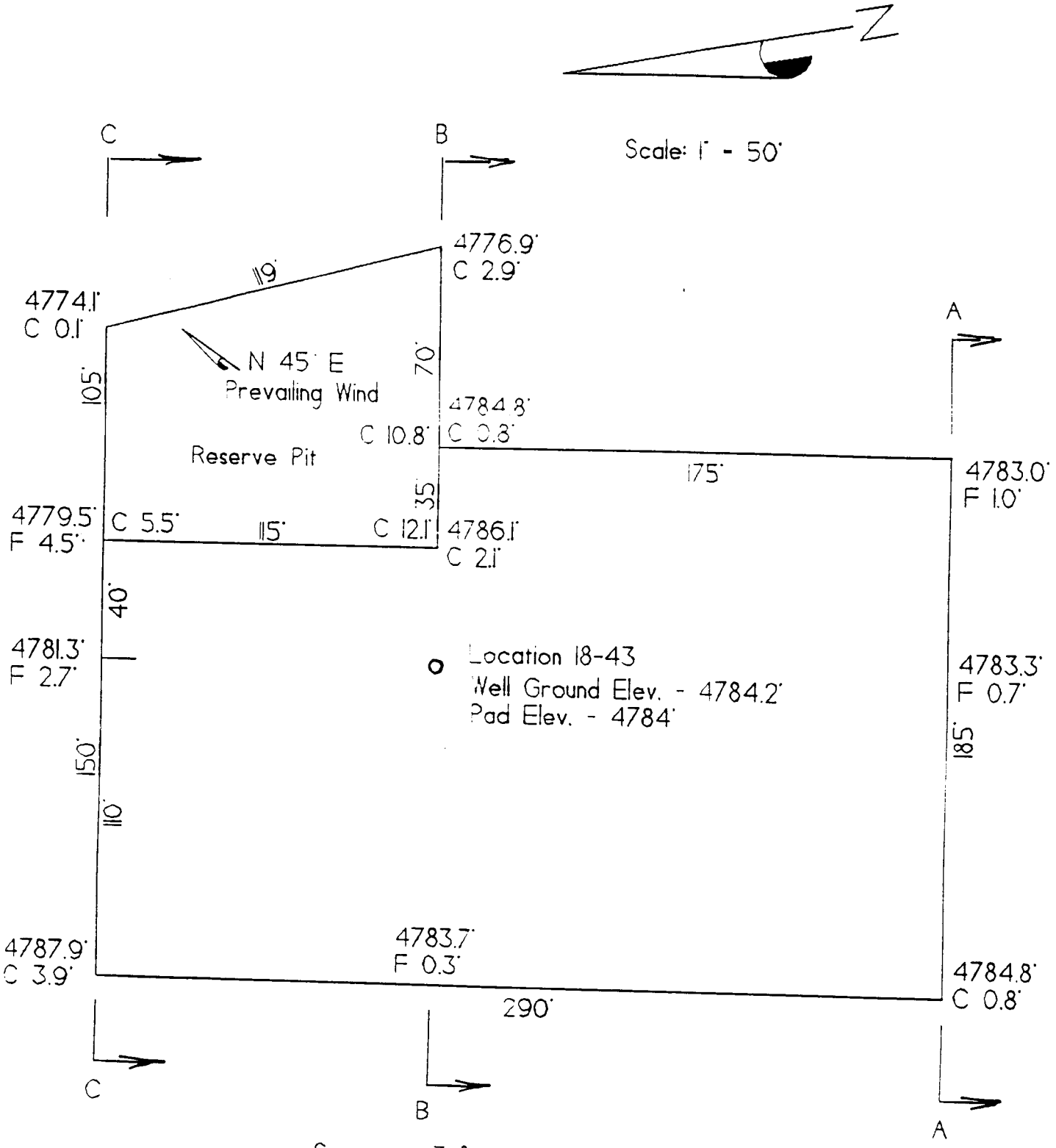
Proposed 18-43B Well: ■ ⬅

Existing Injection Well: ◆

Existing Oil Well: ■

Access Route: ~

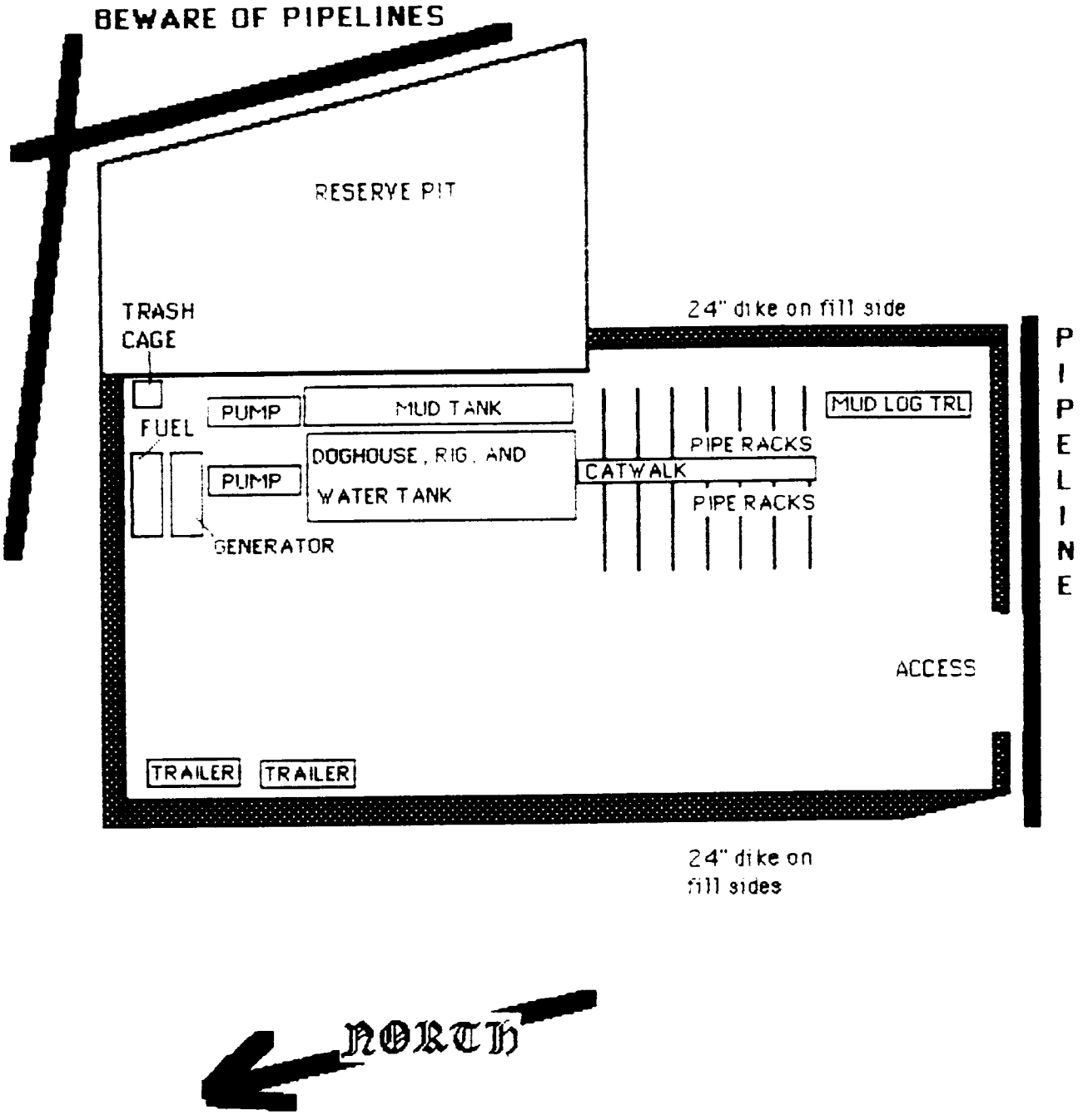
PERMITS WEST, INC.
PROVIDING PERMITS for the ENERGY INDUSTRY



See page 3 for cross sections

MANESS AND ASSOCIATES, INC.
SURVEYING

Mobil Exploration & Producing U.S. Inc.
Ratherford Unit 18-43B
2022.5' FSL & 651' FEL
Sec. 18, T. 41 S., R. 24 E.
San Juan County, Utah



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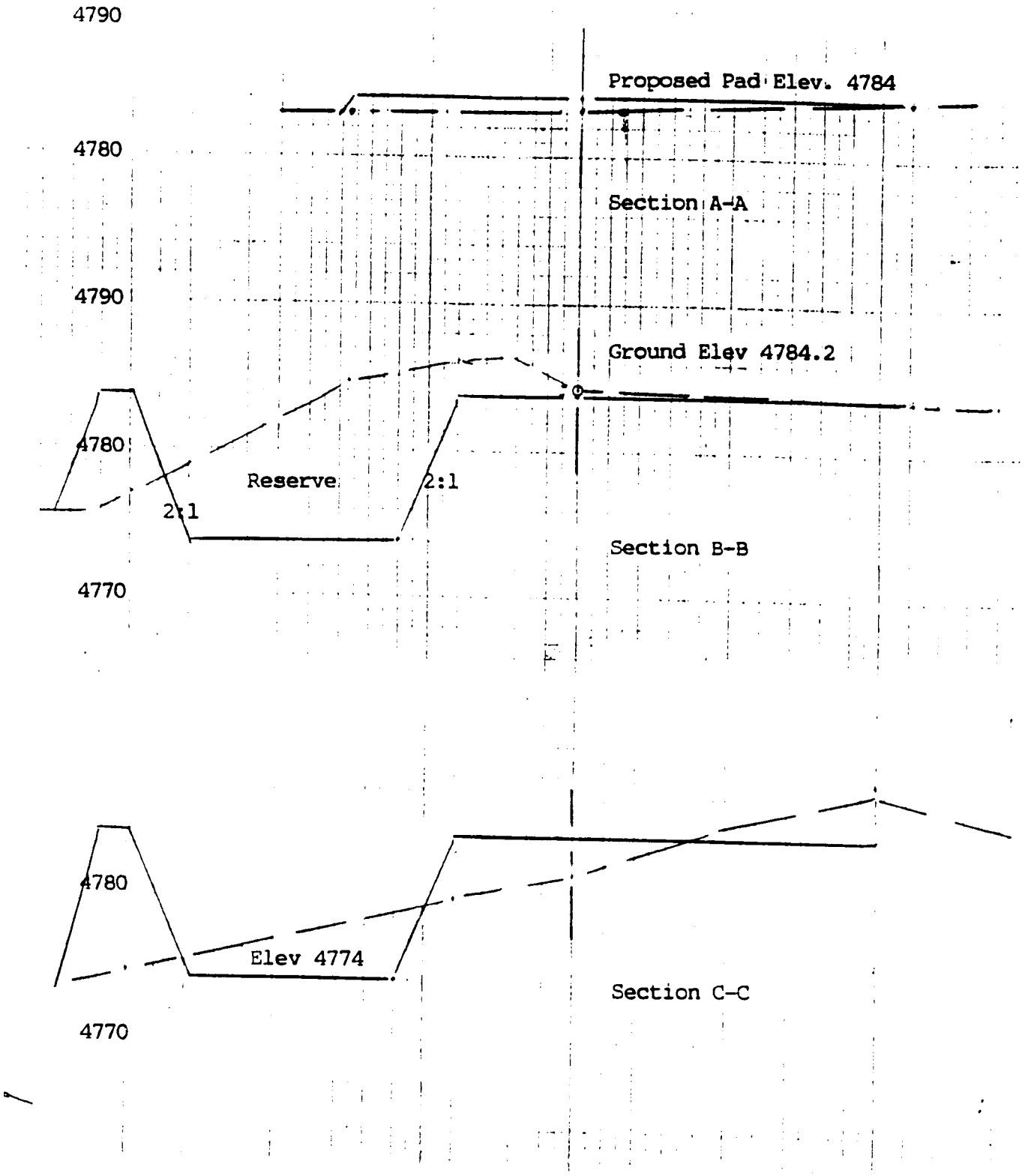

MANESS AND ASSOCIATES
SURVEYING

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
☐ Oil Well ☐ Gas Well ☒ Other INJECTION WELL

8. Well Name and No.
18-43B

2. Name of Operator
MOBIL OIL CORPORATION

9. API Well No.
NA

3. Address and Telephone No.
P O BOX 633 MIDLAND, TX 79702 (915) 688-2585

10. Field and Pool, or Exploratory Area
GREATER ANETH

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
651' FEL, 2202 FSL SEC.18, T41S, R24E

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
	☐ Recompletion	☐ New Construction
☐ Subsequent Report	☐ Plugging Back	☐ Non-Routine Fracturing
	☐ Casing Repair	☐ Water Shut-Off
☐ Final Abandonment Notice	☐ Altering Casing	☐ Conversion to Injection
	☐ Other _____	☐ 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.)*

AMEND SURFACE USAGE PLAN FOR APD.
5.WATER SUPPLY - WATER WILL BE TRUCKED FROM PRIVATE LAND.

RECEIVED
OCT 18 1993
DIVISION OF
OIL, GAS & MINING

10-19-93
FR Matthews

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

Signed Shirley Todd SHIRLEY TODD Title ENV. & REG. TECHNICIAN Date 10-12-93

(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

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
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14-20-603-353

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☐ Oil Well ☐ Gas Well ☒ Other INJECTION WELL

8. Well Name and No.
18-43B

2. Name of Operator
MOBIL OIL CORPORATION

9. API Well No.
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P O BOX 633 MIDLAND, TX 79702 (915) 688-2585

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4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
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*See Instruction on Reverse Side

AMENDED

Form 3160-3
(November 1983)
(formerly 9-331C)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

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: RATHERFORD UNIT

9. WELL NO.: 18-438

10. FIELD AND POOL, OR WILDCAT: GREATER ANETH

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

12. COUNTY OR PARISH: SAN JUAN 13. STATE: UTAH

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

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

2. NAME OF OPERATOR: MOBIL EXPLORATION & PRODUCING U.S. AS AGENT FOR MPTM/MEPNA

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

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 651 FEL, 2022.5' FSL SEC.18 T41S R24E
At proposed prod. zone: SAME

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 4 MILES SOUTH OF MONTEZUMA CREEK

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): APPROX. 8400' FROM RATHERFORD UNIT LEASE LINE

16. NO. OF ACRES IN LEASE: 2161

17. NO. OF ACRES ASSIGNED TO THIS WELL: 80 ACRES

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 100' for 18-43 PA'd

19. PROPOSED DEPTH: 6000

20. ROTARY OR CABLE TOOLS: ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.): GL - 4784.2

22. APPROX. DATE WORK WILL START*: NOV. 15, 1993

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#	80'	111 ft^3 (Circ. to Surf)
12 1/4	9 5/8	36#	1600'	651 ft^3 (Circ. to Surf)
8 3/4	7	23#	6000	1214 ft^3 (Circ. to Surf)

SEE ATTACHED 8 POINT WELL CONTROL PLAN FOR ADDITIONAL DRILLING INFORMATION.

This production area has H_2S; therefore, monitoring and safety equipment are required. Safety equipment will be rigged up by 3000'. Federal Requirements for equipment on this well are as follows:

1) Flare line and means of ignition
2) Remote controlled choke
3) Escape breathing apparatus for all crew members
4) H_2S sensors and associated audible/visual alarm(s)
5) At least one (1) portable H_2S monitor
6) Wind direction indicators
7) Caution/danger sign(s) and flag(s)
8) Mud-gas separator
9) Communication from wellsite

OCT 29 1993
DIVISION OF
OIL, GAS & MINING

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

24. SIGNED Shirley Todd TITLE ENV. & REG TECHNICAIN DATE 10-25-93

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS AND MINING
DATE: 4/8/93
BY: [signature]
WELL SPACING: 649-2-3

*See Instructions On Reverse Side

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

Mobil Oil Corporation
Ratherford Unit #18-43B
651' FEL, 2022.5 ' FSL
Section 18, T-41-S, R-24-E
San Juan County, Utah

Eight Point Drilling Program

1. ESTIMATED FORMATION TOPS*

Formation	Depth from GL	Drill Depth	Subsea Depth
Chinle	1294.2	1306.2	3502
DeChelly SS	2644.2	2656.2	2152
Hermosa LS	4569.2	4581.2	227
Ismay LS	5394.2	5406.2	-598
L. Ismay Ls	5529.2	5541.2	-733
Gothic Shale	5539.2	5551.2	-743
Desert Creek I	5554.2	5566.2	-758
Desert Creek II	5614.2	5626.2	-818
Chimney Rock	5724.2	5736.2	-928
TD	6000	6012	-1203.8

* All depths based on ground level of 4784.2

2. NOTABLE ZONES

The estimated formation top depths from GL at which water, oil, gas, or other mineral bearing zones may be encountered are:

Possible Water Zone	Possible Coal Zone	Possible Oil or Gas Zones
DeChelly SS 2650'		Desert Creek I 5560' Desert Creek II 5620'

Propose to drill, complete, and equip an oil producer in the Desert Creek formation.

The well will be cased throughout its length and cemented to the surface, if possible.

3. PRESSURE CONTROL (See "5" on Page 3)

The drilling contract has not yet been awarded, thus the exact types of BOP's to be used are not yet known. Examples of a typical BOP and choke manifold are on Page 3. Maximum anticipated surface pressure will be 2,000 psi.

Once out from under the surface casing, a minimum 11" 3,000 psi system will be used with two hydraulic rams (blind/pipe). The choke manifold will have a minimum 3,000 psi rating.

BOP's will be tested to their working pressure after nippling up and after any use under pressure. Pipe rams will be function tested daily. Blind rams will be function tested after each trip out of the hole. BOP tests will be recorded on IADC reports.

Upper and lower kelly valves, floor safety valve, and drill string inside BOP rated at a minimum 3,000 psi will be maintained on the floor at all times. Upper and lower kelly valves with handler available will be in use at all times. Back pressure and full opening drill string safety valves to fit all drill strings in use will be available on the rig floor at all times.

AMENDED

Form 3160-3
(November 1983)
(formerly 9-331C)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-013
Expires August 31, 1985

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

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: RATHERFORD UNIT

9. WELL NO.: 18-43B

10. FIELD AND POOL, OR WILDCAT: GREATER ANETH

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

12. COUNTY OR PARISH: SAN JUAN 13. STATE: UTAH

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

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

2. NAME OF OPERATOR: MOBIL EXPLORATION & PRODUCING U.S. AS AGENT FOR MPTM/MEPNA

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

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 651 FEL, 2022.5' FSL SEC.18 T41S R24E NE¼ SE¼
At proposed prod. zone: SAME

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 4 MILES SOUTH OF MONTEZUMA CREEK

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): APPROX. 8400' FROM RATHERFORD UNIT LEASE LINE

16. NO. OF ACRES IN LEASE: 2161

17. NO. OF ACRES ASSIGNED TO THIS WELL: 80 ACRES

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 100' for 18-43 PA'd

19. PROPOSED DEPTH: 6000

20. ROTARY OR CABLE TOOLS: ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.): GL - 4784.2

22. APPROX. DATE WORK WILL START: NOV. 15, 1993

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#	80'	111 ft^3 (Circ. to Surf)
12 1/4	9 5/8	36#	1600'	651 ft^3 (Circ. to Surf)
8 3/4	7	23#	6000	1214 ft^3 (Circ. to Surf)

SEE ATTACHED 8 POINT WELL CONTROL PLAN FOR ADDITIONAL DRILLING INFORMATION.

This production area has H_2S; therefore, monitoring and safety equipment are required. Safety equipment will be rigged up by 3000'. Federal Requirements for equipment on this well are as follows:

1) Flare line and means of ignition
2) Remote controlled choke
3) Escape breathing apparatus for all crew members
4) H_2S sensors and associated audible/visual alarm(s)
5) At least one (1) portable H_2S monitor
6) Wind direction indicators
7) Caution/danger sign(s) and flag(s)
8) Mud-gas separator
9) Communication from wellsite

OCT 29 1993
DIVISION OF
OIL, GAS & MINING

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

24. SIGNED Shirley Todd TITLE ENV. & REG TECHNICAIN DATE 10-25-93

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____

CONDITIONS OF APPROVAL, IF ANY:

OIL, GAS, AND MINING
DATE: 11/8/93
BY: J.M. Matthews
649-2-3

*See Instructions On Reverse Side

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

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

Michael O. Leavitt
Governor

Ted Stewart
Executive Director

James W. Carter
Division Director

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

November 8, 1993

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

Re: Ratherford Unit 18-43B Well, 2022' FSL, 651' FEL, NE SE, Sec. 18, T. 41 S., R. 24 E., San Juan County, Utah

Gentlemen:

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

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

1. Compliance with the requirements of Utah Admin. R. 649-1 et seq., Oil and Gas Conservation General Rules.

2. Notification within 24 hours after commencing drilling operations.

3. Submittal of Entity Action Form, Form 6, within five working days following commencement of drilling operations and whenever a change in operations or interests necessitates an entity status change.

4. Submittal of the Report of Water Encountered During Drilling, Form 7.

5. Prompt notification prior to commencing operations, if necessary, to plug and abandon the well. Notify Frank R. Matthews, Petroleum Engineer, (Office) (801)538-5340, (Home) (801)476-8613, or Mike Hebertson, Oil and Gas Field Specialist, (Home) (801)269-9212.

6. Compliance with the requirements of Utah Admin. R. 649-3-20, Gas Flaring or Venting, if the well is completed for production.

This approval shall expire one year after date of issuance unless substantial and continuous operation is underway or a request for an extension is made prior to the approval expiration date. The API number assigned to this well is 43-037-31718.

Sincerely,

R. J. Firth
Associate Director, Oil and Gas

ldc
Enclosures
cc: San Juan County Assessor
Bureau of Land Management, Moab
WOI1

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.: 18-43B
9. API Well No.: 43-037-31718
10. Field and Pool, or Exploratory Area: GREATER ANETH
11. County or Parish, State: SAN JUAN, UTAH

1. Type of Well: [ ] Oil Well [ ] Gas Well [X] Other INJECTION
2. Name of Operator: MOBIL EXPLORATION & PRODUCING U.S. AS AGENT FOR MPTM/MEPNA
3. Address and Telephone No.: P O BOX 633 MIDLAND TX 79702
4. Location of Well (Footage, Sec., T., R., M., or Survey Description): 651' FEL, 2022.5' FSL SEC. 18, T41S, R24E

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 AMEND DRILLING PERMIT	[ ] 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.)*

AMENT CASING, CEMENT, & HOLE SIZE

HOLE SIZE	CASING	WEIGHT	QUANTITY OF CMT
17 1/2	13 3/8	48#	200 FT³ (CIRC. TO SURFACE)
12 1/4	9 5/8	36#	651 FT³ (CIRC. TO SURFACE)
8 3/4	7	23#	1086 FT³ (CIRC. TO SURFACE)

JAN 24 1994
DIVISION OF
OIL GAS & MINING

1-25-94
FA Matthews

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

Signed Shirley Todd Title Env. & Reg. Technician Date 1-21-94

(This space for Federal or State office use)

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

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

*See Instruction on Reverse Side

Mobil Oil Corporation
Ratherford Unit #18-43B
651' FEL and 2022.5' FSL
Section 18, T-41-S, R-24-E
San Juan County, Utah

RECEIVED
JAN 24 1994
DIVISION OF
OIL, GAS & MINING

4. CASING & CEMENT

Hole Size	O.D.	Weight	Grade	Conn	Age	Setting Depth (GL)
17 1/2	13 3/8"	48#	H40	ST&C	New	0000' - 0080'
12 1/4	9 5/8"	36#	J55	ST&C	New	0000' - 1600'
8 3/4	7"	23#	USS50	LT&C	New	0000' - 5300'
8 3/4	7"	23#	L80	LT&C	New	5300' - 5800'

Surface Casing (0' to 80'): Cement to surface with 200 ft^3. Volume calculated with 100% excess. Ready-Mix cement.

Intermediate Casing (0' to 1600): Cement to surface with 651 ft^3. Volume calculated with 30% excess. Lead with slurry of 65:35:6 "B" Poz + 2% $CaCl_2$. Tail with Class "B: + 2% $CaCl_2$. Total of 11 centralizers and one stop collar. One on the shoe joint and one every fourth collar to 200' from surface. Actual cement volume to be based on OH Caliper + 30% excess.

Production Casing (0 ' to 6000'): Cement to surface with 1086 ft^3 (via two stage cement job). Volume calculated with 30% excess. Lead with slurry of Class G + 3% Econolite + 0.25 gps Flocele (wt/yld = 11.5/2.70). Tail with Class G + 3 gps Latex 2000 + 0.05 gps Dair 3 + 0.5 gps 434 B + 0.5% CFR 3 (wt/yld = 15.8/1.18) or Flexcem. Total of 38 centralizers and 1 stop collar. One centralizer on the float shoe then every fourth collar. Actual cement volumes based on OH Caliper + 30% excess.

5. MUD PROGRAM

Depth	Type	Weight	Viscosity	Fluid Loss
0000 - 1600	FW/Spud Mud	8.4 - 8.8	35 - 45	NC
1600 - 5000	FW/PHPA	9.0 - 11.5	36 - 48	NC
5000 - 6000	FW/PHPA	9.5 - 11.5	36 - 48	10 - 15

6. CORING, TESTING, AND LOGGING

No cores are currently planned. Neutron, Dual Induction, and Sonic logs may be run. A few RFT tests may also be run.

7. DOWNHOLE CONDITIONS

Possible water flows in the DeChelly formation may be encountered.

8. MISCELLANEOUS

The anticipated spud date is November 1993. It is expected to take +/- 24 days to drill the well and 10 days to complete the well.

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

NAME OF COMPANY: MOBIL OIL

WELL NAME: RATHERFORD 18-43B

API NO. 43-037-31718

Section 18 Township 41S Range 24E County SAN JUAN

Drilling Contractor ARAPHOE

Rig # 2

SPUDDED: Date 3/30/94

Time PM

How ROTARY

Drilling will commence

Reported by CRAIG CLURSEN

Telephone #

Date 3/30/94 SIGNED JLT

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
[ ] Oil Well [ ] Gas Well [x] Other

8. Well Name and No.
RATHERFORD UNIT 18-43B

2. Name of Operator
MOBIL EXPLORATION & PRODUCING US, AS AGENT FOR MEPNA

9. API Well No.
N/A 43-037-31718

3. Address and Telephone No.
P. O. BOX 633, MIDLAND, TX 79702 (915) 688-2585

10. Field and Pool, or exploratory Area
GREATER ANETH

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
2022.5' FSL & 651' FEL; SEC. 18, T41S, R24E

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
	[ ] Other SPUD & CASING	[ ] 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.)*

03-30-94 SPUD NOTIFICATION TO BLM & STATE OF UTAH @1300 HOURS. DRILL 17.5" HOLE TO 42'
03-31-94 DRILL 17.5" HOLE F/42-85'. RAN 2 JTS 13-3/8" 48# AT 85' W/200 SXS CL B CMT (1.18 YLD AT 15.6 PPG W/8 BBLS SLURRY CIRC TO SURFACE. DRILL 12-1/4 HOLE F/85-410'.
04/01/94 CONTINUE TO DRILL 12-1/4 HOLE F/410-1585'. RAN 36 JTS 9.625" J55 36# TO 1585' CMT SHOE @ 1584' W/450 SXS LEAD CL B + 2% CAL SEAL + 0.9% HALAD 322 + 0.1% VERASET + 0.25 PPG FLOCELE (YLD 1.71 AT 12.7 PPG); TAIL 600 SXS CL B + 2% CACL2 + 0.2% HALAD 344 + 0.25 PPG FLOCELE (YLD 1.15 AT 15.9 PPG). CIRC 52 BBLS SLURRY TO SURFACE.

RECEIVED APR 13 1994

14. I hereby certify that the foregoing is true and correct
Signed Shirley Todd Title ENV. & REG. TECHNICIAN Date 04/08/94

(This space for Federal or State office use)
Approved by _____ Title _____ Date _____
Conditions of approval, if any:

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

* See Instruction on Reverse Side

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

ENTITY ACTION FORM - FORM 6

OPERATOR MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MEPNA

ADDRESS P O BOX 633
MIDLAND TX 79702

OPERATOR ACCT. NO. N 7370

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION QQ	SC	TP	RG	COUNTY	SPUD DATE	EFFECTIVE DATE
B	99999	06280	43-037-31718-00000	RATHERFORD UNIT #18-43B	NESE	18	41S	24E	SAN JUAN	03-30-94	03-30-94

WELL 1 COMMENTS:

THIS IS AN OIL WELL. Entity added 4-18-94. Lc

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)

Shirley Todd SHIRLEY TODD
Signature

ENV. & REG. TECH 04-08-94
Title Date

Phone No. (915) 688-2585

APR 13

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. Unit or CA, Agreement Designation
RATHERFORD UNIT

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

8. Well Name and No.
RATHERFORD UNIT 18-43B

2. Name of Operator
MOBIL EXPLORATION & PRODUCING US, AS AGENT FOR MEPNA

9. API Well No.
N/A 43-037-31718

3. Address and Telephone No.
P. O. BOX 633, MIDLAND, TX 79702 **(915) 688-2585**

10. Field and Pool, or exploratory Area
GREATER ANETH

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
2022.5' FSL & 651' FEL; SEC. 18, T41S, R24E

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
☒ Subsequent Report	☐ Recompletion	☐ New Construction
☐ Final Abandonment Notice	☐ Plugging Back	☐ Non-Routine Fracturing
	☐ Casing Repair	☐ Water Shut-Off
	☐ Altering Casing	☐ Conversion to Injection
	☐ Other CASING	☐ 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.)*

04/18/94 NOTIFY BLM ANSWERING MACHINE OF TD.

04/19/94 GIH W/125 JTS 7" 23# L-80 & USS-50 LT&C CSG (5764'). CMT 1ST STAGE - CMT SHOE @5750' & FLAT COLLAR @ 5700' W/500 SXS LEAD (CLASS G + 3% ECONOLITE + 0.05 GPS D-AIR-3 + 0.2% HALAD 344 + 0.2% HALAD 322 + 0.25 GPS FLOCELE) & 175 SXS TAIL (CLASS G + 3 GPS LATEX 2000 + 0.05 GPS D-AIR-3 + 0.5 GPS 434B + 0.5% CFR-3) (YEILD: LEAD 2.38, TAIL 1.15). DISP W/224 BBLS. CIRC 18 BBLS SLURRY TO SURFACE F/1ST STAGE.

CMT 2ND STAGE THRU DV TOOL @ 2927' W/350 SXS LEAD (CLASS B + 3% ECONOLITE + 0.05 GPS D-AIR-3 + 0.2% HALAD 344 + 0.2% HALAD 322 + 0.25 GPS FLOCELE) & 250 SXS TAIL (CLASS B NEAT + 0.6% HALAD 344) (YIELD: LEAD 2.38, TAIL 1.18). DISP W/115 BBLS FW. CIRC 42 BBLS SLURRY.

14. I hereby certify that the foregoing is true and correct
Signed Shirley Todd Title ENV. & REG. TECHNICIAN Date 04/26/94

(This space for Federal or State office use)
Approved by _____ Title _____ Date _____
Conditions of approval, if any:

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

* See Instruction on Reverse Side

ARAPAHOE DRILLING CO., INC.
P. O. BOX 26687
ALBUQUERQUE, NEW MEXICO 87125

STEVE SCHALK
PRESIDENT

MAY 2 . 1994

April 22, 1994

DEVIATION REPORT

Mobil Exploration
Ratherford 18-43B
San Juan County, UT

Date	Depth	Deviation
03-31-94	382'	1/2 °
	684'	1/4 °
04-01-94	1291'	1/2 °
	1585'	1/2 °
04-03-94	2143'	1/2 °
04-04-94	2646'	3/4 °
04-05-94	3076'	1/4 °
04-06-94	3576'	1/2 °
04-08-94	4070'	1/2 °
	4234'	1/2 °
04-12-94	4851'	1/2 °
04-15-94	5520'	1/2 °
04-17-94	5750'	3/4 °

I CERTIFY THE ABOVE TO BE TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Larry H. Williams, Office Manager

4/22/94
Date

SWORN AND subscribed to this 22nd day of April, 1994, by Larry H. Williams, known to me to be the Office Manager of Arapahoe Drilling Co., Inc.

My Commission Expires: June 7, 1997

Clair L. Stacey, Notary Public

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 UN 18-43B

9. API WELL NO.: 43-037-31718

10. FIELD AND POOL, OR WILDCAT: GREATER ANETH

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: 18-41S-24E

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

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

RECEIVED
JUN 1 1994
DIVISION OF OIL, GAS & MINING

2. NAME OF OPERATOR: MOBIL EXPLORATION & PRODUCING U.S. INC.

3. ADDRESS AND TELEPHONE NO.: P. O. BOX 633, MIDLAND, TEXAS 79702 915-688-2585

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface: 2022.5' FSL, 651' FEL
At top prod. interval reported below: SAME
At total depth: SAME

14. PERMIT NO.	DATE ISSUED	12. COUNTY OR PARISH	13. STATE
43-037-31718	11-09-93	SAN JUAN	UTAH

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
03-30-94	04-17-94	05-04-94	4784.5 GL	

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
5750/5750	5630		→	X	

24. PRODUCING INTERVAL(S), OF THIS COMPLETION - TOP, BOTTOM, NAME (MD AND TVD)*: DESERT CREEK 5564-84' 5604-23'

25. WAS DIRECTIONAL SURVEY MADE: NO

26. TYPE ELECTRIC AND OTHER LOGS RUN: ARRAY INDUCTION/CALIPER/GR, LDT/CNL/GR 4-22-94 MODULAR FORMATION DYNAMICS

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	48#	85'	17-1/2	200 SX CL B	NONE
9-5/8	36#	1584'	12-1/4	1050 SX CL B	NONE
7	23#	5750'	8-3/4	675 CL G; 600 CL B NEAT	NONE
		DV TOOL @ 2927'			

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		5532'

31. PERFORATION RECORD (Interval, size and number)
5670-97, 5650-61 W/4 CENT.
5564-84, 5604-23 (156 HOLES)

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5670-97,5650-61	ACDZ PERFS W/6800 G 15% HCL
5640	SET CIBP W/10' CMT
5564-84,5604-23	ACDZ PERFS W/6500 G 15% HCL

33.* PRODUCTION

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

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

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.): INJECTION WELL WAITING ON EPA FOR PERMITTED INJ. PRESS

TEST WITNESSED BY:

35. LIST OF ATTACHMENTS: DEVIATION REPORT

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

SIGNED Shirley Todd TITLE ENV. & REG. TECHNICIAN DATE 05/23/94

*(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
8. Well Name and No.: RATHERFORD 18-W-43B
9. API Well No.: 43-037-31718
10. Field and Pool, or exploratory Area: GREATER ANETH
11. County or Parish, State: SAN JUAN UT

1. Type of Well: [ ] Oil Well [ ] Gas Well [X] Other
2. Name of Operator: MOBIL PRODUCING TX & NM INC.*
*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM
3. Address and Telephone No.: P.O. Box 633, Midland TX 79702 (915) 688-2585
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SEC. 18, T41S, R24E
2023' FSL & 651' FEL

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/INJECTOR	[ ] 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: 2185' SOUTH AND 2605' EAST F/SURFACE SPOT (ZONE 1a)

SEE ATTACHED

2070 FWL SEC 20

JAN 28 1998
DIV. OF OIL, GAS & MINING

14. I hereby certify that the foregoing is true and correct
Signed: Shirley Houchins for Title: SHIRLEY HOUCHINS/ENV & REG TECH Date: 1-26-97

(This space for Federal or State office use)
Approved by: John R. Baza Title: Associate Director Utah DOGM Date: 2/3/98
Conditions of approval, if any:

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

* See Instruction on Reverse Side

Ratherford Unit Well #18-43B
Horizontal Drilling Procedure

The objective of this procedure is to prepare this wellbore for sidetracking, sidetrack the subject well and drill a single short radius horizontal lateral (3400 feet).

1. Prepare location and dig working pit.

2. MIRU WSU, reverse unit, and H2S equipment. Bullhead kill weight fluid down tubing.

3. ND wellhead and NU BOP's. Pressure test BOP's to working pressure.

4. Continue to POH with related equipment (tubing and rods for producers or tubing and packer for injectors).

5. RU wireline to run any logs desired and run gage ring for casing size and weight.

6. Set cement retainer on wireline and pressure test casing to 1000 psi. Squeeze existing perforations.

7. RDMO WSU.

8. MIRU 24 hr. WSU. NU BOP's and pressure test with chart.

9. PU tubing, drilling collars, and drill pipe in derrick and run in hole. Then POH and stand back.

10. PU bottomtrip whipstock and drillpipe with UBHO sub in string. Survey the hole every 200' and orient the whipstock before setting on the cement retainer. POH w/gyro and drill string.

11. Shear starter mill bolt and make starter cut.

12. POH w/ starter mill and pick up window mill and watermelon mill and continue to mill window. Drill 1-2 ft of formation

13. POH w/ mills and PU curve building assembly and drill string with UBHO sub in string and RIH.

14. RU gyro to assist in time drilling and starting out of the casing window. POH w/ gyro when inclination dictates it must be pulled.

15. Finish drilling the curve using the MWD.

16. POH once curve is finished and PU lateral motor to drill the lateral using MWD.

17. Once lateral TD is reached, POH w/ directional equipment.

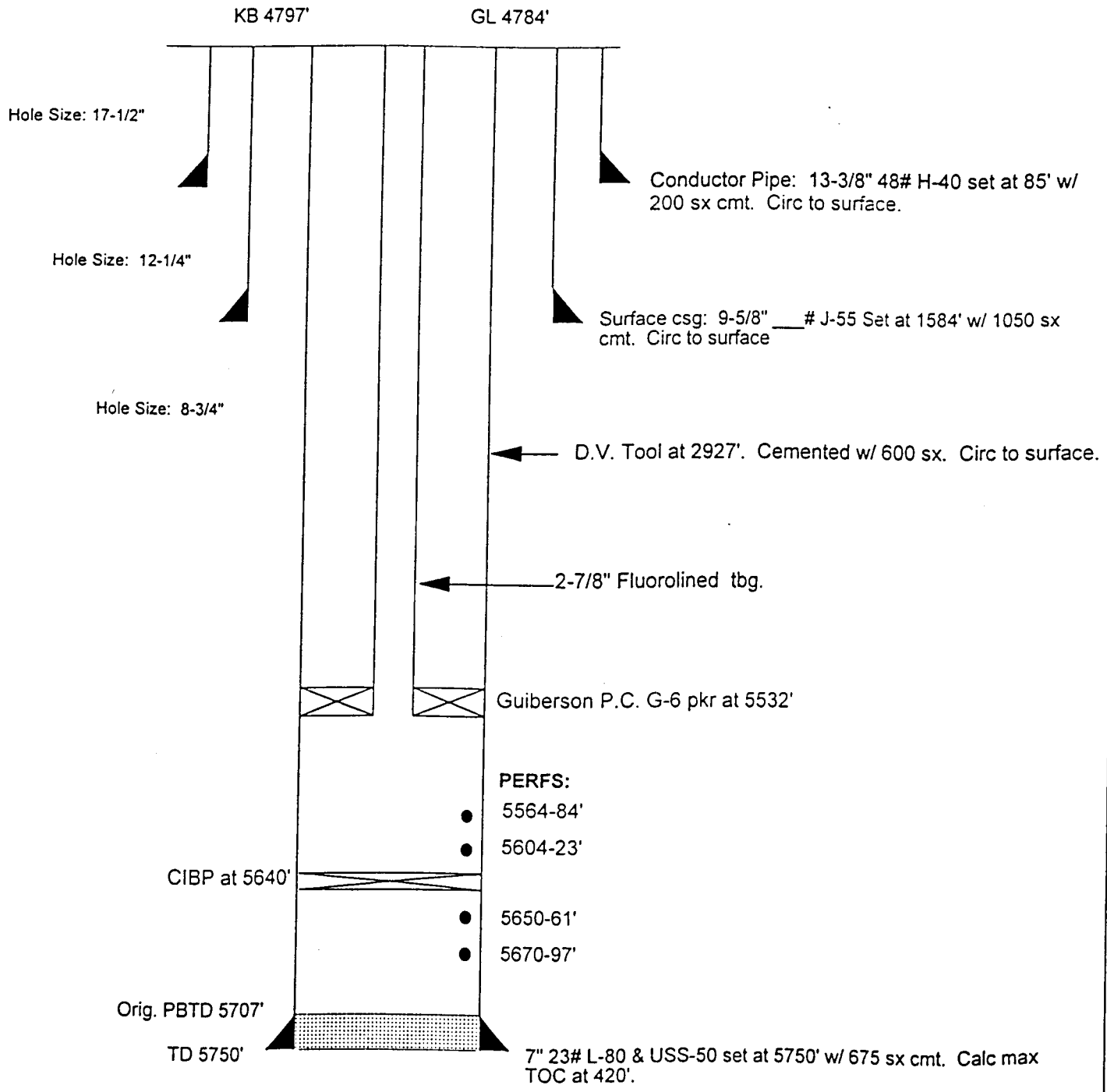
18. Set retrievable bridge plug until well can be completed.

RATHERFORD UNIT # 18W-43B

INJECTOR

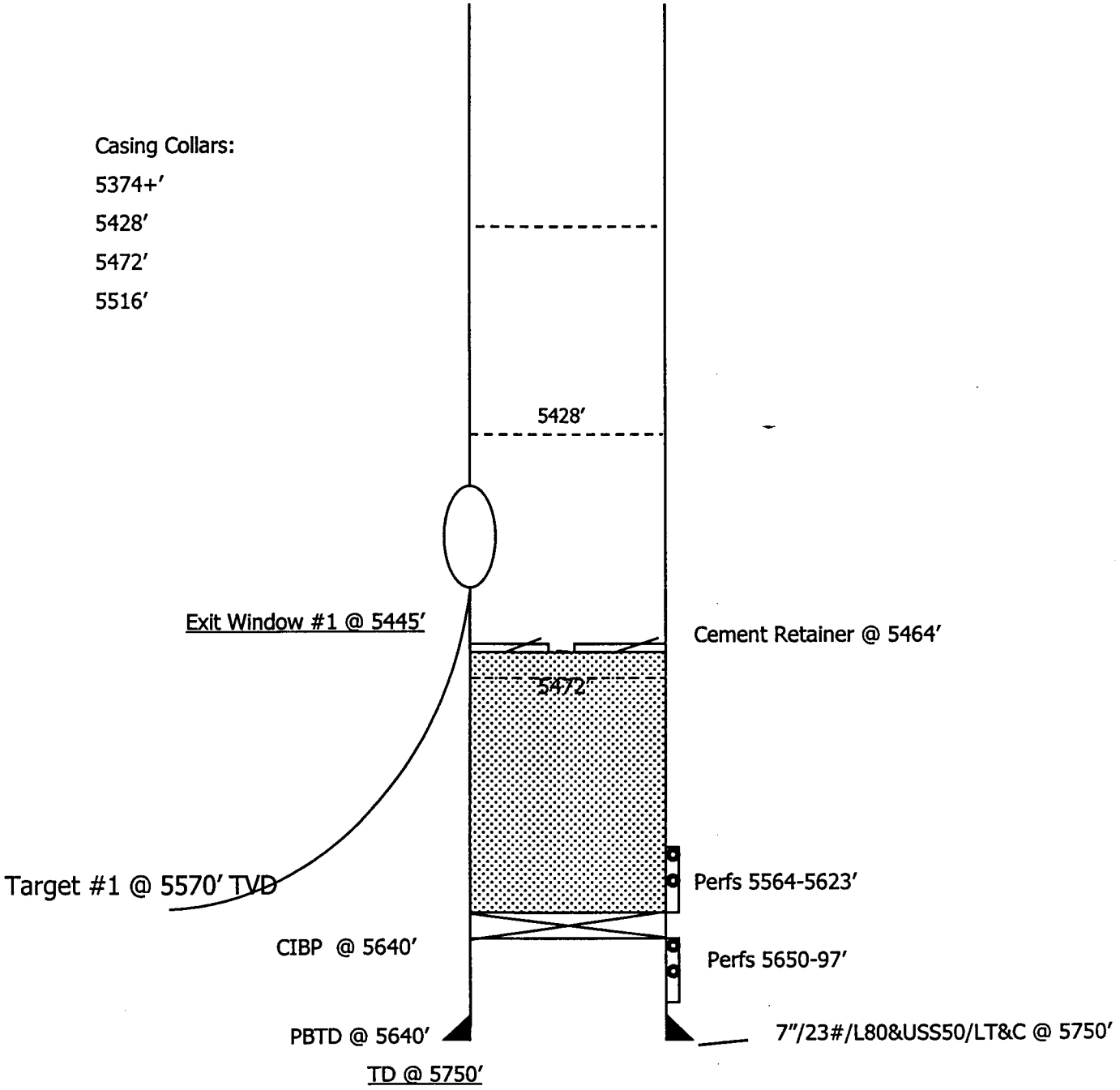
GREATER ANETH FIELD
2023' FSL & 651' FEL
SEC 18-T41S-R24E
SAN JUAN COUNTY, UTAH
API 43-037-31718
PRISM 0046904

Capacities:	bbl/ft	gal/ft	cuft/ft
2-7/8" 6.5#	.00579	.2431	.0325
7" 23#	.0393	1.6535	.2210
2-7/8x7"23#	.0313	1.3162	.1760



L. A. TUCKER 6-28-96 R.U. # 18W-43B

Ratherford Unit #18-43B



Window	Btm-Top of Window	Ext length	Curve Radius	Bearing	Horiz Displ
1	5445-33	-------	125	130	3400

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 01/28/98

API NO. ASSIGNED: 43-037-31718

WELL NAME: RU 18-W-43B MULTI-LEG
OPERATOR: MOBIL EXPL & PROD (N7370)

PROPOSED LOCATION:
NESE 18 - T41S - R24E
SURFACE: 2023-FSL-0651-FEL
~~BOTTOM: 0754-FNL-2070-FWL~~ Horizontal
SAN JUAN COUNTY
GREATER ANETH FIELD (365)

LEASE TYPE: IND
LEASE NUMBER: 14-20-603-353
PROPOSED PRODUCING FORMATION: DSCR

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

RECEIVED AND/OR REVIEWED:

✓ Plat
✓ Bond: Federal [✓] State [] Fee []
(Number ALREADY BONDED)
N Potash (Y/N)
N Oil shale (Y/N)
✓ Water permit
(Number NAVAJO ALLOTMENT)
N RDCC Review (Y/N)
(Date: _____)

LOCATION AND SITING:

✓ R649-2-3. Unit: RATHERFORD UNIT.
___ R649-3-2. General.
___ R649-3-3. Exception.
___ Drilling Unit.
Board Cause no: _____
Date: _____

COMMENTS: _____

STIPULATIONS: 1. Directional drilling

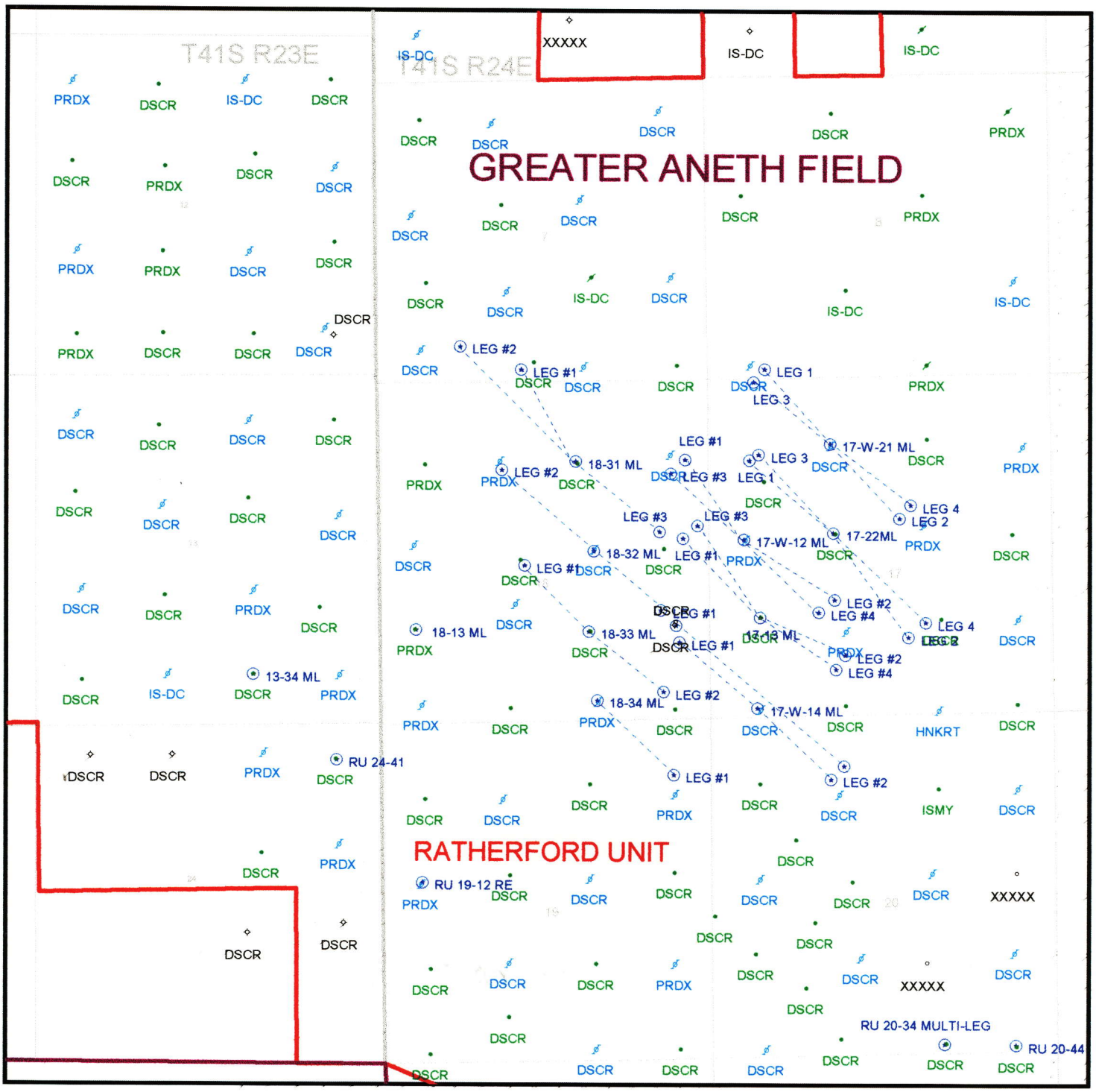
DIVISION OF OIL, GAS & MINING

OPERATOR: MOBIL EXPL & PROD (N7370)

FIELD: GREATER ANETH (365)

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

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



DATE PREPARED:
29-JAN-1998

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

State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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

February 3, 1998

Mobil Exploration & Producing
Po Box 633
Midland, TX 79702

Re: Ratherford 18-W-43B, 2023' FSL, 651' FEL, NE SE,
SEC. 18, T. 41 S., R. 24 E., San Juan County, Utah

Gentlemen:

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

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-037-31718.

Sincerely,

John R. Baza
Associate Director

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

Operator: Mobil Exploration & Producing Inc.

Well Name & Number: Ratherford 18-W-43B

API Number: 43-037-31718

Lease: 41-20-603-353

Location: NE SE **Sec.** 18 **T.** 41 S. **R.** 24 E.

Conditions of Approval

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

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

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

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

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

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: MOBIL E & P

Well Name: RATHERFORD UNIT 18-43B

Api No. 43-037-31718

Section 18 Township 41S Range 24E County SAN JUAN

Drilling Contractor BIG "A"

Rig # 25

SPUDDED:

Date 2/13/98

Time

How ROTARY

Drilling will commence

Reported by BENNY BRIGGS

Telephone #

Date: 2/13/98 Signed: JLT

ROCKY MOUNTAIN GEO-ENGINEERING

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

PASON ROCKY MOUNTAIN GEO-ENGINEERING CORP.

2450 INDUSTRIAL BLVD. • GRAND JUNCTION, CO 81505

(970) 243-3044 • (FAX) 241-1085

RECEIVED
MAR 17 1998
DIV. OF OIL, GAS & MINING

Friday, March 13, 1998

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

43-037-31718

Re: **Ratherford Unit#18-43B**
Sec. 18, T41S, R24E
San Juan County, Utah

DRL

Dear Sirs:

Enclosed is the final computer colored log for the above referenced well.
IN LOG FILE

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

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

Sincerely,

Bill Nagel

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

RECEIVED
MAR 17 1998
DIV. OF OIL, GAS & MINING

MOBIL

RATHERFORD UNIT #18-43B
SE HORIZONTAL LATERAL
UPPER 1-A POROSITY BENCH
DESERT CREEK MEMBER
PARADOX FORMATION
SECTION 18, T41S, R24E
SAN JUAN, UTAH

GEOLOGY REPORT
by

DAVE MEADE
PASON-ROCKY MOUNTAIN CORP.
GRAND JUNCTION, COLORADO
(970) 243-3044

MICROFICHE

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WELL SUMMARY

OPERATOR:	MOBIL EXPLORATION & PRODUCTION U.S. INC.
NAME:	RATHERFORD UNIT #18-43B SE HORIZONTAL LATERAL LEG IN 1-A UPPER POROSITY BENCH, DESERT CREEK
LOCATION:	SECTION 18, T41S, R24E
COUNTY/STATE:	SAN JUAN, UTAH
ELEVATION:	KB:4784' GL:4797'
SPUD DATE:	2/12/98
COMPLETION DATE:	2/21/98
DRILLING ENGINEER:	SIMMON BERRARA / BENNY BRIGGS
WELLSITE GEOLOGY:	DAVE MEADE / PAUL SPEAR
MUDLOGGING ENGINEERS:	DAVE MEADE / PAUL SPEAR
CONTRACTOR:	BIG "A" RIG 25
TOOLPUSHER:	J. DEES
HOLE SIZE:	4 3/4"
CASING RECORD:	SIDETRACK IN WINDOW AT 5458' MEASURED DEPTH
DRILLING MUD:	M-I
ENGINEER:	RON WESTENBURG / KIETH DAVIS
MUD TYPE:	FRESH WATER & BRINE WATER W/ POLYMER SWEEPS
DIRECTIONAL DRILLING CO:	SPERRY-SUN
ELECTICAL LOGGING:	NA
TOTAL DEPTH:	8952' MEASURED DEPTH; TVD-5563.6'
STATUS:	TOH & LAY DOWN TOOLS – PREPARE WELL & RIG FOR MOVE TO R.U. #16-77 LOCATION

DRILLING CHRONOLOGY
RATHERFORD UNIT #18-43B
1-A SE HORIZONTAL LATERAL

DATE	DEPTH	DAILY	ACTIVITY
2/12/98	0'	0'	RIG DOWN-MOVE RIG TO 18-43B LOCATION
2/13/98	5464'	0'	RIG DOWN-MOVE RIG TO 18-43B LOCATION-RIG UP-NIPPLE UP BOP & GAS BUSTER-TEST—MAKE UP WHIPSTOCK ASSEMBLY-P. U DRILL COLLARS & PIPE-TIH W/WHIPSTOCK
2/14/98	5464'	11'	TIH W/WHIPSTOCK & STARTER MILL TO 5400'-RIG UP WIRE LINE & RUN IN HOLE-TAG PLUG & SET WHIPSTOCK @ 5464'-PULL WIRE LINE-MILL W/STARTER MILL 5448' TO 5449'-TOH-LAY DOWN STARTER MILL-P.U. WINDOW & WATERMELLON MILLS-TIH-MILL FROM 5449' TO 5457'-PUMP SWEEP & CIR BTMS UP-LAY DOWN 13 JTS DRL PIPE-TOH-L.D. MILLS-P.U. & ORIENT & TEST MWD & MUD MOTOR-TIH W/CURVE ASSEMBLY-RIG UP GYRO DATA & RUN GYRO
2/15/98	5484'	95'	RUN GYRO -TIME DRLG FROM 5457'-5460'-DIR DRLG & SURVEYS FROM 5460'-5484'-PULL GYRO-DIR DRLG & SURVEYS
2/16/98	5579'	241'	DIR DRLG & SURVEYS TO 5643'-CIR SPLS & SWEEP-L.D. 113 JTS AOH-TOH-L.D. CURVE ASSEMBLY-P.U. LATERAL ASSEMBLY & BIT-TEST-P.U. PH6 & 1 DRG COLLARS-CIR-TIH (LOST SLIP INSERT DOWN HOLE-TAGED 65' OFF BTM)-SWIVEL UP & CIR & WORK PIPE TO BTM-DIR DRLG & SURVEYS
2/17/98	5820'	963'	DIR DRLG & SURVEYS
2/18/98	6783'	403'	DIR DRLG & SURVEYS
2/19/98	7186'	567'	DIR DRLG & SURVEYS
2/20/98	7753'	866'	DIR DRLG & SURVEYS
2/21/98	8619'	336'	DIR DRLG & SURVEYS TO 8955' (TD)-CIRC SWEEP & SMPLS OUT- TOH-L.D. LATERAL BHA-TIH-RETRIEVE WHIPSTOCK-TOH & PREPARE TO MOVE RIG-TOH & INSPECT PIPE
2/22/98			PREPARE TO MOVE RIG TO R.U. 16-77 LOCATION

DAILY ACTIVITY

Operator: **MOBIL**
Well Name: **RATHERFORD UNIT #18-43B SE 1-A HORIZONTAL LATERAL**

DATE	DEPTH	DAILY	DATE	DEPTH	DAILY
2/12/98	0'	0'			
2/13/98	5464'	0'			
2/14/98	5464'	11'			
2/15/98	5484'	95'			
2/16/98	5579'	241'			
2/17/98	5820'	963'			
2/18/98	6783'	403'			
2/19/98	7186'	567'			
2/20/98	7753'	866'			
2/21/98	8619'	336'			

BIT RECORD

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #18-43B SE 1-A HORIZONTAL LATERAL

RUN	SIZE	MAKE	TYPE	IN/OUT	FTG	HRS	FT/HR
#1 (RR)	4 3/4"	STC	MF-15GP	5458'/ 5643'	186'	23.5	7.9
#2	4 3/4"	STC	MF-3P	5643'/ 8955'	3312'	108.5	30.5

Customer ... : Mobil
Platform ... : RATHE HERFORD UNIT
Slot/Well .. 18-43B, 1A1

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
5413	0.35	29.97	5412.84	9.92 N	22.39 W	-23.53	0
5448	0.35	29.97	5447.84	10.11 N	22.28 W	-23.57	0
5457	3.5	128.3	5456.83	9.96 N	22.05 W	-23.3	39.64
5467	7.6	133.73	5466.78	9.31 N	21.34 W	-22.33	41.29
5477	12.8	135.17	5476.62	8.07 N	20.08 W	-20.57	52.06
5487	18.2	135.84	5486.26	6.16 N	18.21 W	-17.91	54.03
5497	23.4	136.23	5495.6	3.61 N	15.74 W	-14.38	52.02
5507	28.1	136.5	5504.61	0.46 N	12.75 W	-10.06	47.01
5517	32.3	130.6	5513.25	2.99 S	9.1 W	-5.05	51.38
5527	37.3	134.4	5521.46	6.85 S	4.9 W	0.65	54.48
5537	42.4	137.1	5529.13	11.44 S	0.44 W	7.02	53.84
5547	46.4	140.6	5536.28	16.71 S	4.16 E	13.93	46.89
5557	49.8	135.3	5542.96	22.23 S	9.15 E	21.3	52.06
5567	54.4	133.1	5549.1	27.72 S	14.81 E	29.16	49.16
5577	58.6	132.4	5554.62	33.38 S	20.93 E	37.49	42.4
5587	63.4	132.9	5559.46	39.31 S	27.36 E	46.23	48.2
5597	68.6	132.8	5563.53	45.52 S	34.06 E	55.35	52.01
5607	73.5	132.6	5566.78	51.93 S	41 E	64.79	49.04
5617	79.2	132.4	5569.14	58.49 S	48.17 E	74.5	57.03
5643	88.8	134.5	5571.85	76.26 S	66.91 E	100.27	37.78
5663	90.8	136.7	5571.92	90.54 S	80.9 E	120.18	14.87
5695	93.6	138.6	5570.69	114.17 S	102.44 E	151.86	10.57
5727	90.4	136.7	5569.58	137.8 S	123.98 E	183.55	11.63
5758	88.9	134.7	5569.76	159.99 S	145.63 E	214.4	8.06
5790	88.5	132.1	5570.49	181.97 S	168.87 E	246.33	8.22
5822	88.9	131.6	5571.22	203.31 S	192.7 E	278.3	2
5853	90.8	132.4	5571.3	224.05 S	215.74 E	309.28	6.65
5885	91.8	131.6	5570.57	245.46 S	239.51 E	341.26	4
5917	91.7	133.5	5569.59	267.09 S	263.08 E	373.21	5.94
5948	90.5	134.7	5569	288.66 S	285.33 E	404.12	5.47
5980	91	134.2	5568.58	311.06 S	308.17 E	436.02	2.21
6012	91.4	133.5	5567.91	333.23 S	331.25 E	467.94	2.52
6044	91.9	133.1	5566.99	355.16 S	354.52 E	499.88	2
6075	91	134.4	5566.2	376.59 S	376.91 E	530.8	5.1
6107	89.9	135.1	5565.95	399.12 S	399.63 E	562.69	4.07
6139	88.7	135.6	5566.34	421.88 S	422.12 E	594.55	4.06
6171	87.9	135.1	5567.29	444.64 S	444.6 E	626.39	2.95
6203	89.4	134.9	5568.05	467.26 S	467.22 E	658.26	4.73

Customer ... : Mobil
Platform ... : RATHERFORD UNIT
Slot/Well .. 18-43B, 1A1

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
7436	92.5	132.8	5558.98	1316.72 S	1360.17 E	1888.32	2
7468	91.6	132.8	5557.83	1338.44 S	1383.64 E	1920.26	2.81
7499	91.2	132.6	5557.08	1359.46 S	1406.41 E	1951.22	1.44
7531	90.5	132.8	5556.6	1381.16 S	1429.93 E	1983.18	2.28
7563	90.2	132.8	5556.41	1402.9 S	1453.41 E	2015.14	0.94
7595	87.7	132.6	5556.99	1424.6 S	1476.92 E	2047.1	7.84
7627	87.5	132.6	5558.33	1446.24 S	1500.45 E	2079.04	0.62
7658	88.2	132.1	5559.5	1467.11 S	1523.35 E	2109.99	2.77
7690	85.3	130.9	5561.31	1488.27 S	1547.27 E	2141.92	9.81
7721	87.6	130.2	5563.23	1508.39 S	1570.78 E	2172.86	7.75
7753	89.7	129.3	5563.98	1528.84 S	1595.37 E	2204.85	7.14
7785	89.6	128.9	5564.18	1549.02 S	1620.21 E	2236.84	1.29
7816	91.2	129.3	5563.96	1568.57 S	1644.26 E	2267.84	5.32
7848	91	128.9	5563.35	1588.75 S	1669.09 E	2299.83	1.4
7880	91.5	128.7	5562.65	1608.8 S	1694.02 E	2331.81	1.68
7912	91.8	128.2	5561.73	1628.69 S	1719.07 E	2363.79	1.82
7944	90.6	127.3	5561.06	1648.27 S	1744.37 E	2395.75	4.69
7975	89.7	128.2	5560.98	1667.25 S	1768.88 E	2426.73	4.11
8006	89.8	127.5	5561.11	1686.27 S	1793.36 E	2457.71	2.28
8038	90	127.7	5561.17	1705.8 S	1818.71 E	2489.68	0.88
8069	89.3	126.8	5561.36	1724.56 S	1843.39 E	2520.64	3.68
8100	89.3	126.3	5561.74	1743.02 S	1868.29 E	2551.58	1.61
8132	89.9	126.1	5561.96	1761.92 S	1894.11 E	2583.51	1.98
8163	90.4	125.6	5561.88	1780.07 S	1919.24 E	2614.43	2.28
8195	88.7	124.4	5562.13	1798.43 S	1945.45 E	2646.31	6.5
8227	89.3	124.2	5562.69	1816.46 S	1971.88 E	2678.14	1.98
8258	90.8	125.6	5562.66	1834.19 S	1997.3 E	2709.02	6.62
8289	90.6	125.4	5562.28	1852.19 S	2022.54 E	2739.92	0.91
8320	89.6	125.2	5562.23	1870.11 S	2047.84 E	2770.82	3.29
8352	91.1	125.9	5562.03	1888.71 S	2073.87 E	2802.72	5.17
8384	89.7	124.9	5561.81	1907.25 S	2099.95 E	2834.61	5.38
8415	89.4	124.2	5562.05	1924.83 S	2125.49 E	2865.47	2.46
8447	90	124.7	5562.22	1942.93 S	2151.87 E	2897.32	2.44
8479	88.2	123.7	5562.72	1960.91 S	2178.33 E	2929.15	6.43
8511	88.3	122.9	5563.7	1978.47 S	2205.07 E	2960.92	2.52
8543	89.4	123.5	5564.34	1995.99 S	2231.84 E	2992.69	3.92
8574	90	124.2	5564.51	2013.26 S	2257.58 E	3023.51	2.97
8606	88.2	124	5565.01	2031.2 S	2284.08 E	3055.33	5.66

Customer ... : Mobil
Platform ... : RATHERFORD UNIT
Slot/Well .. 18-43B, 1A1

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
6233	91.1	135.1	5567.92	488.47 S	488.43 E	688.14	5.71
6265	90	135.1	5567.61	511.14 S	511.02 E	720.02	3.44
6296	91.9	135.3	5567.1	533.13 S	532.86 E	750.88	6.16
6328	89.5	134.5	5566.7	555.71 S	555.52 E	782.76	7.91
6360	91.1	135.3	5566.54	578.3 S	578.19 E	814.64	5.59
6392	90.4	134.7	5566.12	600.92 S	600.81 E	846.52	2.88
6423	90.2	134.9	5565.96	622.77 S	622.81 E	877.41	0.91
6455	89.9	134.5	5565.93	645.28 S	645.56 E	909.3	1.56
6487	88.9	133.7	5566.26	667.54 S	668.53 E	941.22	4
6519	89.2	133.7	5566.79	689.65 S	691.67 E	973.14	0.94
6550	88.4	133.1	5567.44	710.94 S	714.18 E	1004.08	3.23
6582	89.1	133	5568.14	732.78 S	737.56 E	1036.03	2.21
6614	89.1	133.1	5568.64	754.63 S	760.94 E	1067.98	0.31
6646	89.1	133	5569.15	776.47 S	784.33 E	1099.93	0.31
6677	89.1	133.1	5569.63	797.63 S	806.98 E	1130.88	0.32
6709	89.7	133.3	5569.97	819.53 S	830.3 E	1162.83	1.98
6741	90.1	133.7	5570.02	841.56 S	853.51 E	1194.77	1.77
6773	89.3	133.8	5570.19	863.69 S	876.63 E	1226.7	2.52
6805	89.8	134	5570.44	885.87 S	899.69 E	1258.63	1.68
6836	90.7	134.2	5570.31	907.45 S	921.95 E	1289.55	2.97
6867	91.6	134	5569.69	929.01 S	944.2 E	1320.46	2.97
6899	92.1	133.8	5568.65	951.19 S	967.25 E	1352.37	1.68
6931	93.1	133.8	5567.2	973.32 S	990.32 E	1384.27	3.13
6963	93.6	132.6	5565.33	995.19 S	1013.61 E	1416.16	4.06
6994	94.4	133.7	5563.17	1016.33 S	1036.17 E	1447.04	4.38
7026	88.9	133	5562.25	1038.28 S	1059.42 E	1478.96	17.33
7057	87.9	133.3	5563.11	1059.48 S	1082.03 E	1509.9	3.37
7089	89.6	133.5	5563.81	1081.46 S	1105.27 E	1541.83	5.35
7121	89.2	132.6	5564.15	1103.3 S	1128.65 E	1573.79	3.08
7153	88.9	133.3	5564.68	1125.1 S	1152.07 E	1605.74	2.38
7184	90.7	133.3	5564.78	1146.36 S	1174.63 E	1636.69	5.81
7215	91.3	133.5	5564.24	1167.66 S	1197.15 E	1667.63	2.04
7246	90.6	133.1	5563.73	1188.91 S	1219.71 E	1698.57	2.6
7278	91.7	132.6	5563.09	1210.67 S	1243.17 E	1730.52	3.78
7310	89.9	131.4	5562.64	1232.08 S	1266.94 E	1762.5	6.76
7341	90.4	131.6	5562.56	1252.62 S	1290.16 E	1793.49	1.74
7372	92.1	131.9	5561.88	1273.26 S	1313.28 E	1824.47	5.57
7404	92.9	133.3	5560.49	1294.9 S	1336.81 E	1856.4	5.04

Customer ... : Mobil
Platform ... : RATHERFORD UNIT
Slot/Well .. 18-43B, 1A1

MEASURED DEPTH	ANGLE DEG	DIRECTION DEG	TVD	NORTHINGS FEET	EASTINGS FEET	VERTICAL SECTION	DOG LEG
8637	88.2	124	5565.98	2048.52 S	2309.76 E	3086.15	0
8669	88.9	124.5	5566.79	2066.53 S	2336.21 E	3117.97	2.69
8701	89	124.7	5567.38	2084.69 S	2362.54 E	3149.83	0.7
8732	92	125.8	5567.11	2102.58 S	2387.85 E	3180.72	10.31
8764	93.4	126.1	5565.6	2121.35 S	2413.73 E	3212.6	4.47
8796	93.3	126.1	5563.73	2140.17 S	2439.54 E	3244.47	0.31
8827	91.4	125.9	5562.46	2158.37 S	2464.6 E	3275.37	6.16
8858	90.8	125.8	5561.86	2176.53 S	2489.72 E	3306.28	1.96
8890	88.4	124.5	5562.09	2194.95 S	2515.88 E	3338.16	8.53
8921	88.7	123.8	5562.87	2212.34 S	2541.53 E	3368.99	2.46
8955	88.7	123.8	5563.64	2231.25 S	2569.77 E	3402.78	0

MUD REPORT

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #18-43B SE 1-A HORIZONTAL LATERAL

DATE	DEPTH	WT	VIS	PLS	YLD	GEL	pH	WL	CK	CHL	CA	SD	OIL	WTR
2/12/98	NO CHECK	–	–	–	–	–	–	–	–	–	–	–	–	–
2/13/98	NO CHECK	–	–	–	–	–	–	–	–	–	–	–	–	–
2/14/98	NO CHECK	–	–	–	–	–	–	–	–	–	–	–	–	–
2/15/98	5484'	8.7	26	2	1	0/0	11.5	NC	NC	39K	2400	–	**0%**	100%
2/16/98	5612'	8.7	26	1	1	0/0	11.5	NC	NC	38K	2000	–	**0%**	100%
2/17/98	6580'	8.7	26	1	1	0/0	12.0	NC	NC	37K	1600	–	**4%**	96%
2/18/98	6892'	8.7	27	3	1	0/0	11.5	NC	<1/32	39K	1200	–	**8%**	92%
2/19/98	7587'	8.7	27	3	2	0/0	11.5	18.4	<1/32	40K	2800	–	**10%**	90%
2/20/98	8134'	8.7	27	3	1	0/0	11.6	NC	<1/32	39K	2400	–	**10%**	90%
2/21/98	8955'	8.7	28	5	2	0/0	11.7	18.4	<1/32	39K	2400	–	**10%**	90%

SAMPLE DESCRIPTIONS

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #18-43B SE 1-A HORIZONTAL LATERAL

DEPTH	LITHOLOGY

5457.00 5470.00 "LS crm-tan-ltbrn,crpxl-micxl,rthy-chky,v sl chty,arg,tt,NFSOC,scat intbd mbrn micxl rthy lmy DOL tt NFSOC,w/rr clr trnsl CHT frag & v thn dkgy-blk sbplty mica rthy lmy-sl dol SH lams-occ SH & CMT cvgs"

5470.00 5480.00 "LS AA,sl slty,v sl anhy,v rr mic fos,v sl anhy,v sl dol-tr intbd DOL AA,tt,NFSOC,v rr SH lams AA,v rr trnsl-brn-mot CHT frag,scat CMT cvgs"

5480.00 5490.00 "LS crm-tan-ltbrn,crpxl-micxl,rthy-cln,chky-sl arg,occ dol,w/scat bf-brn CHT frag,dns,rr mic fos,tt,NFSOC,occ thn intbd mbrn micxl arg-rthy DOL tt NFSOC,v rr v thn dkgy-blk mica v sl carb SH lams-prts"

5490.00 5500.00 "LS AA,pred crpxl PKST,incr occ mot-arg-dol,v sl slty,tt,NFSOC,thn intbd DOL AA incr gybrn-mot,v rr thn dkgy-blk SH lams-plty,rr scat CHT frag"

5500.00 5510.00 "LS AA,rthy,sl slty,dol,v arg,sl anhy-scat ANHY xl-incl,tt,NFSOC,intbd DOL AA,scat SH lams AA & CHT frag"

5510.00 5520.00 "LS AA,incr dol,v sl mrly,tt,NFSOC,grdg to DOL-brn-mbrn,micxl-crpxl,rthy-arg,mrly,tt,NFSOC,bcmg dkgy-dkgybrn sl calc-dol mica SH,scat dkbrn-blk CHT frag"

5520.00 5530.00 "LS AA/incr dk col,brn-dkbrn,com dol ip, sbblky-sbplty ip, occ dk CHT frags, grdg to GRNST ip,NFSOC"

5530.00 5550.00 "LS wh-offwh-crm-ltgy-gy,mott,micxl-vfxl,arg-rthy,chky,sl slty-slty-v sl sdy ip,rr xln CALC-frac fill,sl anhy,grdg to v lmy sl mica ltgy SLTST,dol ip,tt-v rr intxl-intgr POR,NFSOC,w/thn brn-mbrn,micxl,rthy,lmy DOL incl,tt,NFSOC,scat trnsl-bf CHT frag"

5550.00 5560.00 "LS AA/incr tan-brn,occ dk brn,spty dull yel flor,n-v sl yel cut,v dull yel resd ring,rr SH,dkbrn-blk pyr ip, sft-slfrm,NFSOC"

5560.00 5570.00 "LS crm-tan,ltgy,crpxl-micxl,arg AA,rr dull orng mnrl FLOR,NSOC,grdg to lmy DOL-lt-dkbrn,occ gybrn,micxl,rthy,arg,mrly ip,sl anhy,tt,NFSOC,bcmg dkgy-blk carb calc-mica sl dol-lmy SH,occ dk CHT"

5570.00 5590.00 "SH dkgy-blk,dkgybrn,sbblky-sbplty,mfrm,calc-sl dol,carb-sooty,sl slty,mica,w/scat crm-tan,crpxl-micxl,rthy-mrly dns LS & brn-gybrn micxl-crpxl rthy-arg sl mrly dns tt DOL frags NFSOC"

DEPTH		LITHOLOGY
5590.00	5600.00	"SH AA,bcmg lt-mbrn crpxl-micxl sl lmy DOL,mrly ip,rr ANHY xl-incl,v rr mic fos,n-v rr intxl POR,NFSOC w/thn crm-tan-brn crpxl-micxl LS dol sl slty anhy mrly ip tt NFSOC"
5600.00	5610.00	"LS crm-tan-brn,crpxl-micxl,rthy-dns,occ chk-v sl slty,dol,sl anhy-rr incl-xl,v sl chty,dns-v rr intxl POR,NFSOC,w/intbd DOL brn-mbrn,crpxl-micxl,rthy,dns,arg,shy ip,v rr mic fos,anhy ip,v rr intxl POR,NFSOC,w/scat smkygybrn CHT frag & SH lams AA"
5610.00	5620.00	"LS pred crm-tan AA,arg-sl slty,bcmg sl anhy PKST,dol ip,grdg to vfxl-gran-micsuc sl ooc GRNST,tt-tr intxl-rr ool POR,tr dull-bri yel FLOR,n-rr spty brn STN,n-tr slow-mod fast stmg CUT,w/scat SH cvgs & v thn arg micxl brn-mbrn rthy DOL lams,NFSOC"
5620.00	5640.00	"LS tan-brn-mbrn,occ gybrn,crpxl-vfxl,gran-micsuc,pred ooc-ool GRNST,scat v thn sl ool dns PKST,v rr ANHY xl,rr trnsl-clr CHT frag,fr-mg ool-intxl POR,mfr-fr dull-bri yel FLOR,tr-fr brn-v rr blk STN,fr-g mod fast CUT,w/scat blk carb SH cvgs & DOL AA frag"
5640.00	5670.00	"LS crm-tan-ltbrn-brn,mott,mic-vfxln,gran-sl suc ip,slty ip,tr ostn,dol ip,occ xln intracl,rr fos,pred oom-interool POR, occ intgr-intxl POR ip,sl vug ip,spty bri yel FLOR,slow blmg-strmg CUT,bri yel resd ring,tr SH dkbrn-blk AA"
5670.00	5700.00	"LS AA,P SPL ABNT POLY SWEEP IN SPL"
5700.00	5720.00	"LS AA/incr oomoldic por,even bri yel flor,bri yel strmg cut,bri yel resd ring,tr SH,dk brn-blk,carb,calc,NFSOC"
5720.00	5730.00	"DOL LS tan-ltbrn-brn-gybrn,mic-vf xl,gran text,occ rthy ip,mdns mtx,occ ool,tr brn-blk ostn,pred oomoldic-sl vug por,tr intgr por,rr intxl por,even bri yel flor,bri yel strmg cut, bri yel resd ring"
5730.00	5740.00	"DOL LS AA/com calc xl incl,incr moldic-sl vug por,even bri yel flor,bri yel blmg-strmg cut,bri yel resd ring"
5740.00	5750.00	"LS crm-tan-ltbrn-brn,mott,cryp-micxl,sme vf xl incl ip,ool ip,rthy-sl arg ip,rr chlky-anhy ip,oomoldic-moldic por,tr intgr por,occ intxl por,even bri yel flor,g bri yel blmg-strmg cut,bri yel resd ring"
5750.00	5780.00	"DOL LS crm-tan-ltbrn-brn,mott,mic-vfxln,gran-sl suc ip,mdns-dns mtx ip,tr ostn,occ xln intracl,com ool,pred oomoldic-interool por, occ intgr-intxl por ip,sl vug ip,spty bri yel flor,slo blmg-strmg cut,bri yel resd ring"
5780.00	5800.00	"LS AA/oomoldic-moldic por,occ carb mat,dol ip,rthy ip,sme brn-blk ostn,even bri yel flor,bri yel strmg cut,bri yel resd ring,rr SH,dk brn-blk,carb,calc,NFSOC"

DEPTH	LITHOLOGY

5800.00 5820.00 "LS AA/rr lt CHT,trnsl,occ anhy,rr calc xl-frac fill,even bri yel flor,g bri yel cut,bri yel resd ring"

5820.00 5840.00 "LS crm-tan-ltbrn-brn,mott,cryp-micxl,sme vf xl incl ip,ool ip,rthy-sl arg ip,rr chlky-anhy ip,intool-oomoldic-sl vug por ip,tr intgr por,occ intxl por,even bri yel flor,g bri yel blmg-strmg cut,bri yel resd ring"

5840.00 5880.00 "LS AA/sl incr intxl por ip,even bri yel flor,bri yel strmg cut,bri yel resd ring"

5880.00 5890.00 "LS AA/f incr dkbrn-blk ostn,dns mtx,pred intool por,sl vug ip,occ intgr por,rr intxl,even bri yel flor,g bri yel strmg cut,briyel resd ring"

5890.00 5900.00 "DOL LS crm-tan-ltbrn-brn-brngy-gy,mott,mic-vfxln,gran text,mdns-dns mtx,v g ostn,occ xln intracl,com ool,pred oomoldic-interool por, occ intgr-intxl por ip,sl vug ip,spty bri yel flor,bri yel strmg cut,bri yel resd ring"

5900.00 5920.00 "LS AA/sl decr dkbrn-blk ostn,sl anhy ip,rthy-sl arg ip,tt,mic-vfxl,bri yel flor,g bri yel strmg cut,bri yel resd ring"

5920.00 5940.00 "DOL LS AA/com xl calc incl,intool-oomoldic-sl vug por,even bri yel flor,bri yel blmg-strmg cut,bri yel resd ring"

5940.00 5960.00 "LS AA/rr lt CHT,trnsl,occ anhy,rr xl calc incl,even bri yel flor,g bri yel strmg cut,bri yel resd ring"

5960.00 5970.00 "LS crm-tan-ltbrn-brn-gy,mott,cryp-micxl,occ vf xl ip,ool,f dkbrn-blk ostn,rthy-sl arg ip,rr chlky-anhy ip,intool-oomoldic-sl vug por,tr intgr por,rr intxl por,even bri yel flor,g bri yel blmg-strmg cut,bri yel resd ring"

5970.00 5980.00 "LS AA,pred ooc-oom GRNST,scat dns tan-ltbrn crpxl occ rthy-chk PKST frag,rr ANHY xl-POR fl,POR-FLOR-STN-CUT AA"

5980.00 6000.00 "LS tan-brn-gybrn,crpxl-vfxl,gran-micsuc ip,pred ooc-oom GRNST,sl anhy-occ ANHY fl POR,sl DOL rich cmt,scat dns sl anhy tan-occ wh sl chk PKST,v rr trnsl CHT frag,fr-g ool-fr intxl POR,fr-g bri yel FLOR,fr-g brn-tr spty blk STN,fr-g mod fast-fast stmg CUT"

6090.00 6110.00 "LS AA,incr gybn,sl incr gran-micsuc,occ suc,v rr bf-brn-trnsl CHT frag,n-rr ANHY fl POR,fr-g ool-intxl POR,FLOR-STN-CUT AA"

6110.00 6130.00 "LS tan-brn-gybrn,crpxl-vfxl,gran-micsuc ip,pred ooc-oom GRNST,sl anhy-occ ANHY fl POR,sl DOL rich cmt,rr dns sl anhy tan-occ wh sl chk PKST,rr trnsl-bf CHT frag,fr-g ool-fr intxl POR,fr-g bri yel FLOR,fr-g brn-tr spty blk STN,fr-g mod fast-fast stmg CUT"

DEPTH	LITHOLOGY

6130.00 6160.00 "LS tan-ltbrn,occ brn-gybrn,rr crm-wh,crpxl-vfxl,pred ooc-oom GRNST,w/scat dns sl ool anhy rr chky-rthy PKST,v rr ANHY xl-incl-v rr POR fl,v rr CHT frag,POR-FLOR-STN-CUT AA"

6160.00 6180.00 "LS AA,pred ooc-oom GRNST,rr dns tan-ltbrn crpxl occ rthy-v sl chk PKST frag,rr ANHY xl-POR fl,v rr trnsl-ltbrn CHT frag,POR-FLOR-STN-CUT AA"

6180.00 6200.00 "LS tan-brn-gybrn,crpxl-vfxl,gran-micsuc ip,pred ooc-oom GRNST,sl anhy-occ ANHY fl POR,sl DOL rich cmt,rr dns sl anhy tan-occ wh sl chk PKST,rr trnsl-bf CHT frag,fr-g ool-fr intxl POR,fr-g bri yel FLOR,fr-g brn-tr spty blk STN,fr-g mod fast-fast stmg CUT"

6200.00 6220.00 "LS AA,pred ooc-oom GRNST,incr dns tan-crm-ltbrn crpxl occ rthy-v sl chk PKST frag,rr-tr ANHY xl-POR fl,v rr trnsl-clr CHT frag,POR-FLOR-STN-CUT AA"

6220.00 6240.00 "LS tan-ltbrn,occ brn-mbrn-rr crm,crpxl-vfxl-gran,micsuc ip,pred intbd ooc-oom GRNST & dns sl ool occ rthy-chk sl chty-v sl anhy PKST,rr ANHY xl-trnsl-bf CHT frag,fr intxl-ool POR,fr-g bri-dull yel FLOR,fr ltbrn-brn-rr spty blk STN,fr-g mod fast-fast CUT"

6240.00 6270.00 "LS AA,incr brn-dkbrn ooc-oom GRNST,w/thn intbd sl ool dns PKST,scat ANHY xl-incl-rr POR fl,scat trnsl CHT frag,fr intxl-ool POR,fr-g dull-bri yel FLOR,fr-g brn-mbrn STN,tr blk dd o STN,fr-g slow-fast stmg CUT"

6270.00 6300.00 "LS AA,pred ooc-oom GRNST,w/thn intbd PKST AA,fr-g intxl-fr ool POR,fr-g dull-bri yel FLOR,fr brn-mbrn STN,rr blk dd o STN,fr-g mod slow-fast stmg CUT"

6300.00 6320.00 "LS tan-ltbrn,occ brn,crpxl-vfxl,gran-micsuc,pred ooc-oom GRNST,w/thn intbd dns-sl ool occ anhy PKST,v rr CHT frag,rr ANHY xl-rr POR fl,fr-g intxl-fr ool POR,fr-g dull-bri yel FLOR,fr ltbrn-brn STN-rr blk dd o STN,fr-g mod fast stmg CUT"

6320.00 6330.00 "LS AA,decr PKST,fr-g ool-intxl POR,fr-g bri-dull FLOR,fr-g ltbrn-brn STN,tr blk dd o STN,fr-g mod fast-fast stmg CUT"

6330.00 6340.00 "LS AA,pred ooc-oom GRNST,w/scat thn PKST,POR-FLOR STN-CUT AA"

6340.00 6360.00 "LS tan-ltbrn,occ brn,crpxl-vfxl,gran-micsuc,pred ooc-oom GRNST,w/v thn intbd dns-sl ool occ anhy PKST,rr scat trnsl-bf CHT frag,rr ANHY xl-rr POR fl,fr-g intxl-fr ool POR,fr-g dull-bri yel FLOR,fr ltbrn-brn STN-rr blk dd o STN,fr-g mod fast stmg CUT"

6360.00 6370.00 "LS AA,scat thn intbd PKST AA,POR-FLOR-STN-CUT AA"

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6370.00 6390.00 "LS AA,decr PKST,fr-g ool-intxl POR,fr-g bri-dull FLOR,fr-g ltbrn-brn STN,tr blk dd o STN,fr-g mod fast-fast stmg CUT"

6390.00 6410.00 "LS AA,pred ooc-oom GRNST & thn intbd ltbrn-crm sl ool dns sl anhy PKST,fr-g intxl-fr ool POR,fr-g dull-bri yel FLOR,fr brn-mbrn STN,rr blk dd o STN,fr mod slow-fast stmg CUT"

6410.00 6420.00 "LS tan-ltbrn,occ brn,crpxl-vfxl,gran-micsuc,pred ooc-oom GRNST,w/v thn intbd dns-sl ool occ anhy PKST,rr scat trnsl-bf CHT frag,rr ANHY xl-rr POR fl,fr-g intxl-fr ool POR,fr-g dull-bri yel FLOR,fr ltbrn-brn STN-rr blk dd o STN,fr-g mod fast stmg CUT"

6420.00 6440.00 "LS AA,incr sl ool-sl anhy dns PKST,occ incr trnsl-clr CHT frag,POR-FLOR-STN-CUT"

6440.00 6460.00 "LS pred ooc-oom GRNST w/tr ANHY xl-incl-rr POR fl,occ DOL cmt,thn scat ool-dns PKST,v rr CHT frag,fr-g intxl-fr ool POR,fr-g bri-dull yel FLOR,fr ltbrn-brn STN,tr blk dd o STN,fr-g mod fast-fast stmg CUT"

6460.00 6500.00 "LS tan-ltbrn,occ brn,crpxl-vfxl,gran-micsuc,pred ooc-oom GRNST,w/v thn intbd dns-sl ool occ anhy PKST,rr scat trnsl-bf CHT frag,rr ANHY xl-rr POR fl,fr-g intxl-fr ool POR,fr-g dull-bri yel FLOR,fr ltbrn-brn STN-rr blk dd o STN,fr-g mod fast stmg CUT"

6500.00 6530.00 "LS AA,incr thn dns sl ool anhy PKST frag-lams,sl incr CHT frag-ANHY xl-POR fl,fr intxl-tr ool POR,fr bri-dull yel FLOR,tr ltbrn-brn STN,v rr spty blk dd o STN,n-fr mod fast stmg CUT"

6530.00 6560.00 "LS tan-ltbrn,occ brn,rr crm,crpxl-vfxl,occ gran-micsuc,pred intbd ooc-oom GRNST & tt dns sl ool anhy PKST,scat trnsl-bf CHT frag,tr ANHY incl-POR fl,tt-tr ool-fr intxl POR,fr-g bri-dull yel FLOR,tr-fr ltbrn-brn-v rr blk STN,fr slow dif-mod fast stmg CUT"

6560.00 6580.00 "LS pred tan-crpxl-micxl,sl vfxl-gran,occ micsuc,sl ooc-oom GRNST,w/incr intbd dns sl ool anhy tt PKST,scat trnsl-clr-rr bf CHT frag,rr ANHY xl-POR fl,tt-fr intxl-tr ool POR,fr dull-bri yel FLOR,tr ltbrn-rr brn-v rr spty blk STN,tr slow dif-slow stmg CUT"

6580.00 6600.00 "LS AA,pred sl ooc-oom GRNST & intbd sl ool anhy dns occ chty PKST,v sl DOL rich cmt,scat trnsl-clr-brn CHT frag,occ ANHY xl-incl-v rr POR fl,tr-fr intxl-rr ool POR,fr dull-bri yel FLOR,rr-tr ltbrn-v rr spty blk STN,tr slow-mod fast stmg CUT"

6600.00 6630.00 "LS tan-ltbrn,occ brn,rr crm,crpxl-vfxl,occ gran-micsuc,pred ooc-oom GRNST w/thn intbd tt dns sl ool anhy PKST,scat trnsl-bf CHT frag,tr ANHY incl-POR fl,tr-fr ool-intxl POR,fr-g bri-dull yel FLOR,fr ltbrn-brn-rr blk STN,fr slow dif-fast stmg mlky CUT"

DEPTH	LITHOLOGY

6630.00 6640.00 "LS tan-ltbrn-brn,mott,cryp-vfxl,gran-sl suc,ool ip,rr lt CHT,f brn-blk ostn,occ calc xl incl,pred oom-intool POR,occ intgr POR,rthy,anhy ip,even bri yel FLOR,bri yel strmg CUT,bri yel resd ring"

6640.00 6670.00 "LS wh-offwh-tan-ltbrn,occ dkbrn,cryp-vfxl,sl suc-gran text,rthy ip,occ ool,occ calc-dol xl incl,com GRNST w/mdns mtx,occ PKST,oom-intgr POR,rthy POR ip,even bri yel FLOR,mf-f bri yel strmg CUT,bri yel resd ring"

6670.00 6700.00 "LS AA w/decr wh-offwh col,incr ltbrn-brn,sl incr brn-blk o STN,f even bri yel FLOR,f-mg strmg CUT,bri yel resd ring"

6710.00 6720.00 "LS tan-ltbrn-brn,mott,cryp-vfxl,gran-sl suc,ool ip,rr lt CHT,f brn-blk ostn,occ calc xl incl,pred oom-intool POR,occ intgr POR,rthy,anhy ip,even bri yel FLOR,bri yel strmg CUT,bri yel resd ring"

6720.00 6740.00 "LS wh-offwh-tan-ltbrn,occ dkbrn,mott,cryp-vfxl,sl suc-gran text,occ ool,occ calc-dol xl incl,com GRNST w/mdns mtx,occ calc xl-frac fill frags,occ PKST,oom-intgr POR,rthy POR ip,f-mg even bri yel FLOR,mf-f bri yel strmg CUT,bri yel resd ring"

6740.00 67604.00 "LS crm-tan-ltbrn,occ dkbrn,cryp-vfxl,sl suc-gran text,rthy,occ ool,occ xl calc incl,com GRNST w/dns mtx,mf brn-blk o STN,oom-intgr POR,inxl POR ip,mf-f even bri yel FLOR,mf-f bri yel strmg CUT,bri yel resd ring"

6764.00 6774.00 "LS AA w/incr lt col,decr GRNST,sl incr lt CHT,pred oom POR,com intxl POR,tr-mf even yel FLOR,bri yel slow blmg-strmg CUT,bri yel resd ring"

6787.00 6795.00 "LS wh-offwh-crm-tan-ltbrn-brn,mott,cryp-vf xl,rthy-gran,sl suc ip,occ lt CHT,anhy ip,incr intxl POR,com ingr POR,tr-mf even bri yel FLOR,slow blmg-strmg CUT,bri yel resd ring"

6800.00 6820.00 "LS tan,occ crm-wh,rr brn,crpxl-micxl,rr sl vfxl-gran-sl micsuc,pred sl ool occ chk-plty PKST w/thn intbd sl ooc-oom GRNST,sl anhy,rr DOL cmt,rr trnsl CHT frag,tt-tr intxl-rr ool POR,tr dull-bri yel FLOR,rr-tr ltbrn-rr blk STN,tr slow dif-rr slow stmg CUT"

6820.00 6850.00 "LS tan-ltbrn,occ crm-wh,v rr brn,crpxl-micxl,rthy-chk ip,occ plty,v sl ool,pred PKST,w/v thn intbd sl ooc-oom GRNST,v rr ANHY xl-trnsl-bf CHT frag,v sl dol,tt-tr intxl-rr ool POR,tr-fr dull-rr bri FLOR,rr spty brn-blk STN,tr slow dif-rr slow stmg CUT"

6850.00 6860.00 "LS pred dns v sl ool occ dol PKST,w/v rr v thn sl ooc-oom GRNST stks,AA,tt-v rr intxl-ool POR,rr spty dull-bri yel FLOR,n-v rr spty brn STN,v spty blk STN,n-v p slow dif-v rr slow stmg CUT"

6860.00 6870.00 "LS AA,POR-FLOR-STN-CUT AA"

DEPTH	LITHOLOGY
6870.00 6900.00	"LS tan-ltbrn,crpxl,occ micxl,v rr vfxl-gran stks,pred dns v sl ool occ chky-plty PKST,w/v rr ooc-oom GRNST stks,v sl DOL cmt,v rr scat trnsl-bf CHT frag,v rr ANHY xl,tt-rr stky intxl-v rr ool POR,rr spty dull-bri yel FLOR,n-v rr spty STN,v p slow dif CUT"
6900.00 6910.00	"LS AA,pred dns,v sl ool,occ anhy-v rr ANHY xl,occ chky-plty PKST,v rr stky v sl ooc-oom GRNST,POR-FLOR-STN-CUT AA"
6910.00 6930.00	"LS AA,pred dns PKST,incr sl ooc-oom GRNST stks w/depth,tt-tr intxl-v rr ool POR,tr spty dull-bri yel FLOR,v rr-tr ltbrn-v rr brn STN,tr slow dif-rr slow stmg CUT"
6930.00 6940.00	"LS wh-offwh-crm-tan-ltbrn-brn,mott,cryp-micxl,occ vfxl,suc-gran,pred PKST,tr GRNST mdns mtx,sl dol,anhy ip,rr lt CHT,rr ool,pred intxl POR,oom-intool POR ip,tr even dull-bri yel FLOR,tr dull yel blmg-slow strmg CUT,bri yel resd ring,sl brn o STN"
6940.00 6970.00	"LS AA w/incr PKST,sl decr oom GRNST,p-rr brn-blk o STN,tr even bri yel FLOR,dull blmg CUT,dull-sl bri yel resd ring"
6970.00 6980.00	"LS AA w/rr GRNST,pred intxl-intgr POR,pred suc-sl gran text,decr lt CHT,rr ool,tr even yel FLOR,tr-mf blmg-slow strmg CUT,bri yel resd ring"
6990.00 7000.00	"LS wh-offwh-crm-tan-ltbrn-brn,mott,cryp-micxl,occ vfxl,suc-gran,pred PKST,tr GRNST mdns mtx,sl dol,anhy ip,rr lt CHT,rr ool,pred intxl-intgr POR,oom-intool POR ip,tr even dull-bri yel FLOR,tr bri-dull yel blmg-slow strmg CUT,bri yel resd ring"
7000.00 7020.00	"LS AA/sl incr anhy,decr ool,sl incr lt CHT,rr xl calc-frac fill frags,pred intgr-intxl POR,v rr oom-ooc POR,tr even yel FLOR,tr dull yel blmg-slow strmg CUT,bri yel resd ring,sl brn o STN"
7020.00 7050.00	"LS AA w/incr PKST,sl decr oom GRNST,p-rr brn-blk o STN,tr even bri yel FLOR,dull blmg CUT,dull-sl bri yel resd ring"
7050.00 7070.00	"LS wh-offwh-crm-tan-ltbrn-brn,mott,cryp-micxl,occ vfxl,suc-gran,pred PKST,tr GRNST mdns mtx,dol,anhy ip,rr lt CHT,rr ool,pred intxl-intgr POR,oom-intool POR ip,sl brn o STN,even dull-bri yel FLOR,tr dull-bri yel blmg-slow strmg CUT,bri yel resd ring"
7070.00 7100.00	"LS wh-offwh-crm-tan-ltbrn-brn,occ dkbrn,mott,cryp-micxl,tr vfxl,suc-gran,decr PKST,grdg to GRNST,dol ip,occ xl incl,tr ool,decr anhy,rhty ip,incr oom-intool POR,com intgr-intxl POR,mf even bri yel FLOR,bri yel blmg-strmg CUT,bri yel resd ring,incr o STN"
7100.00 7120.00	"LS AA w/sl incr GRNST,incr brn-blk o STN,rr calc xl-frac fill,tr lt CHT,pred intgr-rthy POR,incr oom POR,f bri yel FLOR,f bri yel strmg CUT,bri yel resd ring,tr brn-blk o STN"

DEPTH	LITHOLOGY

7120.00 7140.00 "LS AA,incr GRNST,occ xl incl,rr ool,rthy,tr brn-blk O STN,f even bri yel FLOR,f bri yel strmg CUT,bri yel resd ring"

7140.00 7170.00 "LS wh-offwh-crm-tan-ltbrn-brn,occ dkbrn,mott,cryp-micxl,tr vfxl,suc-gran,occ PKST,pred GRNST,dol ip,occ xl incl,rr ool,sl anhy ip,occ rthy,incr oom-intool POR,com intgr-intxl POR,f even bri yel FLOR,f bri yel blmg-strmg CUT,bri yel resd ring,incr o STN"

7170.00 7190.00 "LS wh-offwh-crm-tan-ltbrn-brn,mott,cryp-micxl,occ vfxl,suc-gran,pred GRNST mdns mtx,com PKST,sl dol,anhy ip,rr lt CHT,rr ool,pred intgr POR,oom-intool POR ip,f even bri yel FLOR,f bri yel blmg-strmg CUT,bri yel resd ring,sl incr brn-blk o STN"

7190.00 7220.00 "LS AA w/incr tan-ltbrn,tr ool,rr algall mat,mf brn-blk o STN,f even bri yel FLOR,f bri yel blmg-strmg CUT,bri yel resd ring"

7220.00 7240.00 "LS AA,incr PKST,pred intgr POR,occ intxl,occ oom POR,mf brn-blk o STN,f bri yel FLOR,bri yel blmg-slow strmg CUT,bri yel resd ring"

7240.00 7260.00 "LS wh-offwh-crm-tan-ltbrn-brn,occ dkbrn,mott,cryp-micxl,occ vfxl,suc-gran,occ PKST,pred GRNST,dol ip,occ xl incl,tr ool,sl anhy ip,occ rthy,occ oom-intool POR,com intgr-intxl POR,f even bri yel FLOR,f bri yel blmg-strmg CUT,bri yel resd ring,incr o STN"

7260.00 7280.00 "LS AA,mf brn-blk o STN,pred GRNST,mdns mtx,dol ip,rthy ip,f-mg bri yel FLOR,f bri yel blmg-strmg CUT,bri yel resd ring"

7280.00 7300.00 "LS wh-offwh-crm-tan-ltbrn-brn,mott,cryp-micxl,occ vfxl,suc-gran,pred GRNST mdns mtx,com PKST,sl dol,anhy ip,rr lt CHT,rr ool,pred intgr POR,oom-intool POR ip,f even bri yel FLOR,f bri yel blmg-strmg CUT,bri yel resd ring,sl incr brn-blk o STN"

7300.00 7330.00 "LS crm-tan-ltbrn,occ wh-ltgybrn,crpxl-vfxl,gran-micsuc ip,pred ooc-oom GRNST,w/thn sl ool dns rr chky-plty PKST,rr ANHY xl-incl,v rr trnsl-bf CHT frag,fr-g intxl-ool POR,fr-g dull-bri yel FLOR,tr-fr ltbrn STN,tr-g slow-mod fast stmg CUT"

7330.00 7360.00 "LS AA,w/sl incr dns occ rthy-chky-plty PKST,POR-FLOR-STN-CUT AA"

7360.00 7380.00 "LS crm-tan-ltbrn,occ wh-ltgybrn,crpxl-vfxl,gran-micsuc ip,pred ooc-oom GRNST,w/thn sl ool occ chky-plty-sl rthy dns PKST,rr ANHY xl-incl,v rr trnsl-bf CHT frag,fr-g intxl-ool POR,fr-g dull-bri yel FLOR,tr-fr ltbrn-rr blk STN,tr-g slow-mod fast stmg CUT"

7380.00 7390.00 "LS AA,pred crm-tan-ltbrn ooc-oom GRNST,w/rr-tr crpxl dns occ wh-plty-chk sl ool PKST,POR-FLOR-STN-CUT AA"

DEPTH	LITHOLOGY

7390.00 7410.00 "LS tan-ltbrn,occ brn-crm-rr wh,crpxl-vfxl,occ gran-micsuc,pred ooc-oom GRNST,scat sl ool dns occ chky-plty PKST,v rr ANHY xl-POR fl,sl DOL rich cmt,v rr trnsl-bf CHT frag,fr-g intxl-ool POR,fr-g dull-bri yel FLOR,fr ltbrn-brn-rr blk STN,fr-g mod fast CUT"

7410.00 7420.00 "LS AA,POR-FLOR-STN-CUT AA"

7420.00 7440.00 "LS tan-ltbrn-brn,rr crm-wh,micpxl-vfxl,occ gran-micsuc,pred ooc-oom GRNST,scat sl ool crpxl occ chky-plty PKST,rr ANHY xl-POR fl,occ DOL rich cmt,rr trnsl-bf CHT frag,fr-g intxl-ool POR,fr-g dull-bri yel FLOR,fr ltbrn-brn-tr blk STN,fr-g mod fast CUT"

7440.00 7460.00 "LS AA,sl incr dns-v sl ool PKST,incr ltbrn-brn STN-scat blk dd o STN,incr fr-g intxl-ool POR,FLOR-CUT AA"

7460.00 7470.00 "LS AA,pred ooc-oom GRNST,w/thn intbd sl ool dns occ chky-plty PKST,scat trnsl-bf CHT frag,v rr ANHY xl-POR fl,tt-g intxl-ool POR,fr-mg dull-bri yel FLOR,fr brn-rr bk dd o STN,fr-g slow-fast stmg CUT"

7470.00 7500.00 "LS tan-ltbrn-crm,occ wh,micpxl-vfxl,occ gran-micsuc,pred ooc-oom GRNST,scat sl ool crpxl occ chky-plty PKST,rr ANHY xl-POR fl,sl DOL rich cmt,v rr trnsl-bf CHT frag,fr-g intxl-ool POR,fr-g dull-bri yel FLOR,fr ltbrn-brn-tr blk STN,fr-g mod fast-fast CUT"

7500.00 7530.00 "LS AA,pred ooc-oom GRNST,w/scat dns occ chky-plty PKST,v rr CHT frag,occ ANHY xl-POR fl,fr-g intxl-ool POR,fr-g dull-bri yel FLOR,fr-g brn-ltbrn STN,rr-tr blk dd o STN,fr-g mod fast-fast stmg CUT"

7530.00 7560.00 "LS AA,g intxl-tr-fr ool POR,FLOR-STN-CUT AA"

7560.00 7580.00 "LS tan-ltbrn-crm,occ wh,micpxl-vfxl,occ gran-micsuc,pred ooc-oom GRNST,scat sl ool crpxl occ chky-plty PKST,rr ANHY xl-POR fl,sl DOL rich cmt,v rr trnsl-bf CHT frag,fr-g intxl-ool POR,fr-g dull-bri yel FLOR,fr ltbrn-brn-tr blk STN,fr-g mod fast-fast CUT"

7580.00 7590.00 "LS AA,decr ooc-oom GRNST,incr dns tt v sl ool occ chky-plty PKST,scat v thn wh-ltgy rthy-chk sl slty stks,decr POR-FLOR-STN-CUT"

7590.00 7610.00 "LS tan-bf,occ wh-crm-ltgy,crpxl-micxl,occ vfxl,gran-micsuc ip,pred dns occ rthy-chk v sl ool PKST w/thn v slty stks,thn stks intbd ooc-oom GRNST,scat CHT frag,rr ANHY xl,tr-fr intxl-tr ool POR,fr dull-bri yel FLOR,tr ltbrn-brn-rr blk STN,fr mod fast CUT"

7610.00 7630.00 "LS crm-ltgy,occ wh-off wh,bf-tan,crpxl-micxl,occ vfxl-gran-micsuc,pred rthy-chk sl slty dns PKST,w/thn v sl ooc-oom GRNST stks,v rr CHT frag-ANHY xl-POR fl,tt-tr intxl-rr ool POR,fr dull-bri yel FLOR,rr-tr ltbrn-v rr blk STN,rr slow dif CUT"

DEPTH	LITHOLOGY

7632.00 7641.00 7631.13 0 "LS wh-offwh-crm-tan-ltbrn-brn-dkbrn,mott,cryp-vfxl,suc-gran ip,pred tt PKST,dol ip,rr calc xl-frac fill,anhy,rr ool,com GRNST,chlky,rthy ip,mdns mtx,tr DOL lam,tr brn o STN,tr-mf bir yel FLOR,tr dull yel mlky-blmg CUT,bri yel resd ring"

7654.00 7668.00 7652.17 0 "LS AA w/sl decr DOL,rr CHT frag,occ anhy xl,pred intxl-intgr POR,occ oom-ooc,rr intool POR,sl incr GRNST,some brn-blk o STN,f dull-bri yel FLOR,mf dull-bri yel mlky-blmg CUT,bri yel resd ring"

7670.00 7680.00 "LS AA,occ DOL,anhy ip,intgr-inxl POR,sl incr ooc-oom POR,rr calc xl-frac fill,f even bri yel FLOR,bri yel blmg-slow strmg CUT,bri yel resd ring"

7680.00 7700.00 "LS wh-offwh-crm-tan-ltbrn-brn,mott,cryp-micxl,occ vfxl,suc-gran,pred PKST,incr GRNST mdns mtx,sl dol,anhy ip,rr lt CHT,rr ool,pred intxl POR,oom-intool POR ip,tr even dull-bri yel FLOR,tr dull yel blmg-slow strmg CUT,bri yel resd ring,sl brn o STN"

7700.00 7720.00 "LS AA w/decr anhy,incr GRNST,si incr brn-blk o STN,f even dull-bri yel FLOR,tr-mf dull-bri yel blmg-slow strmg CUT,bri yel resd ring"

7720.00 7730.00 "LS AA,rr lt CHT frag,rr xl calc,rr xl dol,tr DOL,com GRNST,ooc-oom ip,pred intgr-intxl POR,incr brn-blk o STN,mf-f even bri yel FLOR,mf bri yel blmg CUT,bri yel resd ring"

7730.00 7750.00 "LS AA,grdg to GRNST,occ xl calc-dol incl,sl decr DOL,mf even bri yel FLOR,mf dull-bri yel blmg-slow strmg CUT,bri yel resd ring,tr brn-blk o STN"

7750.00 7780.00 "LS wh-offwh-tan-ltbrn,occ dkbrn,cryp-vfxl,sl suc-gran text,rthy ip,occ ool,occ calc-dol xl incl,pred GRNST w/mdns mtx,occ PKST,oom-intgr POR,rthy POR ip,occ intool POR,tr brn-blk DOL,even bri yel FLOR,mf-f bri yel strmg CUT,bri yel resd ring"

7780.00 7800.00 "LS AA,pred GRNST w/mdns dol mtx,occ xl calc-dol incl,some brn-blk o STN,f even bri yel FLOR,f bri yel blmg-strmg CUT,bri yel resd ring"

7800.00 7810.00 "LS AA,pred intgr POR,com oom-ooc POR,tr intxl POR,f brn-blk o STN,f evenbri yel FLOR,f bri yel blmg-slow strmg CUT,bri yel resd ring"

7810.00 7830.00 "LS tan-ltbrn,occ crm,rr wh-brn,micxl-vfxl,gran-micsuc,suc ip,pred sl ooc-oom GRNST,w/thn intbd dns sl chky-plty crpxl v sl ool PKST,rr trnsl-clr CHT frag-ANHY xl-incl,fr-g intxl-fr ool POR,g dull-bri yel FLOR,fr brn-rr blk STN,fr-g mod fast-fast cut"

7830.00 7880.00 "LS tan-ltbrn,occ brn-wh,micxl-vfxl,gran-micsuc,occ suc,pred ooc-oom GRNST,rr ANHY xl-POR fl,thn intbd crpxl dns v sl ool-anhy PKST,rr trnsl-bf CHT frag,fr-g intxl-ool POR,g bri-dull yel FLOR,fr brn STN-rr blk dd o STN,fr-g mod fast-fast stmg CUT"

DEPTH	LITHOLOGY

7880.00 7910.00 "LS AA,v sl incr PKST-CHT frag,POR-FLOR-STN-CUT AA"

7910.00 7940.00 "LS tan-ltbrn,occ brn-wh,micxl-vfxl,gran-micsuc,occ suc,pred ooc-oom GRNST,rr ANHY xl-POR fl,thn intbd crpxl dns v sl ool-anhy PKST,rr trnsl-bf CHT frag,fr-g intxl-ool POR,g bri-dull yel FLOR,fr brn STN-rr blk dd o STN,fr-g mod fast-fast stmg CUT"

7940.00 7970.00 "LS AA,pred sl ooc-oom GRNST,w/v thn stks PKST AA,POR-FLOR-STN-CUT AA"

7970.00 7980.00 7972.13 0 "LS AA,POR-FLOR-STN-CUT AA"

7980.00 8000.00 "LS tan-ltbrn,occ brn-wh,micxl-vfxl,gran-micsuc,occ suc,pred ooc-oom GRNST,rr ANHY xl-POR fl,thn intbd crpxl dns v sl ool-anhy PKST,rr trnsl-bf CHT frag,fr-g intxl-ool POR,g bri-dull yel FLOR,fr brn STN-rr blk dd o STN,fr-g mod fast-fast stmg CUT"

8000.00 8020.00 8008.64 0 "LS AA,POR-FLOR-STN-CUT AA"

8020.00 8050.00 "LS AA,pred ooc-oom GRNST,w/scat thn dns sl ool occ plty-chky anhy ip PKST,v rr scat trnsl-bf CHT frag,g intxl-fr ool POR,g bri-dull yel FLOR,tr-fr ltbrn STN w/v rr blk dd o STN,mg mod fast-fast stmg mlky CUT"

8050.00 8080.00 "LS AA,POR-FLOR-STN-CUT AA,w/scat blk carb SH CVGS"

8080.00 8100.00 "LS tan-ltbrn,occ brn,micxl-vfxl,gran-suc,pred ooc-oom GRNST,rr ANHY xl-POR fl,thn intbd tan-crm-wh crpxl dns v sl ool-anhy PKST,rr trnsl-bf CHT frag,occ DOL cmt,fr-g intxl-ool POR,g bri-dull yel FLOR,fr brn STN-rr blk dd o STN,fr-g mod fast-fast stmg CUT"

8100.00 8130.00 "LS AA,pred sl ooc-oom GRNST w/v thn scat PKST AA,POR-FLOR-STN-CUT AA"

8130.00 8140.00 "LS AA,v sl decr POR,FLOR-STN-CUT AA,v rr scat blk carb SH CVGS"

8140.00 8160.00 "LS crm-tan,occ ltbrn-wh,micxl-vfxl,gran-suc ip,pred sl ooc-oom GRNST,scat ANHY xl-POR fl,v rr DOL cmt,w/thn-rr crpxl dns v sl ool PKST,fr-g intxl-tr ool POR,g dull-bri yel FLOR,fr ltbrn-brn STN,rr spty blk dd o STN,fr-g mod fast-fast stmg CUT"

8160.00 8180.00 "LS AA,POR-FLOR-CUT AA,sl decr blk dd o STN-tr-fr ltbrn-brn STN"

8180.00 8200.00 8183.13 0 "LS AA,sl incr dns sl anhy occ chky-plty PKST,v sl decr intxl-ool POR,mg bri-dull yel FLOR,tr-fr ltbrn-brn STN-rr spty blk dd o STN,mg fast-mod fast stmg mlky CUT"

DEPTH	LITHOLOGY

8200.00 8230.00 8206.58 0 "LS crm-tan,occ ltbrn-wh,micxl-vfxl,gran-suc ip,pred sl ooc-oom GRNST,scat ANHY xl-POR fl,v rr DOL cmt,w/thn-rr crpxl dns v sl ool PKST,fr-g intxl-tr ool POR,g dull-bri yel FLOR,fr ltbrn-brn STN,rr spty blk dd o STN,fr-g mod fast-fast stmg CUT"

8230.00 8240.00 8229.12 0 "LS AA,sl incr dns sl anhy occ chky-plty PKST,scat rr trnsl-clr CHT frag,v sl decr intxl-ool POR,mg bri-dull yel FLOR,tr-fr ltbrn-brn STN-rr spty blk dd o STN,mg fast-mod fast stmg mlky CUT"

8240.00 8260.00 "LS AA,POR-FLOR-CUT AA,sl decr CHT frag,v sl incr ANHY xl-POR fl"

8260.00 8280.00 "LS crm-tan,occ ltbrn-wh,micxl-vfxl,gran-suc ip,pred sl ooc-oom GRNST,scat ANHY xl-POR fl,v rr DOL cmt,w/thn intbd crpxl dns v sl ool occ chk PKST,mg intxl-tr ool POR,g dull-bri yel FLOR,tr-fr ltbrn-brn STN,rr spty blk dd o STN,fr-g mod fast-fast stmg CUT"

8280.00 8300.00 "LS AA,pred sl ooc-oom GRNST,w/sl incr PKST AA,v sl decr ool POR-FLOR-STN-CUT AA"

8300.00 8320.00 "LS crm-tan,occ ltbrn-rr brn,micxl-vfxl,occ gran-suc,tr crpxl,pred sl ooc-oom GRNST,w/tr intbd dns sl anhy occ wh-chk PKST,v rr scat CHT frag & ANHY xl,fr-g intxl-fr ool POR,mg bri-dull yel FLOR,tr-fr ltbrn STN-rr blk dd o STN,fr-g mod fast-fast stmg CUT"

8320.00 8330.00 "LS AA,v sl incr PKST AA,sl decr intxl POR,FLOR-STN-CUT AA"

8330.00 8340.00 "LS AA,pred sl ooc-oom GRNST,scat intbd PKST,tr-mg POR-FLOR-CUT AA,tr-fr ltbrn-tr brn STN,rr spty blk dd o STN,sl decr CHT frag"

8340.00 8350.00 "LS crm-tan,occ ltbrn-rr brn,micxl-vfxl,occ gran-suc,tr crpxl,pred sl ooc-oom GRNST,w/tr intbd dns sl anhy occ wh-chk PKST,v rr scat CHT frag & ANHY xl,fr-g intxl-fr ool POR,mg bri-dull yel FLOR,tr-fr ltbrn STN-rr blk dd o STN,fr-g mod fast-fast stmg CUT"

8350.00 8390.00 "LS wh-offwh-tan-ltbrn,occ dkbrn,mott,cryp-vfxl,sl suc-gran text,occ ool,occ calc-dol xl incl,pred GRNST w/mdns mtx,occ calc xl-frac fill frags,occ PKST,oom-intgr POR,rthy POR ip,f-mg even bri yel FLOR,mf-f bri yel strmg CUT,bri yel resd ring"

8390.00 8420.00 "LS AA w/decr wh-offwh col,incr ltbrn-brn,sl incr brn-blk o STN,g even bri yel FLOR,f-mg strmg CUT,bri yel resd ring"

8420.00 8450.00 "LS AA,incr anhy,rthy ip,pred oom-intgr POR,mg bri yel FLOR,mg-g bri yel blmg-strmg CUT,bri yel resd ring"

8450.00 8460.00 "LS wh-offwh-crm-tan-ltbrn-brn,occ dkbrn,cryp-micxl,occ vfxl,gran-sl suc ip,pred GRNST w/tt-mdns mtx,occ ool,tr brn-blk o STN,occ PKST,buff,tt,com dol ip,occ xl calc-dol incl,pred oom-intgr POR,occ intxl POR,com chlky,anhy ip,f-mg bri yel FLOR,f CUT"

DEPTH	LITHOLOGY

8460.00 8470.00 "LS AA,occ calc-dol xl incl,sl decr anhy,f-mg brn-blk o STN,f-mg even bri yel FLOR,mg bri yel CUT,bri yel resd ring"

8470.00 8490.00 "LS AA,occ lt cht,com ool,tr brn-blk o STN,rthy ip,sl anhy,occ calc-dol xl,f-mg even bri yel FLOR,mf-f blmg-strmg CUT,bri yel resd ring"

8490.00 8520.00 "LS AA w/decr wh-offwh col,incr ltbrn-brn,sl incr brn-blk o STN,g even bri yel FLOR,f-mg strmg CUT,bri yel resd ring"

8520.00 8540.00 "LS wh-offwh-tan-ltbrn,occ dkbrn,mott,cryp-vfxl,sl suc-gran,occ ool,anhy ip,occ calc-dol xl incl,pred GRNST w/mdns mtx,occ calc xl-frac fill frags,occ PKST,oom-intgr POR,rthy POR ip,f-mg even bri yel FLOR,mf-f bri yel strmg CUT,bri yel resd ring"

8540.00 8570.00 "LS AA,pred GNST w/mdns mtx,occ ool,anhy ip,rthy,occ dol-calc xl intracl,mf-f brn-blk o SSTN,f-mg even bri yel FLOR,mg bri yel mlky-blmg CUT,bri yel resd ring"

8570.00 8600.00 "LS AA w/rr lt CHT,dol ip,occ ool,pred oom-intgr POR,tr intxl POR,mg even bri yel FLOR,mg dull-bri yel blmg-slow strmg CUT,bri yel resd ring"

8600.00 8620.00 "LS wh-offwh-tan-ltbrn,occ dkbrn,mott,cryp-vfxl,sl suc-gran,com ool,sl anhy ip,occ calc-dol xl incl,pred GRNST w/mdns mtx,occ calc xl,occ tt PKST,oom-intgr POR,rthy POR ip,mf brn-blk o STN,f-mg even bri yel FLOR,mf-f bri yel blmg CUT,bri yel resd ring"

8620.00 8640.00 "LS AA,rr lt CHT,occ tt PKST,rthy ip,rr anhy,mf brn-blk o STN,oom-intgr POR,tr intxl POR,mg even bri yel FLOR,mg bri yel blmg-slow strmg CUT,bri yel resd ring"

8640.00 8680.00 "LS tan-ltbrn-crm,occ wh-offwh,crpxl-vfxl,gran-suc ip,pred sl ooc-oom GRNST,w/scat dns occ rthy-chky PKST,v rr ANHY xl-incl-rr POR FL,rr DOL rich cmt,v rr CHT frag,fr-g intxl-tr ool POR,fr-g bri-tr dull yel FLOR,tr ltbrn-v rr blk STN,mg mod fast-fast CUT"

8680.00 8710.00 "LS AA,incr intbd thn dns sl ool PKST lams-incl,POR-FLOR-STN-CUT AA"

8710.00 8730.00 "LS AA,pred ooc-oom GRNST,w/thn intbd dns PKST lams-occ frag,fr-g intxl-fr ool POR,fr-g bri-dull yel FLOR,fr ltbrn-brn-tr blk dd o STN,mg mod fast-fast stmg mlky CUT"

8730.00 8750.00 "LS AA,sl incr trnsl-bf CHT frag,POR-FLOR-STN-CUT AA"

DEPTH	LITHOLOGY

8750.00 8800.00 "LS tan-ltbrn-crm,occ wh-offwh,micxl-vfxl,gran-suc ip,pred sl ooc-oom GRNST,w/scat dns crpxl occ rthy-chky PKST,scat ANHY xl-incl-rr POR FL,rr DOL rich cmt,rr CHT frag,fr-g intxl-tr ool POR,fr-g bri-tr dull yel FLOR,fr ltbrn-tr blk STN,g mod fast-fast CUT"

8800.00 8810.00 8799.10 0 "LS AA,n-v rr scat trnsl-clr CHT frag,fr-g intxl-tr ool POR,mg dull-bri yel FLOR,fr ltbrn-tr brn STN,rr-tr spty blk dd o STN,mg mod fast-fast stmg CUT"

8810.00 8830.00 "LS AA,pred sl ooc-oom GRNST,scat tr dns v sl ool occ rthy-chky PKST plty ip,occ sl dol cmt,scat ANHY xl,g intxl-tr ool POR,FLOR-STN-CUT AA"

8830.00 8850.00 "LS AA,pred GRNST AA,w/incr amnts dns occ plty-chk v sl ool PKST frag-incl,POR-FLOR-STN-CUT AA"

8850.00 8870.00 "LS crm-wh-tan-ltbrn,rr brn,crpxl-vfxl,occ gran-suc,pred intbd sl ooc-oom GRNST & dns sl ool PKST-chky-plty ip,scat trnsl-crl CHT frag,occ sl dol-anhy cmt,v rr ANHY xl,tt-fr intxl-tr ool POR,fr dull-bri yel FLOR,tr-fr brn-rr blk STN,fr mod fast-fast CUT"

8870.00 8880.00 "LS AA,bcmg pred ooc-oom GRNST w/PKST AA,incr POR-FLOR-STN-CUT"

8880.00 8910.00 "LS crm-wh-tan-ltbrn,rr brn,crpxl-vfxl,occ gran-suc,pred intbd sl ooc-oom GRNST w/dns sl ool PKST-chky-plty ip,scat trnsl-crl CHT frag,occ sl dol-anhy cmt,v rr ANHY xl,tr-g intxl-fr ool POR,fr-g dull-bri yel FLOR,tr-fr brn-rr blk STN,mg mod fas-fast CUT"

8910.00 8930.00 "LS AA,pred sl ooc-oom GRNST,w/v thn scat PKST incl AA,fr-g intxl-tr-fr ool POR,fr-mg dull-bri yel FLOR,tr-fr ltbrn-rr brn STN,rr-tr blk dd o STN,fr-mg slow-fast stmg CUT"

8930.00 8955.00 "LS crm-wh-tan-ltbrn,rr brn,crpxl-vfxl,occ gran-suc,pred intbd sl ooc-oom GRNST & dns sl ool PKST-chky-plty ip,scat trnsl-crl CHT frag,occ sl dol-anhy cmt,v rr ANHY xl,fr-g intxl-tr ool POR,fr dull-bri yel FLOR,tr-fr brn-rr blk STN,mg slow-fast CUT"

FORMATION TOPS

OPERATOR: MOBIL
WELL NAME: RATHERFORD UNIT #18-43B SE 1-A HORIZONTAL LATERAL

FORMATION NAME		SAMPLES MEASURED DEPTH	SAMPLES TRUE VERTICAL DEPTH	DATUM KB:4797'
LOWER ISMAY		5522'	5517'	-720'
GOTHIC SHALE		5564'	5547'	-750'
DESERT CREEK		5593'	5551'	-754'
DC 1-A ZONE		5615'	5568'	-771'

GEOLOGICAL SUMMARY

AND

ZONES OF INTEREST

The Mobil Exploration and Production U.S. Inc., Ratherford Unit #18-43B Horizontal Lateral was a re-entry of the Mobil Ratherford Unit #18-43B located in Section 18, T41S, R24E, and was sidetracked in a northwesterly direction from a 5458' measured depth, 5458' true vertical depth, on February 14, 1998. The lateral reached a total measured depth of 8955', true vertical depth of 5563.6' at total depth, with a horizontal displacement of 3403' and true vertical plane of 123.8 degrees, on February 21, 1998, in the upper Desert Creek 1-A porosity zone. Only minor problems were encountered while drilling the lateral section, with the curve section being drilled with no significant problems. This lateral used fresh water with polymer sweeps as the drilling fluid, with 10# brine water spotted on bottom prior to trips. Significant amounts of oil were noted while drilling the lateral through the 1-A porosity zone, which began 200' in to the lateral section, and remain fairly consistent through the lateral. The background gases noted on the accompanying mud log showed a marked increase when the oil was encountered while drilling the 1-A porosity, and showed a very slight decrease when the top and base of the 1-A zone was approached and bumped. While drilling the lateral section, the top of the 1-A was penetrated once, when the top dipped downward at 87degrees, while the base was penetrated once and bumped once. The sample shows were fair to good while drilling the oolicastic to oomoldic limestone porosity in the lateral section in the 1-A zone, and decreased when in the tight limestones at the top and base of the 1-A zone of the Desert Creek were encountered.

The primary objective of the Ratherford Unit #18-43B horizontal lateral was to evaluate the effective porosity and reservoir properties in the 1-A zone of the Desert Creek Member of the Upper Paradox Formation. The lower 2/3 (two thirds) of the Upper Ismay, the Lower Ismay, the Gothic Shale, the transition zone in the top of the Desert Creek and most of the 1-A porosity zone were penetrated while drilling the curve section. The curve was landed 3 feet into the 1-A porosity horizon. Kick off point for this lateral was at a measured depth of 5408', 5408' true vertical depth, in the upper ½ of the Upper Ismay member of the Paradox Formation.

The Upper Ismay seen in the curve section of this well was predominately cream to brown, occasionally white, cryptocrystalline to microcrystalline, chalky to clean and slightly argillaceous, slightly shaley, occasionally slightly dolomitic and with scattered marly streaks, and had scattered anhydrite crystals and scattered micro fossils. Through out the Upper Ismay were very thin interbedded brown, cryptocrystalline to microcrystalline, limy, argillaceous to clean dolomites. Dark brown to tan chert fragments and thin interbeds of dark gray to black shale were also noted in Upper Ismay. These limestones and dolomites had no visible porosity with no visible sample show or gas increases noted. The base of the Upper Ismay became predominately a medium to dark gray brown, limey, and argillaceous, microcrystalline, shaley dolomite, with very thin interbedded brown, cryptocrystalline to microcrystalline, dolomitic, shaley and marly limestone. These dolomites and limestones graded in the very thin black, carbonaceous, limey to dolomitic shales of the Hovenweep. The Hovenweep marker between the Upper Ismay and Lower Ismay was very poorly developed in this lateral.

The top of the Lower Ismay was picked at 5522' measured depth, 5517' true vertical depth, at the base of the very thin Hovenweep shale. The Lower Ismay was predominately a white to cream to light gray to tan to some brown limestones. The limestones were microcrystalline to cryptocrystalline, clean, cherty with very rare scattered microfossils, and some slightly silty to slightly sandy streaks through out. Very little to no intercrystalline porosity, with only rare scattered, poor visible sample shows were noted in the limestones. Scattered with in the limestones were very rare, very thin, brown dolomites which were cryptocrystalline to microcrystalline, earthy to clean, with no visible porosity or sample shows, some very limy, slightly sandy siltstones and scattered translucent to buff cherts were also noted. The limestones and dolomites in and near the base of the Lower Ismay became increasingly argillaceous to shaley. The basal limestones and dolomites also became very marly and graded into the dolomitic to limey shales of the Gothic Shale.

The top of the Gothic Shale was at 5564' measured depth, 5547' true vertical depth. The Gothic Shale was predominantly dark gray to black, silty, carbonaceous, brittle to firm, subblocky to blocky to platy, calcareous to slightly dolomitic and slightly micaceous. The top of the Gothic was gradational from the very thin interbedding of very argillaceous, carbonaceous limestone and very argillaceous, limy dolomite, with the dolomites and limestones grading into very dolomitic, carbonaceous shale. The top of the Gothic was picked by a significant decrease in penetration rate and a distinct increase in the percentage of shale in the samples.

Between the Gothic Shale and upper porosity members of the Desert Creek is a transitional zone, which appears to be rather gradational. The top of the Desert Creek is commonly picked at the Gothic Shale to transition zone facies change, which in this leg occurred at a measured depth of 5593' with a true vertical depth of 5561'. In this well the zone was predominately slightly dolomitic, cream to tan to brown, occasionally chalky to slightly platy, argillaceous in part, limestone packstone, with thin brown, slightly limey, argillaceous, dolomites, very thin rare black carbonaceous shales and rare scattered brown to dark brown chert fragments. The limestones were cryptocrystalline to microcrystalline, argillaceous, with scattered anhydrite crystals and rare porosity filling, very rare intercrystalline porosity and a very rare, spotty, dull fluorescence, with no visible stain, and a very poor slow ring cut. The very thin interbedded dolomites were cryptocrystalline to microcrystalline, very slightly silty and had no visible porosity. The shales were predominately very thin parting in the limestones. The limestones became increasingly oolitic with depth and graded into the oolicastic to oolmoldic limestone grainstones of the 1-A porosity zone.

The top of the Desert Creek 1-A porosity zone was picked at 5615' measured depth, 5568' true vertical depth, with a horizontal displacement of 72'. The pick was based on sample identification as well as a significant change in the penetration rate. The top of the porosity bench in this lateral was marked by a rather sharp facies change and drill rate increase. Of note is that the top of the porosity zone was approximately 4' low to the top of the 1-A in the original well bore. The top of the 1-A porosity zone, in the curve section, was picked at the lithology change from a dense limestone packstone to a very oolicastic, clean to very slightly dolomitic, slightly anhydritic limestone grainstone. Noted in the limestone was minor very rare algal material and very rare scattered chert fragments in the top of the 1-A porosity. The limestones were light brown to tan, some cream to light gray brown with fair to good intercrystalline to oolicastic to oolmoldic porosity and had fair to good dull to bright yellow fluorescence, a fair to good light brown to brown oil stain and some black dead oil staining, with a moderately fast to fast streaming cut. It appears that the 1-A porosity bench was probably defined by the interval from 5564' true vertical depth to 5578' true vertical depth. The base and top of the porosity zone were encountered while drilling the lateral section, with several tight streaks bumped with in the 1-A porosity horizon.

On February 16, 1998, the curve section was terminated 4' below the top of the 1-A porosity bench, at a measured depth of 5644', 5572' true vertical depth, with a horizontal displacement of 100' and an angle of 88.8 degrees. At this time a trip was made to change the bottom hole assemblies and bits. Upon resumption of drilling in the lateral section, the well bore was turned upward to reacquire the proposed target line at a true vertical depth of 5570'. From 5644' measured depth, to a measured depth of 6520', 5567' true vertical depth with a horizontal displacement of 973', the well bore the well path used the proposed target line as a reference point. At this time a zone of very streaky porosity was encountered and the well path was pushed downward. This streaky porosity was seen as an increase in the amount of dense, occasionally chalky to platy packstones in the samples and a decreasing amount of sample show. The well path was pushed downward until reaching a measured depth of 6644'; 5569' true vertical depth, with a horizontal displacement of 1097'. At this time the base of the 1-A porosity zone was penetrated. The base of the zone had an apparent dip angle of 90.5 degrees.

The well path was turned upwards to move away from the tight, dense, slightly oolitic, occasionally platy to chalky packstones of the base and reacquire the very good oolicastic to oolmoldic limestone porosity. The base of the 1-A porosity zone was encountered at a horizontal displacement of 1397', a measured depth of 6946', with a true vertical depth of 5565', but the base of the best porosity of the 1-A was not encountered until reaching a true vertical depth of 5563', 6990' measured depth, and a horizontal displacement of 1442'. At this time the well path was turned downward at a very shallow angle to control the rate of climb and track the proposed target line. The lithology returned to the very good oolicastic to oolmoldic limestone grainstones with very good sample shows. The well path was leveled out and rotated ahead until reaching a measured depth of 7582', 5556' true vertical depth, with a horizontal displacement of 2034', where the top of the 1-A zone was encountered. Prior to encountering the top, the well path had been climbing as the drill string was being rotated ahead, necessitating a series of downward sets to control the climb and turn the well path downward. The top was noted as a sharp downward change in the angle of inclination, an increase in tight, platy to chalky, occasionally silty limestone packstones, with decrease in the amount of sample show, as well as a very sharp decrease in penetration rate.

From 7582' measured depth to a measured depth of 7671', 5560' true vertical depth, with a horizontal displacement of 2123', the lateral was turned downward at an angle of almost 87 degrees to reacquire the top of the 1-A porosity. After reaching the true vertical depth of 5560', the top of the best porosity of the 1-A zone was again encountered. After the porosity was reacquired it was determined that the top had dipped at an angle of 87 degrees, with a 4' change in true vertical depth. The lithology returned to a very good oolicastic to oolmoldic limestone, with good sample shows. The lateral was continued, near to below the proposed target line, in the light brown to tan, micro to very finely crystalline, oolicastic to oolmoldic limestone grainstone, with very good sample shows and scattered streaks of tight packstone, until reaching a measured depth of 8720'. The base of the 1-A zone was bumped at a measured depth of 8720', 5567.5' true vertical depth, with a horizontal displacement of 3169'. The base was noted by a very slight increase in dense limestone packstone, and a significant change upward in the angle of inclination.

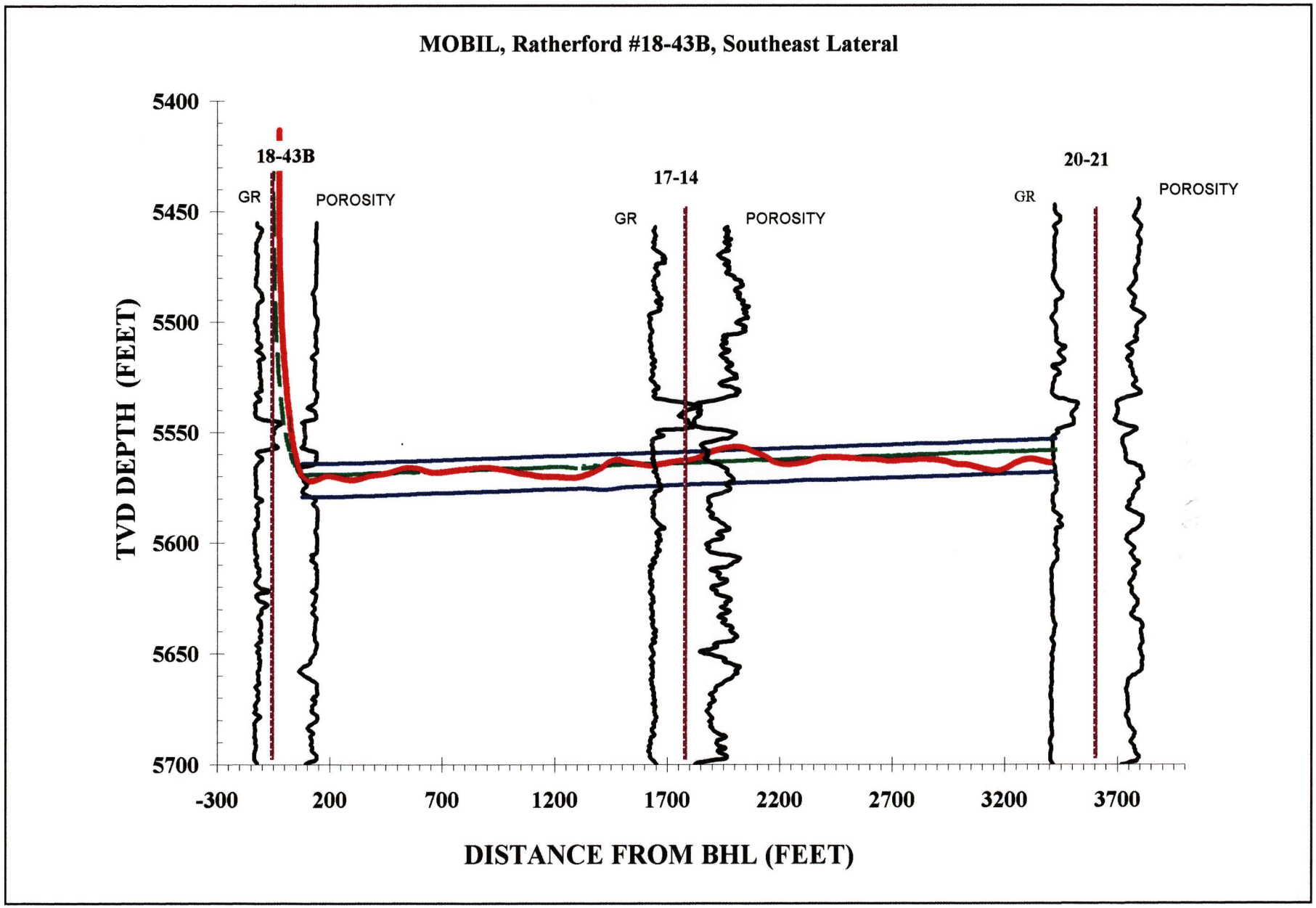
As the well path was continued slowly upward away from the base of the 1-A zone, a tight streak was encountered 6' above the base of the zone, at a measured depth of 8860', 5561.5' true vertical depth, with a horizontal displacement of 3308'. The streak was noted by a down turn in the angle of inclination, a slow down in the penetration rate, as well as an increase in tight limestone packstones and a decrease in sample show.

From 8860' to the lateral's termination, at a measured depth of 8955', 5563.6' true vertical depth, with a horizontal displacement of 3403', the well path was rotated ahead and allowed to drift downward slowly. The lithology remained predominately the good oolicastic to oomoldic limestone with very good sample shows. The lateral was terminated on February 21, 1998, at a measured depth of 8955', 555563.6' true vertical depth, with 3403' of horizontal displacement. The base of the 1-A zone had an overall dip of 90.25 degrees, while the top of the 1-A porosity zone trended upward at an angle of approximately 90.2 degrees until reaching a horizontal displacement of 2034', when the top dipped sharply downward at 87 degreed. The top of the zone had an overall dip angle of approximately 90.1 degrees as measured from the top near the original well bore to a horizontal displacement of 2123', the last time the top of the 1-A was encountered.

In tracking the well bore through the 1-A bench, the oolicastic limestone grainstone porosity was very good and was consistent through out its length, although the zone showed sections where the porosity was rather streaky. The lateral also had occasional approximately horizontal streaks of tighter limestones, either better cemented oolicastic to oomoldic grainstone or thinly laminated packstones. The porosity ranged from a maximum of thickness of approximately 14' at well bore to an average thickness of 7' through out the majority of the lateral and then thickened to possibly 12' near the end of the lateral. In tracking the lateral through out it's length the predominant facies changes were associated with the vertical changes with in the limestones, with only minor lateral changes, as the environment of deposition changed when nearing the top or base of the 1-A zone. Even with the classification changes, the oolicastic to oomoldic limestones encountered was continuous through the 1-A zone penetrated. The effective or the better porosity was associated with the very good oolicastic to oomoldic limestone grainstone facies which had fair to good, intercrystalline to oolitic porosities, and the absence of any major anhydrite plugging. The increasing amounts of tighter limestone packstone near the top and base and in minor streaks with in the 1-A zone had no to very poor visible porosity and no to very poor permeability's.

The conclusion drawn from the southeasterly lateral in the 1-A zone is that, in this area the limestone porosities were consistent through the zone. The minor amounts of anhydrite filled porosity and the very thin, platy limestone packstones near the top and base, as well as in minor streaks with in the 1-A zone have a minor effect on the porosity. Staining was good to fair and there were sections where staining was poor, mainly when the top or base was encountered, with some black dead oil staining trapped in the intercrystalline porosity. The lateral used the proposed target line as a reference point through the 1-A bench, with the well bore following the best porosity after entering the 1-A porosity bench, as much as possible.

While drilling the lateral, the background gas was due in part to the amount of oil encountered while drilling the lateral, and being tied up with polymers in the mud system. Due to the oil being tied up in the mud system only very minor drops in the background gases were noted when encountering the top or base of the 1-A zone. This lateral can be interpreted to having very good reservoir qualities through out. It appears that the porosities are well enough developed, in this southeasterly direction to enhance the overall performance of the zone.


MOBIL, Ratherford #18-43B, Southeast Lateral
18-43B
GR
POROSITY
17-14
GR
POROSITY
20-21
GR
POROSITY
TVD DEPTH (FEET)
5400
5450
5500
5550
5600
5650
5700
-300
200
700
1200
1700
2200
2700
3200
3700
DISTANCE FROM BHL (FEET)

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 18-W-43B
9. API Well No.: 43-037-31718
10. Field and Pool, or exploratory Area: GREATER ANETH
11. County or Parish, State: SAN JUAN UT

1. Type of Well: [ ] Oil Well [ ] Gas Well [X] Other
2. Name of Operator: MOBIL PRODUCING TX & NM INC.*
*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM
3. Address and Telephone No.: P.O. Box 633, Midland TX 79702 (915) 688-2585
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SEC. 18, T41S, R24E
2023' FSL & 651' FEL

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
	[ ] Recompletion	[ ] New Construction
[ ] Subsequent Report	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
[ ] Final Abandonment Notice	[ ] Altering Casing	[ ] Conversion to Injection
	[X] Other MIT TESTS	[ ] Dispose Water (Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

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

SEE ATTACHED MIT AND CHART.

RECEIVED
MAY 11 1998
DIV. OF OIL, GAS & MINING

14. I hereby certify that the foregoing is true and correct
Signed Sue Mosely for Title SHIRLEY HOUCHINS/ENV & REG TECH Date 5-13-98

(This space for Federal or State office use)
Approved by _____ Title _____ Date _____
Conditions of approval, if any:

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

* See Instruction on Reverse Side

ANNULAR PRESSURE TEST
(Mechanical Integrity Test)

Operator Mobil E. & P., Inc Date of Test 7-28-97

Well Name RU # 18W-43B EPA Permit No.

Location Sec. 18, T41S-R24E Tribal Lease No. 14-20-603-353

State and County San Juan County, UT

Continuous Recorder? YES ☒ NO ☐ Pressure Gauge? YES ☒ NO ☐

Bradenhead Opened? YES ☐ NO ☐ Fluid Flow? YES ☐ NO ☐

TIME	ANNULUS PRESSURE, psi	TUBING PRESSURE, psi
10:35	1100	1950
10:40	1095	1950
10:45	1090	1950
10:55	1090	1950
11:05	1090	1950

MAX. INJECTION PRESSURE: _____ PSI

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

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

PASSED M.I.T.

RICK AUTHER [signature] 7-28-97

COMPANY REPRESENTATIVE: (Print and Sign) DATE

Melvin Capitan Jr. [signature] 7-28-97

INSPECTOR: (Print and Sign) DATE

REGION-IX-FORM-935 (6/13/96) *USEPA - Region IX (White)* *NEPA-GPCP (Yellow)* *Operator (Pink)*

U.S. EN RONMENTAL PROTECTIO AGENCY

NOTICE OF INSPECTION

Address (EPA Regional Office)	Inspection Contractor	Firm To Be Inspected
Region 9 Environmental Inspection Agency 215 Fremont Street (W-6-2) San Francisco, CA 94105	Navajo EPA ~~THE CADMUS GROUP, INC~~ ~~CORPORATE OFFICE~~ ~~1089 Beacon Street~~ ~~Waltham, MA 02154~~ ~~XXXXXXXXXX~~	Mobil E.&P., Inc. P.O Box Dawer G Cortez, Co 81321

Date 7-28-97	Notice of inspection is hereby given according to Section 1445(b) of the Safe Drinking Water Act (42 U.S.C. §300 f et seg.).
Hour ~~8:30~~ AM	

Reason For Inspection

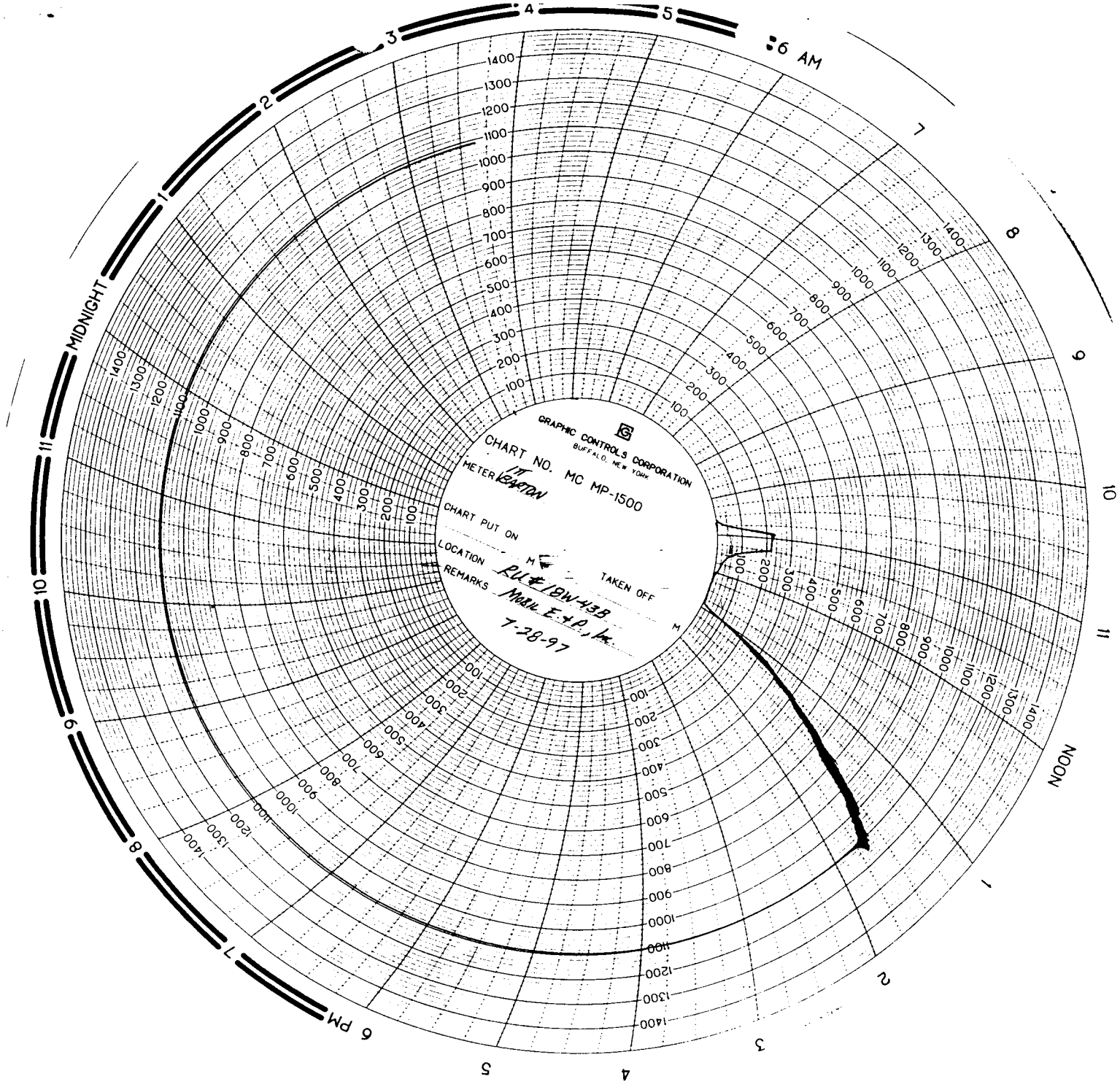
For the purpose of inspecting records, files, papers, processes, controls and facilities, and obtaining samples to determine whether the person subject to an applicable underground injection control program has acted or is acting in compliance with the Safe Drinking Water Act and any applicable permit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

RU # 7W-32, WATER INJECTION WELL, M.I.T. - PASSED
RU # 18W-21, WATER INJECTION WELL, M.I.T. - PASSED
RU # 18W-43B, WATER INJECTION WELL, M.I.T. - PASSED
RU # 19W-43, WATER INJECTION WELL, M.I.T. - PASSED
RU # 20W-21, WATER INJECTION WELL, M.I.T. - PASSED
RU # 20W-23, WATER INJECTION WELL, M.I.T. - PASSED
RU # 20W-41, WATER INJECTION WELL, M.I.T. - PASSED
RU # 21W-43, WATER INJECTION WELL, M.I.T. - PASSED

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

Receipt of this Notice of Inspection is hereby acknowledged.

Firm Representative	Date	Inspector
[signature]	7-28-97	[signature]


GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK
CHART NO. MC MP-1500
METER
CHART PUT ON
LOCATION
REMARKS
TAKEN OFF
MIDNIGHT
6 AM
NOON
6 PM

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

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3. Address and Telephone No.: P.O. Box 633, Midland TX 79702 (915) 688-2585
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SEC. 18, T41S, R24E
2023' FSL & 651' FEL

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/INJECTOR	[ ] 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 give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

BHL: 2237' SOUTH AND 2570' EAST F/SURFACE SPOT (ZONE 1a)

SEE ATTACHMENT TO SUNDRY (2-4-98-3-30-98)

14. I hereby certify that the foregoing is true and correct
Signed Joe Moseley for Title SHIRLEY HOUCHINS/ENV & REG TECH Date 5-18-98

(This space for Federal or State office use)

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

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

* See Instruction on Reverse Side

06/09/98
RJK

DRILLED FOOTAGE CALCULATION FOR DIRECTIONAL AND HORIZONTAL WELLS

Unit, Well Name: **Ratherford Unit, Well 18-W-43B**
API Well #: **43-037-31718**
Well Completion: **Horizontal, Producer, 1 Lateral**

First leg description:		Lateral #1A1
Kick Off Point	MD	5448.00
Kick Off Point	TVD	5447.84
End of Leg	MD	8955.00
End of Leg	TVD	5571.92
	Footage drilled:	3507.00
Max. TVD Recorded		5571.92

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

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

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

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

Total Footage Drilled (MD):	***3507.00***
Deepest point (TVD):	***5571.92***

ATTACHMENT - FORM 3160-5
RATHERFORD UNIT 18-W-43B
14-20-603-353
NAVAJO TRIBAL
SAN JUAN, UTAH

02-04-98	MIRU NAVAJO WEST 15. R/U LINES TO PITS. NDWH & NUBOP. KILL TBG RELEASE PKR LAY DOWN 2JTS OF CMT LINED SI & SDFN
02-05-98	BLEED WELL DOWN AND PUMP 10# BRINE DOWN TBG. FINISH LAYING DOWN CMT. LINED TBG. AND PKR. RU WL AND WL SET CIRC @ 5464'
02-06-98	FINISH TIH W STINGER TAG LOW TO W/L MEASURE TAG @ 5497'. RIG UP HALLIBURTON MIX & PUMP 50 SKS CL G W.3% HALAD 344 & 50 SKS CL G NEAT HESITATE SQUEEZE TO 1900# STING OUT REV. 8-10 SKS TO PIT. TOH L/D TBG & STINGER SI & SDFN
02-07-98	FINISH TOH W TBG & STINGER, NIPPLE DOWN BOP, REMOVE TBG HEAD, INSTALL NEW TBG HEAD INSTALL BLANKING FLANGE W VALVE. SI & DS WO/DRLG RIG.
02-13-98	MOVED IN NAVAJO WEST RIG #25. NOTIFIED JIM THOMPSON W/ STATE UTAH ABOUT STARTING DRILL OPERATIONS @ 7:00 AM 2/13/98
02-14-98	FINISHED RIGGING UP, NU BOP, HYDRILL, CHOKE, MUD GAS SEP. SINGLE JACK RAN MMS TEST, 2000# HIGH & 250# LOW, ALL EQUIPMENT HELD OK. RIH WEATHERFORD WHIPSTOCK, AND AOHDP TO 5460'. RU GYRO DATA & RIH W/ GYRO, SET DOWN ON CMT RET @ 5464, SET TOP OF WHIPSTOCK @ 5448' FACE OF WHIPSTOCK @ 128 DEG GTF. POH W/ GYRO. MILLED WINDOW FROM 5448-5450', CIRC CLEAN. POH W/ STARTING MILL. RIH WINDOW & WATERMELLON MILLS
02-15-98	CUT WINDOW FROM 5448-5456' & 1' FORMATION TO 5457'. POH W/ MILLS
02-15-98	RIH 2 7/8" AOHDP, BREAK CIRC & CLEAN OUT. RU GYRO DATA. SLIDE DRILLED CURVE 1A1 FROM 5468-5515'.
02-16-98	SLIDE DRILLED CURVE 1A1 FROM 5515-5643', LANDED CURVE 5643' MD, 90 DEG ANGLE, 132.4 DEG DIRECTION, 5571' TVD, 100'VS. PUMPED SWEEP & CIRC CLEAN. POH & LD, AOHDP, LD MWD, MUD MOTOR, RIH MUD MOTOR
02-17-98	FIN RIH PH6 TBG, & 2 7/8" AOHDP. SLIDE & ROTATE DRILLED LATERAL 1A1 FROM 5643-6503'.
02-18-98	SLIDE & ROTATE DRILLED LATERAL 1A1 FROM 6503-6920'.
02-19-98	SLIDE & ROTATE DRILLED LATERAL 1A1 FROM 6920-7628'.
02-20-98	SLIDE & ROTATE DRILLED LATERAL 1A1 FROM 7628-8335'.
02-21-98	SLIDE & ROTATE DRILLED LATERAL 1A1 FROM 8335-8955' TD, 8955' TMD, 88.7 ANGLE, 123.8 DIRECTION, 5563' TVD, 3402 VS PUMPED SWEEP & CIRC HOLE CLEAN
02-22-98	WORK BHA OUT OF CURVE. POOH LAYING DOWN BHA. TIH W/RBP AND SET @ 5300' POOH LAYING DOWN DRILLSTRING. ND BOP STACK AND NU TBG. HD. RIGGING DOWN ROTARY RIG.
02-23-98	RIG DOWN NAVAJO RIG #25. FINAL DRLG. REPORT FOR LAT. 1A1

COMPLETION:

03-17-98	MOVE IN RIG UP NAVAJO WEST RIG #36. SIFN
03-18-98	SHUT IN CSG. PRESSURE @ 7:30 WAS 0 PSI. PICK-UP AND RIH WITH PH-6 TAIL PIPE. GUIBERSON 'G-VI' PACKER, ON PH-6 TBG. TO 5326.52', (PACKER DEPTH) END OF TBG. TAIL @ 5666.26'. SET PACKER. TEST TO 750 PSI. OK. SIFN.
03-20-98	RIG UP PUMP, PITS, AND FLOW LINES TO TEST TANKS. MOVE IN RIG UP DOWELL COILED TBG. UNIT, AND PUMP TRUCKS. SIFN.

ATTACHMENT - FORM 3160-5
RATHERFORD UNIT 18-W-43B
14-20-603-353
NAVAJO TRIBAL
SAN JUAN, UTAH
PAGE 2

03-21-98	SHUT IN TBG. PRESSURE @ 4:00 WAS 285 PSI. RIH WITH COILED TBG. TO 8150'. COULD NOT ADVANCE. SPOT 6 BBLS OF 15% HCL ACID. WORK COILED TBG. THROUGH TIGHT AREA. TO 8837'. DOWELL ACIDIZE LATERAL 1A1 FROM 8837' TO 5670' WITH 45,528 GAL. OF 15% HCL ACID. POH WITH COILED TBG. WELL SHUT IN. RIG DOWN DOWELL COILED TBG. UNIT. OPEN WELL TO TEST TANK ON .75" CHOKE. TBG. PRESSURE FROM 1200_ TO 600 PSI IN 30 MIN. SIFN.
03-23-98	SITP=950# RIG UP & KILL WELL W 70BBLS 11.6#. RELEASE PKR TOH LAYING DOWN PH-6 W/S & PKR. WAIT ON TBG, SWITCH OUT FLOATS. PU GUIB G-6 PKR, & P/U FLUOR-LINED, LOAD TBG W 10#, SI & SDFN
03-24-98	SIP=180#, SET PKR @ 5338.10'. NDBOP-INSTALL TREE., SI & SDFN WELL HAD 480# AT SI TIME
03-25-98	SICP=830, SITP=625, PULL WRAP AROUND, TIH, TAGGED @ 5378' TO 5436', TOH AT TOP OF ON-OFF TOOL. SI & SDFN
03-26-98	WELL DEAD. S/D TIH-HIGH WIND, PUMP 20 BBLS 11.6#, SIFN
03-27-98	TOH, LAY DOWN FISHING TOOLS & PKR, TIH W KILL STRING, PUMP 20 BBLS 11.6# SI & SDFN
03-28-98	WELL DEAD, RIG UP FRONTIER INSP EQUIPT TO RUN FLUOR LINED TBG. TIH W 2.875" FLUOR LINED TBG. SET PKR @ 5335.47'. NDBOP-NU TREE GET OFF PKR W ON-OFF TOOL CIRC W PKR FLUID LAND TREE TEST PKR & CSG TO 1000# - HELD 30 MINS. RIG DOWN PUMP & LINES TO WINDY TO RIG DOWN UNIT
03-30-98	RIG DOWN PUMP, RIG DOWN UNIT, CLEAN TRASH ON LOCATION WO/PRODUCTION HOOK UP

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
			43-037-31718	RATHERFORD 18-W-43B		18	41S	24E	SAN JUAN	2-04-98	3-30-98
WELL 1 COMMENTS:											
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)

Lee Mosley for
Signature SHIRLEY HOUCHINS

ENV & REG TECHNICIAN
Title

5-19-98
Date

Phone No. (915) 688-2585

Mobil

San Juan County
Utah
Ratherford Unit
RU 18-43B - MWD Survey

SURVEY REPORT

27 March, 1998

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

Survey Ref: svy2561

Sperry-Sun Drilling Services

Survey Report for RU 18-43B

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)	Toolface Azimuth
Gyro								
0.00	0.000	0.000	0.00	0.00 N	0.00 E	0.00		
200.00	0.220	318.980	200.00	0.29 N	0.25 W	-0.38	0.110	318.980
400.00	0.270	278.890	400.00	0.65 N	0.97 W	-1.16	0.087	265.580
600.00	0.250	280.340	600.00	0.80 N	1.86 W	-1.94	0.011	162.513
800.00	0.500	302.190	799.99	1.35 N	3.03 W	-3.19	0.142	40.998
1000.00	0.720	309.070	999.98	2.60 N	4.75 W	-5.31	0.116	21.875
1200.00	0.760	305.800	1199.96	4.17 N	6.80 W	-7.89	0.029	311.802
1400.00	1.010	298.830	1399.94	5.80 N	9.42 W	-10.94	0.136	333.192
1600.00	1.000	299.190	1599.91	7.50 N	12.49 W	-14.38	0.006	147.910
1800.00	0.960	288.540	1799.88	8.88 N	15.60 W	-17.66	0.093	252.325
2000.00	0.410	276.570	1999.86	9.50 N	17.90 W	-19.81	0.283	188.651
2200.00	0.240	188.960	2199.86	9.17 N	18.67 W	-20.20	0.233	210.943
2400.00	0.260	155.440	2399.86	8.34 N	18.55 W	-19.57	0.073	260.806
2600.00	0.580	219.560	2599.86	7.15 N	19.01 W	-19.15	0.261	90.750
2800.00	0.280	208.060	2799.85	5.93 N	19.88 W	-19.04	0.155	190.351
3000.00	0.130	166.680	2999.85	5.28 N	20.06 W	-18.76	0.101	205.220
3200.00	0.040	187.560	3199.85	4.99 N	20.01 W	-18.54	0.047	171.250
3400.00	0.110	220.910	3399.85	4.78 N	20.15 W	-18.51	0.040	49.370
3600.00	0.060	210.450	3599.85	4.54 N	20.33 W	-18.49	0.026	192.057
3800.00	0.020	157.390	3799.85	4.42 N	20.37 W	-18.44	0.025	198.426
4000.00	0.130	245.310	3999.85	4.29 N	20.56 W	-18.51	0.065	96.709
4200.00	0.260	223.910	4199.85	3.87 N	21.08 W	-18.64	0.073	319.753
4400.00	0.240	225.380	4399.84	3.25 N	21.69 W	-18.71	0.011	162.953
4600.00	0.170	248.380	4599.84	2.85 N	22.27 W	-18.89	0.053	141.502
4800.00	0.030	310.110	4799.84	2.77 N	22.58 W	-19.08	0.079	170.374
5000.00	0.100	338.810	4999.84	2.97 N	22.69 W	-19.29	0.038	39.763
5200.00	0.050	359.720	5199.84	3.22 N	22.75 W	-19.50	0.028	161.487
5400.00	0.360	30.230	5399.84	3.85 N	22.44 W	-19.66	0.159	35.089
5413.00	0.350	29.970	5412.84	3.92 N	22.39 W	-19.67	0.078	189.021
MWD Survey								
5448.00	0.350	29.970	5447.84	4.10 N	22.29 W	-19.71		
5457.00	3.500	128.300	5456.83	3.96 N	22.06 W	-19.44	39.639	103.894
5467.00	7.600	133.730	5466.79	3.31 N	21.34 W	-18.48	41.289	10.010
5477.00	12.800	135.170	5476.62	2.07 N	20.08 W	-16.71	52.058	3.518
5487.00	18.200	135.840	5486.26	0.16 N	18.21 W	-14.05	54.029	2.223
5497.00	23.400	136.230	5495.60	2.40 S	15.75 W	-10.52	52.018	1.709
5507.00	28.100	136.500	5504.61	5.54 S	12.75 W	-6.21	47.015	1.552
5517.00	32.300	130.600	5513.25	8.99 S	9.10 W	-1.19	51.384	322.172
5527.00	37.300	134.400	5521.46	12.85 S	4.90 W	4.51	54.480	25.025
5537.00	42.400	137.100	5529.13	17.45 S	0.44 W	10.88	53.845	19.785

Continued...

Sperry-Sun Drilling Services

Survey Report for RU 18-43B

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)	Toolface Azimuth
5547.00	46.400	140.600	5536.28	22.72 S	4.16 E	17.79	46.889	32.740
5557.00	49.800	135.300	5542.96	28.23 S	9.14 E	25.15	52.059	308.962
5567.00	54.400	133.100	5549.10	33.73 S	14.80 E	33.02	49.162	338.640
5577.00	58.600	132.400	5554.62	39.39 S	20.93 E	41.35	42.403	351.893
5587.00	63.400	132.900	5559.47	45.31 S	27.36 E	50.08	48.199	5.328
5597.00	68.600	132.800	5563.53	51.52 S	34.05 E	59.20	52.008	358.973
5607.00	73.500	132.600	5566.78	57.93 S	41.00 E	68.65	49.036	357.756
5617.00	79.200	132.400	5569.14	64.50 S	48.16 E	78.35	57.033	358.023
5643.00	88.800	134.500	5571.85	82.26 S	66.91 E	104.13	37.785	12.399
5663.00	90.800	136.700	5571.92	96.55 S	80.90 E	124.03	14.866	47.735
5695.00	93.600	138.600	5570.69	120.18 S	102.44 E	155.72	10.572	34.109
5727.00	90.400	136.700	5569.58	143.81 S	123.98 E	187.41	11.628	210.723
5758.00	88.900	134.700	5569.77	165.99 S	145.63 E	218.25	8.064	233.127
5790.00	88.500	132.100	5570.49	187.97 S	168.87 E	250.19	8.219	261.224
5822.00	88.900	131.600	5571.22	209.31 S	192.70 E	282.16	2.001	308.661
5853.00	90.800	132.400	5571.30	230.06 S	215.74 E	313.14	6.650	22.836
5885.00	91.800	131.600	5570.57	251.46 S	239.51 E	345.11	4.002	321.356
5917.00	91.700	133.500	5569.60	273.09 S	263.07 E	377.06	5.943	92.985
5948.00	90.500	134.700	5569.00	294.66 S	285.33 E	407.98	5.474	134.992
5980.00	91.000	134.200	5568.58	317.07 S	308.17 E	439.88	2.210	315.005
6012.00	91.400	133.500	5567.91	339.23 S	331.24 E	471.80	2.519	299.757
6044.00	91.900	133.100	5566.99	361.17 S	354.52 E	503.73	2.001	321.357
6075.00	91.000	134.400	5566.21	382.60 S	376.91 E	534.66	5.099	124.686
6107.00	89.900	135.100	5565.95	405.12 S	399.63 E	566.54	4.074	147.526
6139.00	88.700	135.600	5566.35	427.89 S	422.12 E	598.40	4.062	157.384
6171.00	87.900	135.100	5567.29	450.64 S	444.60 E	630.25	2.948	211.987
6203.00	89.400	134.900	5568.05	473.26 S	467.22 E	662.12	4.729	352.405
6233.00	91.100	135.100	5567.92	494.47 S	488.43 E	692.00	5.706	6.710
6265.00	90.000	135.100	5567.61	517.14 S	511.02 E	723.87	3.437	180.000
6296.00	91.900	135.300	5567.10	539.13 S	532.86 E	754.74	6.163	6.007
6328.00	89.500	134.500	5566.71	561.72 S	555.52 E	786.62	7.906	198.440
6360.00	91.100	135.300	5566.54	584.30 S	578.18 E	818.50	5.590	26.564
6392.00	90.400	134.700	5566.12	606.93 S	600.81 E	850.37	2.881	220.603
6423.00	90.200	134.900	5565.96	628.77 S	622.81 E	881.26	0.912	135.000
6455.00	89.900	134.500	5565.93	651.28 S	645.55 E	913.16	1.562	233.130
6487.00	88.900	133.700	5566.26	673.55 S	668.53 E	945.07	4.002	218.655
6519.00	89.200	133.700	5566.79	695.65 S	691.66 E	977.00	0.938	0.000
6550.00	88.400	133.100	5567.44	716.95 S	714.18 E	1007.94	3.226	216.858
6582.00	89.100	133.000	5568.14	738.79 S	737.56 E	1039.89	2.210	351.871
6614.00	89.100	133.100	5568.64	760.63 S	760.94 E	1071.84	0.312	90.001
6646.00	89.100	133.000	5569.15	782.47 S	784.32 E	1103.79	0.312	269.999
6677.00	89.100	133.100	5569.63	803.63 S	806.97 E	1134.74	0.323	90.001
6709.00	89.700	133.300	5569.97	825.53 S	830.30 E	1166.69	1.976	18.435
6741.00	90.100	133.700	5570.02	847.56 S	853.51 E	1198.63	1.768	45.000
6773.00	89.300	133.800	5570.19	869.69 S	876.62 E	1230.56	2.519	172.875

Continued...

Sperry-Sun Drilling Services

Survey Report for RU 18-43B

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)	Toolface Azimuth
6805.00	89.800	134.000	5570.44	891.88 S	899.68 E	1262.48	1.683	21.802
6836.00	90.700	134.200	5570.31	913.45 S	921.94 E	1293.40	2.974	12.528
6867.00	91.600	134.000	5569.69	935.02 S	944.20 E	1324.32	2.974	347.476
6899.00	92.100	133.800	5568.65	957.20 S	967.25 E	1356.23	1.683	338.212
6931.00	93.100	133.800	5567.20	979.32 S	990.32 E	1388.12	3.125	0.000
6963.00	93.600	132.600	5565.33	1001.19 S	1013.60 E	1420.02	4.057	292.689
6994.00	94.400	133.700	5563.17	1022.34 S	1036.17 E	1450.90	4.381	53.869
7026.00	88.900	133.000	5562.25	1044.29 S	1059.42 E	1482.81	17.326	187.263
7057.00	87.900	133.300	5563.11	1065.48 S	1082.02 E	1513.76	3.368	163.311
7089.00	89.600	133.500	5563.81	1087.46 S	1105.27 E	1545.69	5.349	6.711
7121.00	89.200	132.600	5564.15	1109.30 S	1128.65 E	1577.64	3.078	246.032
7153.00	88.900	133.300	5564.68	1131.10 S	1152.07 E	1609.60	2.380	113.207
7184.00	90.700	133.300	5564.79	1152.36 S	1174.63 E	1640.54	5.806	0.000
7215.00	91.300	133.500	5564.24	1173.66 S	1197.15 E	1671.48	2.040	18.431
7246.00	90.600	133.100	5563.73	1194.92 S	1219.71 E	1702.43	2.601	209.745
7278.00	91.700	132.600	5563.09	1216.67 S	1243.16 E	1734.38	3.776	335.565
7310.00	89.900	131.400	5562.64	1238.08 S	1266.94 E	1766.36	6.760	213.698
7341.00	90.400	131.600	5562.56	1258.62 S	1290.16 E	1797.35	1.737	21.801
7372.00	92.100	131.900	5561.88	1279.26 S	1313.28 E	1828.32	5.569	10.003
7404.00	92.900	133.300	5560.49	1300.90 S	1336.81 E	1860.26	5.035	60.203
7436.00	92.500	132.800	5558.98	1322.72 S	1360.17 E	1892.18	2.000	231.321
7468.00	91.600	132.800	5557.84	1344.45 S	1383.63 E	1924.12	2.812	180.000
7499.00	91.200	132.600	5557.08	1365.46 S	1406.41 E	1955.07	1.443	206.561
7531.00	90.500	132.800	5556.60	1387.16 S	1429.92 E	1987.04	2.275	164.055
7563.00	90.200	132.800	5556.41	1408.90 S	1453.40 E	2019.00	0.938	180.000
7595.00	87.700	132.600	5557.00	1430.60 S	1476.91 E	2050.95	7.837	184.572
7627.00	87.500	132.600	5558.34	1452.24 S	1500.45 E	2082.89	0.625	180.000
7658.00	88.200	132.100	5559.50	1473.11 S	1523.34 E	2113.84	2.774	324.472
7690.00	85.300	130.900	5561.31	1494.28 S	1547.27 E	2145.78	9.805	202.416
7721.00	87.600	130.200	5563.23	1514.39 S	1570.77 E	2176.71	7.754	343.080
7753.00	89.700	129.300	5563.99	1534.85 S	1595.37 E	2208.70	7.139	336.795
7785.00	89.600	128.900	5564.18	1555.03 S	1620.20 E	2240.70	1.288	255.962
7816.00	91.200	129.300	5563.96	1574.58 S	1644.26 E	2271.69	5.320	14.035
7848.00	91.000	128.900	5563.35	1594.75 S	1669.09 E	2303.68	1.397	243.435
7880.00	91.500	128.700	5562.65	1614.80 S	1694.02 E	2335.67	1.683	338.205
7912.00	91.800	128.200	5561.73	1634.69 S	1719.07 E	2367.64	1.822	300.981
7944.00	90.600	127.300	5561.06	1654.28 S	1744.37 E	2399.61	4.687	216.874
7975.00	89.700	128.200	5560.98	1673.26 S	1768.88 E	2430.59	4.106	134.998
8006.00	89.800	127.500	5561.11	1692.28 S	1793.35 E	2461.56	2.281	278.129
8038.00	90.000	127.700	5561.17	1711.80 S	1818.71 E	2493.54	0.884	45.000
8069.00	89.300	126.800	5561.36	1730.56 S	1843.38 E	2524.50	3.678	232.122
8100.00	89.300	126.300	5561.74	1749.02 S	1868.28 E	2555.44	1.613	269.997
8132.00	89.900	126.100	5561.96	1767.92 S	1894.11 E	2587.37	1.976	341.565
8163.00	90.400	125.600	5561.88	1786.08 S	1919.23 E	2618.29	2.281	315.000
8195.00	88.700	124.400	5562.13	1804.43 S	1945.44 E	2650.16	6.503	215.214

Continued...

Sperry-Sun Drilling Services

Survey Report for RU 18-43B

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)	Toolface Azimuth
8227.00	89.300	124.200	5562.69	1822.46 S	1971.87 E	2682.00	1.976	341.566
8258.00	90.800	125.600	5562.66	1840.20 S	1997.30 E	2712.87	6.619	43.027
8289.00	90.600	125.400	5562.28	1858.20 S	2022.53 E	2743.78	0.912	224.999
8320.00	89.600	125.200	5562.23	1876.11 S	2047.83 E	2774.67	3.290	191.310
8352.00	91.100	125.900	5562.04	1894.71 S	2073.87 E	2806.57	5.173	25.015
8384.00	89.700	124.900	5561.81	1913.25 S	2099.95 E	2838.47	5.376	215.542
8415.00	89.400	124.200	5562.06	1930.83 S	2125.48 E	2869.33	2.457	246.798
8447.00	90.000	124.700	5562.22	1948.93 S	2151.87 E	2901.18	2.441	39.807
8479.00	88.200	123.700	5562.73	1966.92 S	2178.33 E	2933.01	6.435	209.045
8511.00	88.300	122.900	5563.70	1984.48 S	2205.06 E	2964.77	2.518	277.116
8543.00	89.400	123.500	5564.34	2001.99 S	2231.83 E	2996.54	3.915	28.612
8574.00	90.000	124.200	5564.51	2019.26 S	2257.58 E	3027.36	2.974	49.401
8606.00	88.200	124.000	5565.01	2037.20 S	2284.07 E	3059.19	5.660	186.338
8637.00	88.200	124.000	5565.98	2054.53 S	2309.76 E	3090.00		
8669.00	88.900	124.500	5566.79	2072.53 S	2336.20 E	3121.83	2.688	35.536
8701.00	89.000	124.700	5567.38	2090.70 S	2362.54 E	3153.68	0.699	63.433
8732.00	92.000	125.800	5567.11	2108.59 S	2387.85 E	3184.57	10.307	20.133
8764.00	93.400	126.100	5565.60	2127.35 S	2413.73 E	3216.46	4.474	12.075
8796.00	93.300	126.100	5563.73	2146.17 S	2439.54 E	3248.33	0.313	180.000
8827.00	91.400	125.900	5562.46	2164.38 S	2464.59 E	3279.22	6.163	186.008
8858.00	90.800	125.800	5561.87	2182.53 S	2489.72 E	3310.14	1.962	189.462
8890.00	88.400	124.500	5562.09	2200.95 S	2515.88 E	3342.02	8.529	208.441
8921.00	88.700	123.800	5562.87	2218.35 S	2541.52 E	3372.85	2.456	293.196
8955.00	88.700	123.800	5563.64	2237.26 S	2569.77 E	3406.64		

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 130.000° (True).

Based upon Minimum Curvature type calculations, at a Measured Depth of 8955.00ft.,
The Bottom Hole Displacement is 3407.20ft., in the Direction of 131.043° (True).

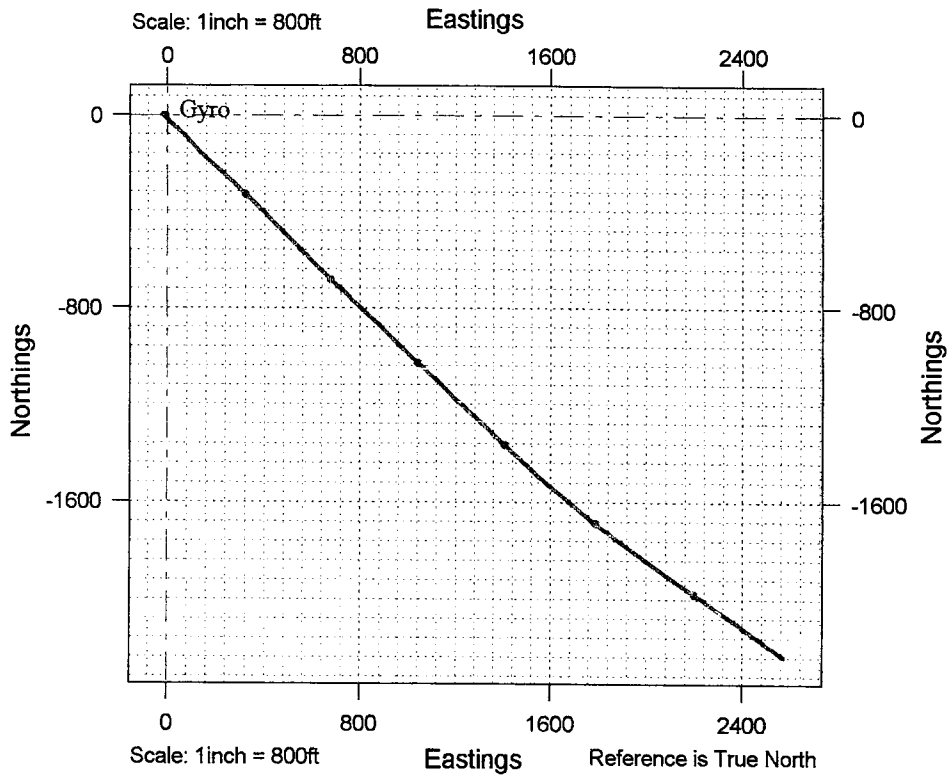
sperry-sun DRILLING SERVICES

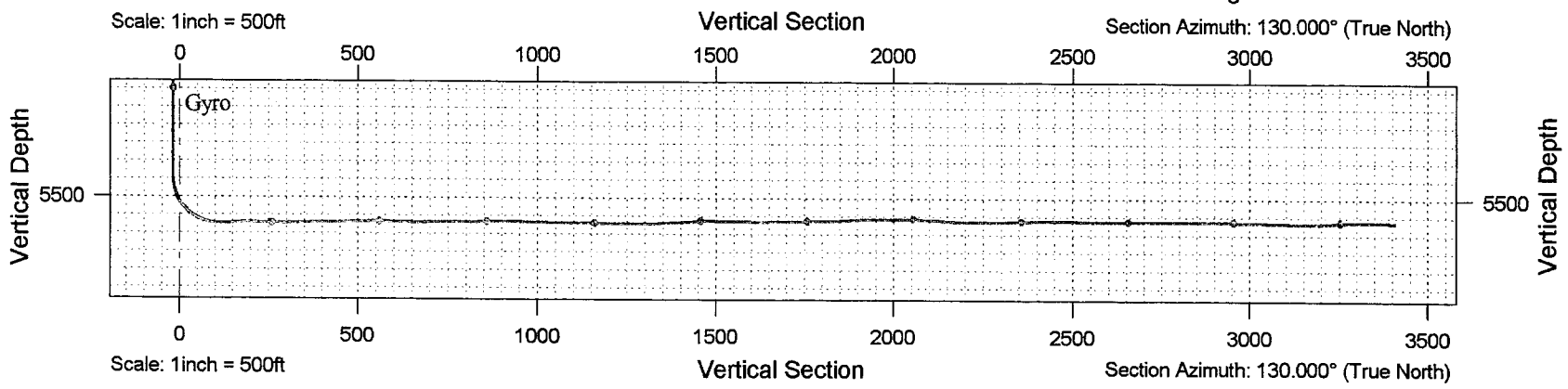
Mobil

DrillQuest™

San Juan County
Utah
Ratherford Unit
RU 18-43B

Mobil





Prepared:	Checked:	Approved:

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 18-W-43B

9. API WELL NO.: 43-037-31718

10. FIELD AND POOL, OR WILDCAT: GREATER ANETH

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

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

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: 2023' FSL & 651' FEL
At top prod. interval reported below: 82' FSL & 67' FEL F/SURF SPOT
At total depth: LAT#1A1/2237' FSL & 2570' FEL F/SUF

14. PERMIT NO. / DATE ISSUED

12. COUNTY OR PARISH: SAN JUAN

13. STATE: UT

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (*Ready to prod.*)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
2-04-98	2-23-98	3-30-98	4784' GR, 4797' KB	

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)*
LATERAL #1A1 (5643-8955' TMD)(5571-5563' TVD) DSCR

25. WAS DIRECTIONAL SURVEY MADE: YES

26. TYPE ELECTRIC AND OTHER LOGS RUN: NO

27. WAS WELL CORED: NO

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

CASING SIZE/GRADE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	TOP OF CEMENT, CEMENTING RECORD	AMOUNT PULLED
13 3/8"	48#	85'	17 1/2"	200 SXS SURFACE	
9 5/8"	NA	1584'	12 1/4"	1050 SXS SURFACE	
7"	23#	5750'	8 3/4"	675 SXS 420' CALC	
	ORIGINAL	CASING	UNDISTURBED		

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"	5335'	5335'

31. PERFORATION RECORD (*Interval, size and number*)

RECEIVED
MAY 22 1998
DIV. OF OIL, GAS & MINING

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5670-8837'	LATERAL 1A1 / ACIDIZE W/45,528 GALS 15% HCL ACID

33.* PRODUCTION

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

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

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 Lee Moseley for TITLE SHIRLEY HOUCHINS/ENV & REG TECH DATE 5-19-98

*(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
8. Well Name and No.: RATHERFORD 18-W-43B
9. API Well No.: 43-037-31718
10. Field and Pool, or exploratory Area: GREATER ANETH
11. County or Parish, State: SAN JUAN UT

1. Type of Well: [ ] Oil Well [ ] Gas Well [X] Other
2. Name of Operator: MOBIL PRODUCING TX & NM INC.*
*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM
3. Address and Telephone No.: P.O. Box 633, Midland TX 79702 (915) 688-2585
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SEC. 18, T41S, R24E
2023' FSL & 651' FEL
LATERAL 1A1: 2237' FSL & 2570' FEL

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] Recompletion	[ ] New Construction
[ ] Subsequent Report	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
[ ] Final Abandonment Notice	[ ] 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.)*

2-04-98 -- 2-23-98 HORIZONTAL RECOMPLETION.

ATTACHED FORM 15

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

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 18-W-43B
9. API Well No.: 43-037-31718
10. Field and Pool, or exploratory Area: GREATER ANETH
11. County or Parish, State: SAN JUAN UT

1. Type of Well: [ ] Oil Well [ ] Gas Well [X] Other
2. Name of Operator: MOBIL PRODUCING TX & NM INC.*
*MOBIL EXPLORATION & PRODUCING US INC. AS AGENT FOR MPTM
3. Address and Telephone No.: P.O. Box 633, Midland TX 79702 (915) 688-2585
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SEC. 18, T41S, R24E
2023' FSL & 661' FEL

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 MIT CHART	[ ] Dispose Water (Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

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

SEE ATTACHED CHART.

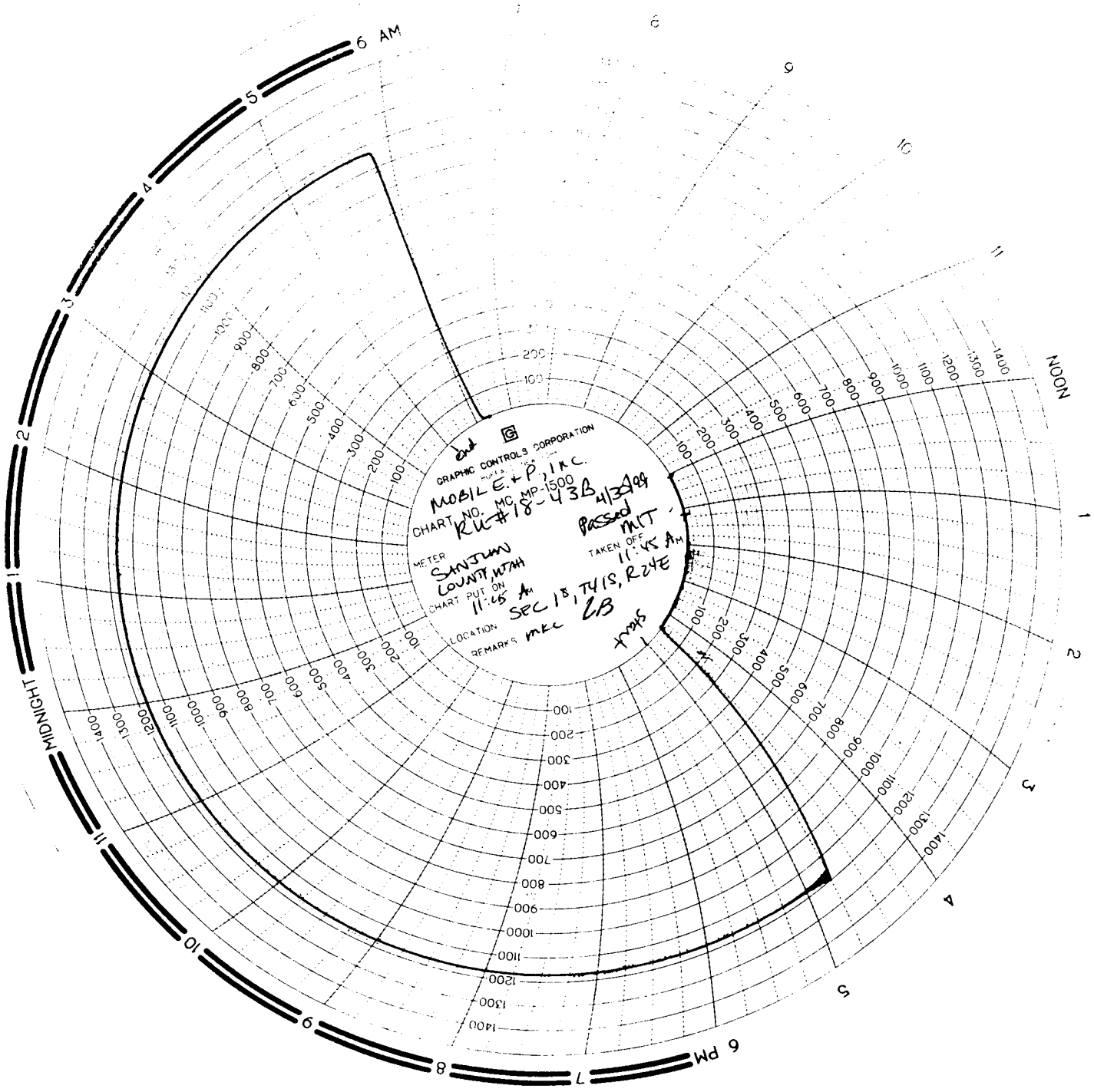
RECEIVED
MAY 14 1999
DIV. OF OIL, GAS & MINING

14. I hereby certify that the foregoing is true and correct
Signed Lee Mosley for Title SHIRLEY HOUCHINS/ENV & REG TECH Date 5-12-99

(This space for Federal or State office use)
Approved by _____ Title _____ Date _____
Conditions of approval, if any:

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

* See Instruction on Reverse Side


GRAPHIC CONTROLS CORPORATION
MOBIL E.+P., INC.
CHART NO. MC MP-1500
RU #18-43B 4/13/99
Passed MIT
METER SAN JUAN
LOUNT, UTAH
TAKEN OFF 11:45 AM
CHART PUT ON 11:45 AM
LOCATION SEC 18, T41S, R24E
REMARKS MEC LB
MIDNIGHT
6 AM
NOON
6 PM

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

Charlotte H. Harper
Permitting Supervisor

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

RECEIVED
JUL 2 1 2001
DIVISION OF
OIL, GAS AND MINING

United States Department of the Interior

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

IN REPLY REFER TO:

RRES/543

AUG 30 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 1 BLM
NATV AM MIN COORD
SOLID MIN TEAM
PETRO MGMT TEAM 2
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

PBS 7/12/2001 SN 543 File

June 27, 2001

ExxonMobil Production

Certified Mail
Return Receipt Requested

RECEIVED #477 JUL 9 - 2001 Navajo Region Office RES - Minerals Section

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

RECEIVED JUL 05 2001 NAVAJO REGION OFFICE BRANCH OF REAL ESTATE SERVICES

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

NOTE: Check forwarded to Ella Jessie

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.

S. A. Millican
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 [illegible], Houston, Texas 77027-3[illegible]
[illegible] (713) 927-4600 • Facsimile: (713) 297-4759

NW Bond

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

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

FEDERAL INSURANCE COMPANY AS SURETY,

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

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

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

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

TO : **ExxonMobil Oil Corporation**

All other terms and conditions of this Bond are unchanged.

Signed, sealed and dated this 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 was thereto subscribed by authority of said Companies in deponent's presence.

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

Notarial Seal

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 · 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
NY | Albany

Filed by: EXXONMOBIL CORPORATION
(Name)

6959 Las Colinas Blvd.
(Mailing address)

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

Cust Ref # 165578MPO

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

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
NAVAJO A-9 (RATHERFORD 16W23)	16-41S-24E	43-037-15722	99990	INDIAN	WI	A
NAVAJO A-12 (RATHERFORD 16W21)	16-41S-24E	43-037-16414	99990	INDIAN	WI	A
RATHERFORD 16W43	16-41S-24E	43-037-16415	99990	INDIAN	WI	A
RATHERFORD 17-W-12	17-41S-24E	43-037-15726	6280	INDIAN	WI	A
17-14	17-41S-24E	43-037-15727	6280	INDIAN	WI	A
RATHERFORD 17-W-23	17-41S-24E	43-037-15728	6280	INDIAN	WI	A
17-32	17-41S-24E	43-037-15729	6280	INDIAN	WI	A
17-34	17-41S-24E	43-037-15730	6280	INDIAN	WI	A
17-41	17-41S-24E	43-037-15731	6280	INDIAN	WI	I
RATHERFORD 17-W-21	17-41S-24E	43-037-16416	99990	INDIAN	WI	A
RATHERFORD 17W43	17-41S-24E	43-037-16417	99990	INDIAN	WI	A
RATHERFORD 18-W-14	18-41S-24E	43-037-15735	6280	INDIAN	WI	A
18-W-32	18-41S-24E	43-037-15736	6280	INDIAN	WI	A
RATHERFORD 18-W-34	18-41S-24E	43-037-15737	6280	INDIAN	WI	A
DESERT A-4 (RATHERFORD 18W41)	18-41S-24E	43-037-15738	99990	INDIAN	WI	A
DESERT A-3 (RATHERFORD 18-W-21)	18-41S-24E	43-037-16418	99990	INDIAN	WI	A
18-23	18-41S-24E	43-037-30244	6280	INDIAN	WI	A
RATHERFORD U 18-W-12 (SDTRK)	18-41S-24E	43-037-31153	6280	INDIAN	WI	A
RATHERFORD UNIT 18-W-43B	18-41S-24E	43-037-31718	6280	INDIAN	WI	A
RATHERFORD U 19-W-12	19-41S-24E	43-037-15739	6280	INDIAN	WI	A

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

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

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

7. **Federal and Indian Units:**
The BLM or BIA has approved the successor of unit operator for wells listed on: 06/01/2001

8. **Federal and Indian Communization Agreements ("CA"):**
The BLM or BIA has approved the operator for all wells listed within a CA on: N/A

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

DATA ENTRY:

1. Changes entered in the **Oil and Gas Database on:** 04/11/2002
2. Changes have been entered on the **Monthly Operator Change Spread Sheet on:** 04/11/2002
3. Bond information entered in RBDMS on: N/A
4. Fee wells attached to bond in RBDMS on: N/A

STATE WELL(S) BOND VERIFICATION:

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

FEDERAL WELL(S) BOND VERIFICATION:

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

INDIAN WELL(S) BOND VERIFICATION:

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

FEE WELL(S) BOND VERIFICATION:

1. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number N/A
2. The **FORMER** operator has requested a release of liability from their bond on: N/A
The Division sent response by letter on: N/A

LEASE INTEREST OWNER NOTIFICATION:

3. (R649-2-10) The **FORMER** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: N/A

COMMENTS:

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 (UIC)**

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:

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

UIC FORM 5

TRANSFER OF AUTHORITY TO INJECT

Well Name and Number See attached list	API Number Attached
Location of Well Footage : See attached list County : San Juan QQ, Section, Township, Range: State : UTAH	Field or Unit Name Ratherford Unit Lease Designation and Number See attached list

EFFECTIVE DATE OF TRANSFER: 6/1/2006

CURRENT OPERATOR

Company: Exxon Mobil Oil Corporation
Address: PO Box 4358
city Houston state TX zip 77210-4358
Phone: (281) 654-1936
Comments: Exxon Mobil has submitted a separate, signed copy of UIC Form 5

Name:
Signature:
Title:
Date:

NEW OPERATOR

Company: Resolute Natural Resources Company
Address: 1675 Broadway, Suite 1950
city Denver state CO zip 80202
Phone: (303) 534-4600
Comments: A list of affected UIC wells is attached.
New bond numbers for these wells are:
BIA Bond # PA002769 and US EPA Bond # B001252

Name: Dwight E Mallory
Signature:
Title: Regulatory Coordinator
Date: 4/20/2006

(This space for State use only)

Transfer approved by:
Title: Field Operations Manager
Approval Date: 6/12/06

Comments:

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APR 24 2006
DIV. OF OIL, GAS & MINING

(5/2000)

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

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

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

5. LEASE DESIGNATION AND SERIAL NUMBER: 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

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 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

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DIV. OF OIL, GAS & MINING

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

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

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

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

5. LEASE DESIGNATION AND SERIAL NUMBER:

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

7. UNIT or CA AGREEMENT NAME: UTU68931A

8. WELL NAME and NUMBER: Ratherford

9. API NUMBER: attached

10. FIELD AND POOL, OR WILDCAT: Aneth

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

2. NAME OF OPERATOR: ExxonMobil Oil Corporation N1855

3. ADDRESS OF OPERATOR: P.O. Box 4358 CITY Houston STATE TX ZIP 77210-4358 PHONE NUMBER: (281) 654-1936

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:	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
6/1/2006	☐ 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.

ExxonMobil Oil Corporation is transferring operatorship of Greater Aneth field, Ratherford lease to Resolute Natural Resources Company. All change of operator notices should be made effective as of 7:00 AM MST on June 1, 2006.

Attached please find a listing of injection wells included in the transfer.

NAME (PLEASE PRINT) Laurie Kilbride TITLE Permitting Supervisor

SIGNATURE Laurie O. Kilbride DATE 4/19/2006

(This space for State use only) APPROVED 6/27/06
Earlene Russell
Division of Oil, Gas and Mining
Earlene Russell, Engineering Technician

(See Instructions on Reverse Side)

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DIV. OF OIL, GAS & MINING

(5/2000)

GREATER ANETH FIELD UIC WELL LIST
Ratherford lease, San Juan County, Utah

Reg Lease Name	Well ID	API Num	Status	Reg Lease #	Surface Location						
					Qtr 1	Qtr 2	Sec	TN	RNG	NS Foot	EW Foot
RATHERFORD UNIT	1W24	430371583900S1	Shut-in	14-20-603-246A	NE	SE	1	41S	23E	0651FSL	3300FEL
RATHERFORD UNIT	2W44	430371638600S1	Active	14-20-603-246A	SE	SE	2	41S	23E	0810FSL	**0510FEL**
RATHERFORD UNIT	11W42	430371584100S1	Active	14-20-603-246A	SE	NE	11	41S	23E	3290FSL	4617FWL
RATHERFORD UNIT	11W44	430371584200S1	Shut-in	14-20-603-246A	SE	SE	11	41S	23E	0660FSL	0558FEL
RATHERFORD UNIT	12W11	430371584300S1	Active	14-20-603-246A	NW	NW	12	41S	23E	0678FNL	4620FEL
RATHERFORD UNIT	12W13	430371640400S1	Active	14-20-603-246A	NW	SW	12	41S	23E	1980FSL	4620FEL
RATHERFORD UNIT	12W22	430371584501S1	Active	14-20-603-246A	SE	NW	12	41S	23E	1920FNL	2080FWL
RATHERFORD UNIT	12W24	430373115101S1	Active	14-20-603-246A	SE	SW	12	41S	23E	0775FSL	1980FWL
RATHERFORD UNIT	12W31	430371584700S1	Active	14-20-603-246A	NW	NE	12	41S	23E	0661FNL	1981FEL
RATHERFORD UNIT	12W33	430371584800S1	Active	14-20-603-246A	NW	SE	12	41S	23E	1958FSL	3300FEL
RATHERFORD UNIT	12W42	430371585000S1	Active	14-20-603-246A	SE	NE	12	41S	23E	3275FSL	0662FEL
RATHERFORD UNIT	12W44A	430373154300S1	Shut-in	14-20-603-246A	SE	SE	12	41S	23E	0772FSL	0807FEL
RATHERFORD UNIT	13W11	430373115201S1	Active	14-20-603-247A	NW	NW	13	41S	23E	0500FNL	0660FWL
RATHERFORD UNIT	13W13	430371585100S1	Active	14-20-603-247A	NW	SW	13	41S	23E	1980FSL	4620FEL
RATHERFORD UNIT	13W22	430371585200S1	Active	14-20-603-247A	SE	NW	13	41S	23E	1988FNL	3300FEL
RATHERFORD UNIT	13W24	430371585300S1	Active	14-20-603-247A	SE	SW	13	41S	23E	0660FSL	3300FEL
RATHERFORD UNIT	13W33	430371585501S1	Active	14-20-603-247A	NW	SE	13	41S	23E	1970FSL	1979FEL
RATHERFORD UNIT	13W42	430371585700S1	Shut-in	14-20-603-247A	SE	NE	13	41S	23E	2139FNL	0585FEL
RATHERFORD UNIT	13W44	430371640700S1	Active	14-20-603-247A	SE	SE	13	41S	23E	0653FSL	0659FEL
RATHERFORD UNIT	14-31	430373171700S1	Active	14-20-603-247A	NW	NE	14	41S	23E	0754FNL	1604FEL
RATHERFORD UNIT	14W42	430371586001S1	Active	14-20-603-247A	SE	NE	14	41S	23E	1976FNL	653FEL
RATHERFORD UNIT	24W31	430371586200S1	Shut-in	14-20-603-247A	NW	NE	24	41S	24E	0560FNL	1830FEL
RATHERFORD UNIT	24W42	430371586300S1	Shut-in	14-20-603-247A	SE	NE	24	41S	24E	1980FNL	0660FEL
RATHERFORD UNIT	17W12	430371572601S1	Active	14-20-603-353	SW	NW	17	41S	24E	1980FNL	510FWL
RATHERFORD UNIT	17W14	430371572700S1	Active	14-20-603-353	SW	SW	17	41S	24E	0610FSL	0510FWL
RATHERFORD UNIT	17W21	430371641601S1	Active	14-20-603-353	NE	**NW**	17	41S	24E	0510FNL	1830FWL
RATHERFORD UNIT	17W23	430371572801S1	Active	14-20-603-353	NE	SW	17	41S	24E	1880FSL	1980FWL
RATHERFORD UNIT	17W32	430371572900S1	TA'd	14-20-603-353	SW	NE	17	41S	24E	1830FNL	2030FEL
RATHERFORD UNIT	17W34	430371573000S1	Active	14-20-603-353	SW	SE	17	41S	24E	0560FSL	1880FEL
RATHERFORD UNIT	17W41	430371573100S1	Shut-in	14-20-603-353	NE	NE	17	41S	24E	0610FNL	0510FEL
RATHERFORD UNIT	17W43	430371641701S1	Active	14-20-603-353	NE	SE	17	41S	24E	1980FSL	0660FEL
RATHERFORD UNIT	18-43B	430373171801S1	Active	14-20-603-353	NE	SE	18	41S	24E	2023FSL	0651FEL
RATHERFORD UNIT	18W12	430373115301S1	Active	14-20-603-353	SW	NW	18	41S	24E	1980FNL	560FWL
RATHERFORD UNIT	18W14	430371573501S1	Active	14-20-603-353	SW	SW	18	41S	24E	0810FSL	0600FWL
RATHERFORD UNIT	18W21	430371641801S1	Active	14-20-603-353	NE	NW	18	41S	24E	660FNL	1882FWL
RATHERFORD UNIT	18W23	430373024400S1	Shut-in	14-20-603-353	NE	SW	18	41S	24E	2385FSL	2040FWL
RATHERFORD UNIT	18W32	430371573601S1	Active	14-20-603-353	SW	NE	18	41S	24E	2140FNL	1830FEL
RATHERFORD UNIT	18W34	430371573701S1	Active	14-20-603-353	SW	SE	18	41S	24E	780FSL	1860FEL
RATHERFORD UNIT	18W41	430371573800S1	TA'd	14-20-603-353	NE	NE	18	41S	24E	0660FNL	0660FEL
RATHERFORD UNIT	19-12	430371573901S1	Active	14-20-603-353	SW	NW	19	41S	24E	1980FNL	0600FWL
RATHERFORD UNIT	19-32	430371574301S1	Active	14-20-603-353	SW	NE	19	41S	24E	2717FNL	2802FEL
RATHERFORD UNIT	19-34	430371574401S1	Active	14-20-603-353	SW	SE	19	41S	24E	0660FSL	1980FEL
RATHERFORD UNIT	19W21	430371574100S1	Shut-in	14-20-603-353	NE	NW	19	41S	24E	0660FNL	1860FWL
RATHERFORD UNIT	19W23	430371574200S1	Shut-in	14-20-603-353	NE	SW	19	41S	24E	2080FSL	1860FWL
RATHERFORD UNIT	19W43	430371642000S1	Shut-in	14-20-603-353	NE	SE	19	41S	24E	1980FSL	0760FEL
RATHERFORD UNIT	20-12	430371574601S1	Active	14-20-603-353	SW	NW	20	41S	24E	0709FNL	0748FEL
RATHERFORD UNIT	20-14	430371574701S1	Active	14-20-603-353	SW	SW	20	41S	24E	0660FSL	0660FWL
RATHERFORD UNIT	20-32	430371574901S1	Active	14-20-603-353	SW	NE	20	41S	24E	0037FNL	0035FWL
RATHERFORD UNIT	20-34	430371575001S1	Active	14-20-603-353	SW	SE	20	41S	24E	0774FNL	0617FWL
RATHERFORD UNIT	20-67	430373159000S1	Active	14-20-603-353	NE	SW	20	41S	24E	2629FSL	1412FWL
RATHERFORD UNIT	20W21	430371642300S1	Active	14-20-603-353	NE	NW	20	41S	24E	0660FNL	1880FWL
RATHERFORD UNIT	20W23	430371574800S1	Active	14-20-603-353	NW	SW	20	41S	24E	2080FSL	2120FWL
RATHERFORD UNIT	20W41	430371575100S1	Active	14-20-603-353	NE	NE	20	41S	24E	0660FNL	0660FEL
RATHERFORD UNIT	20W43	430371642400S1	TA'd	14-20-603-353	NE	SE	20	41S	24E	2070FSL	0810FEL
RATHERFORD UNIT	16W12	430371572000S1	Active	14-20-603-355	SW	NW	16	41S	24E	1880FNL	0660FWL

GREATER ANETH FIELD UIC WELL LIST
Ratherford lease, San Juan County, Utah

Reg Lease Name	Well ID	API Num	Status	Reg Lease #	Surface Location						
					Qtr 1	Qtr 2	Sec	TN	RNG	NS Foot	EW Foot
RATHERFORD UNIT	16W14	430371572100S1	Shut-in	14-20-603-355	SW	SW	16	41S	24E	0660FSL	0660FWL
RATHERFORD UNIT	16W21	430371641400S1	Active	14-20-603-355	NE	NW	16	41S	24E	0660FNL	1880FWL
RATHERFORD UNIT	16W23	430371572201S1	Active	14-20-603-355	NE	SW	16	41S	24E	1980FSL	1980FWL
RATHERFORD UNIT	16W43	430371641501S1	Active	14-20-603-355	NE	SE	16	41S	24E	2140FSL	0820FEL
RATHERFORD UNIT	21-14	430371575301S1	Active	14-20-603-355	SW	SW	21	41S	24E	0660FSL	0460FWL
RATHERFORD UNIT	21-67	430373175301S1	Active	14-20-603-355	NE	SW	21	41S	24E	2560FSL	1325FWL
RATHERFORD UNIT	21W21	430371642501S1	Active	14-20-603-355	NE	NW	21	41S	24E	0660FNL	2030FWL
RATHERFORD UNIT	**6W14**	430371598400S1	Active	14-20-603-368	NE	SE	6	41S	24E	0660FSL	0660FWL
RATHERFORD UNIT	7W12	430371598500S1	Active	14-20-603-368	NE	SE	7	41S	24E	2140FNL	0585FWL
RATHERFORD UNIT	7W14	430371598600S1	Active	14-20-603-368	NE	SE	7	41S	24E	1065FSL	0660FWL
RATHERFORD UNIT	7W21	430371639400S1	Active	14-20-603-368	**NE**	NW	7	41S	24E	0710FNL	1820FWL
RATHERFORD UNIT	7W34	430371598900S1	Active	14-20-603-368	SW	SE	7	41S	24E	0710FSL	2003FEL
RATHERFORD UNIT	7W43	430371639500S1	Active	14-20-603-368	NE	SE	7	41S	24E	2110FSL	0660FEL
RATHERFORD UNIT	**8W14**	430371599200S1	Active	14-20-603-368	SW	NE	8	41S	24E	0745FSL	0575FWL
RATHERFORD UNIT	10W43	430371640300S1	TA'd	14-20-603-4037	NE	SE	10	41S	24E	1980FSL	0550FEL
RATHERFORD UNIT	29-12	430371533701S1	Active	14-20-603-407	SW	**NW**	29	41S	24E	2870FNL	1422FWL
RATHERFORD UNIT	29-32	430371533901S1	Active	14-20-603-407	SW	NE	29	41S	24E	0694FNL	0685FWL
RATHERFORD UNIT	29W21	430371643200S1	Active	14-20-603-407	NE	NW	29	41S	24E	0667FNL	2122FWL
RATHERFORD UNIT	29W41	430371643300S1	Active	14-20-603-407	NE	NE	29	41S	24E	0557FNL	0591FEL
RATHERFORD UNIT	29W43	430371643400S1	Shut-in	14-20-603-407	NE	SE	29	41S	24E	1980FSL	0660FEL
RATHERFORD UNIT	30W41	430371534300S1	Shut-in	14-20-603-407	NE	NE	30	41S	24E	0660FNL	0660FEL
RATHERFORD UNIT	28-12	430371533601S1	Active	14-20-603-409	SW	SE	28	41S	24E	2121FNL	0623FWL
RATHERFORD UNIT	28W21	430371643100S1	Shut-in	14-20-603-409	NE	NW	28	41S	24E	0660FNL	2022FWL
RATHERFORD UNIT	9W23	430371639800S1	Active	14-20-603-5046	NW	SE	9	41S	24E	1980FSL	1980FWL