

13585 Jackson Drive • Denver, Colorado 80241 • (303) 452-8888 • FAX (303) 457-1583

October 7, 1997



Colorado Oil & Gas Commission
1120 Lincoln St., Suite 801
Chansery Bldg.
Denver, CO 80203

Attn: Ron Schmela

Re: P & M Petroleum Management, L.L.C.
Shaffers Draw #1-X
801' FSL and 1013' FEL
Lot 25 (SE SE) Sec. 27, T9N - R96W
Moffat County, Colorado

Dear Ron,

As per our telephone conversation, enclosed please find one copy of the A.P.D. for the Shaffers Draw #1. Due to the short distance of the move to the Shaffers Draw #1-X, the BLM did not request that the A.P.D. be revised. In addition, the BLM did not request a new cut and fill diagram, but I included a copy of the rig diagram provided by the drilling contractor.

If you should need anything else, please don't hesitate to call.

Sincerely,

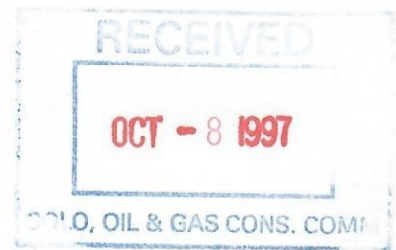
PERMITCO INC.

Lisa L. Smith

Consultant for:

P & M Petroleum Management, L.L.C.

Enc.



ONSHORE OIL & GAS ORDER NO. 1

**Approval of Operations on Onshore
Federal and Indian Oil & Gas Leases**

**SHAFFERS DRAW #1
753' FSL and 997' FEL
Lot 25 (SE SE) Sec. 27, T9N - R96W
Moffat County, Colorado**

Prepared For:

P & M PETROLEUM MANAGEMENT, L.L.C.

By:

**PERMITCO INC.
13585 Jackson Drive
Denver, Colorado 80241
303/452-8888**

Copies Sent To:

- 3 - BLM - Craig, CO (Little Snake Resource Area)**
- 1 - BLM - Craig, CO (District Office)**
- 1 - Colorado Oil & Gas Commission - Denver, CO**
- 1 - Moffat County Planning Dept. - Craig, CO**
- 3 - Julander Energy Company - Denver, CO**
- 1 - P & M Petroleum Management, L.L.C. - Denver, CO**



Permitco Incorporated
A Petroleum Permitting Company

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Permitco Incorporated
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PETROLEUM
MANAGEMENT, L.L.C.

SUITE 625 • 1600 BROADWAY • DENVER, COLORADO 80202 • PHONE (303) 861-2470

Bureau of Land Management
Little Snake Resource Area Office
1280 Industrial Ave.
Craig, CO 81625

Re: Shaffers Draw #1
753' FSL and 997' FEL
Lot 25 (SE SE) Sec. 27, T9N - R96W
Moffat County, Colorado

Gentlemen:

This letter is to inform you that Permitco Inc. is authorized to act as Agent and to signed documents on behalf P & M Petroleum Management, L.L.C. when necessary for filing county, state and federal permits including Onshore Order No. 1, Right of Way applications, etc. for the above mentioned well.

It should be understood that Permitco Inc. is acting as Agent only in those matters stated above and is not responsible for drilling, completion, production or compliance with regulations.

P & M Petroleum Management, L.L.C. agrees to accept full responsibility for operations conducted in order to drill, complete and produce the above mentioned well.

Sincerely,

A handwritten signature in black ink that reads "Robert W. Peterson". The signature is written in a cursive style with a long, sweeping underline.

Robert W. Peterson

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 a different reservoir.
Use "APPLICATION FOR PERMIT -" for such proposals

5. Lease Designation and Serial No.
COC-45947

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

7. If Unit or CA, Agreement Designation
Shaffers Draw

8. Well Name and No.
Shaffers Draw #1

9. API Well No.
#05-081-5390-1

10. Field and Pool, or Exploratory Area
Wildcat

11. County or Parish, State
Moffat County, Colorado

SUBMIT IN TRIPLICATE

1. Type of Well

Oil Well Gas Well Other

2. Name of Operator

P & M Petroleum Management, L.L.C.

3. Address and Telephone No.

625 1600 Broadway, Suite 1700 Denver, CO 80202 (303/861-2470)

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

**753' FSL and 997' FEL Sec. 27, T9N - R96W (Original Location)
801' FSL and 1013' FEL Sec. 27, T9N - R96W (New Location)**

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

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

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

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

A re-entry of the original location was attempted and later abandoned due to drilling difficulties encountered. A new location will be drilled at the above footages and will be called the Shaffers Draw #1X. See revised survey plat attached.

The proposed casing and cementing program are as follows:

Hole Size	Casing Size	Weight/Ft.	Setting Depth	Quantity of Cement
12-1/4"	8-5/8"	24#	1000'	480 sx Class "G" w/2% gel
7-7/8"	4-1/2"	11.6#	9800'	550 sx 50/50 poz-mix with .2% Halad 322, .2% Halad 344 2% gel, 2% HT Microbond

The mud program is as follows:

Depth	Type	MW	Visc.	pH	F/L
0-1000'	Native Mud/Gel/Lime	8.5-8.7	30-35	8.0	N/C
1000-8600'	Fresh Water Gel	8.5-9.0	30-35	8.0	N/C
8600-9800'	Low Solids	9.0-9.4	40-45	9.0	6 cc's or less

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

Consultant for:

Signed [Signature] Title **P & M Petroleum Management** Date **8/12/97**

(This space for Federal or State office use)

Approved by [Signature] Title **Area Manager** Date **9/4/97**

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

97 AUG 14 AM 10:44
 RECEIVED
 016 041 00 01 25

T9N, R94W, 6th P.M.

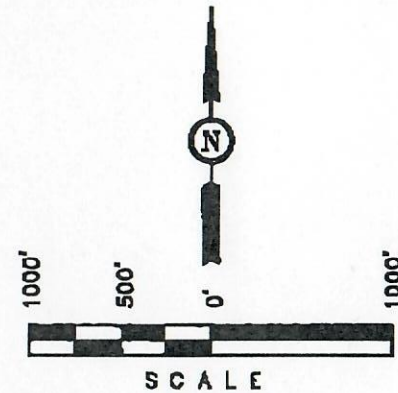
N89°58'N - 80.04 (G.L.O.)

P & M PETROLEUM MANAGEMENT

Well location, SHAFFERS DRAW #1X, located as shown in Lot 25 of Section 27, T9N, R96W, 6th P.M. Moffat County, Colorado.

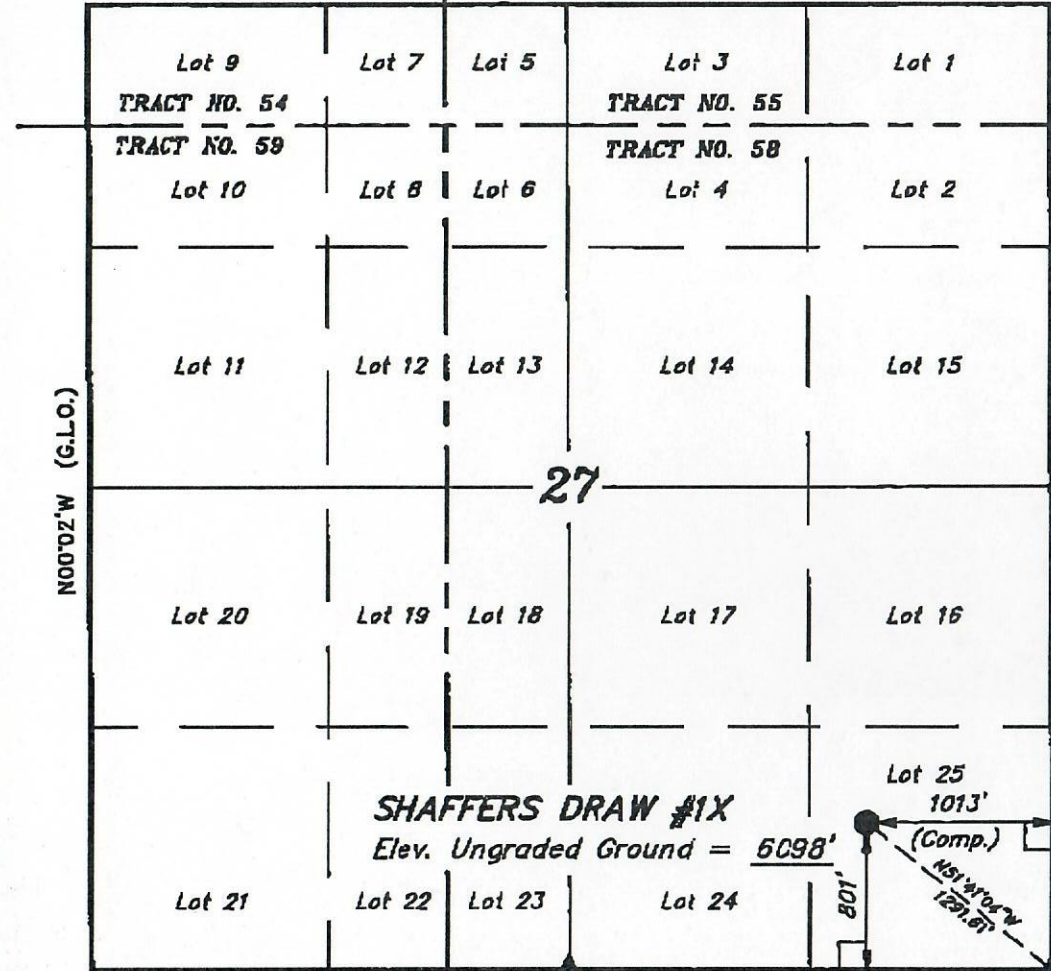
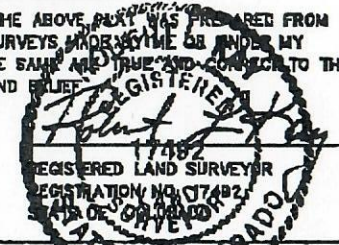
BASIS OF ELEVATION

SPOT ELEVATION AT THE SOUTHEAST CORNER OF SECTION 27, T9N, R96W, 6th P.M. TAKEN FROM THE NINEMILE HILL QUADRANGLE, COLORADO, MOFFAT COUNTY 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY, SAID ELEVATION IS MARKED AS BEING 6141 FEET.



CERTIFICATE

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



Sat. Marked Stone,
T Post, Cedar
Tree

WEST - 40.00 (G.L.O.)
Semi-Sat Marked WEST - G.L.O. (Basis of Bearings)
2641.70' (Measured)

SHAFFERS DRAW #1X
Elev. Ungraded Ground = 6098'

LEGEND:

- = 90° SYMBOL
- = PROPOSED WELL HEAD.
- = SECTION CORNERS LOCATED.

Revised: 08-07-97 D.R.B.

UTAH ENGINEERING & LAND SURVEYING 86 SOUTH 200 EAST - VERNAL UTAH 84078 (801) 789-1017		
SCALE 1" = 1000'	DATE SURVEYED 5-28-97	DATE DRAWING 6-4-97
PARTY D.K. H.L. C.B.T.	REFERENCES G.L.O. PLAT	
WEATHER WARM	FILE P & M PETROLEUM MANAGEMENT	

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Shaffers Draw #1

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CONFIDENTIAL - TIGHT HOLE

Lease No. COC-45947

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ONSHORE OIL & GAS ORDER NO. 1
Approval of Operations on Onshore
Federal and Indian Oil and Gas Leases

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (CFR 43, Part 3160) and the approved Application for Permit to Drill. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling and completion operations.

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

1. Formation Tops

The estimated tops of important geologic markers are as follows:

<u>Formation</u>	<u>Depth</u>	<u>Subsea</u>
Wasatch	Surface	
Fort Union	4,780'	+6,098'
Lance	8,050'	+1,318'
Fox Hills	8,500'	-1,952'
Lewis	8,600'	-2,402'
T.D.	9,700'	-2,502'

2. Estimated Depth of Oil, Gas, Water & Other Minerals Zones

The estimated depths at which the top and bottom of the anticipated water, oil, gas or other mineral bearing formations are expected to be encountered are as follows:

<u>Substance</u>	<u>Formation</u>	<u>Depth</u>
Gas	Middle Lewis	8,940'
Gas	Lower Lewis	9,400'

All shows of fresh water and minerals will be reported and protected.



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3. BOP Equipment

P & M Petroleum Management's minimum specifications for pressure control equipment are as follows:

Ram Type: 3000# W.P. Dual ram type preventer with annular

Ram type preventers and associated equipment shall be tested to approved stack working pressure if isolated by test plug or to 70 percent of internal yield pressure of casing. Pressure shall be maintained for at least 10 minutes or until requirements of test are met, whichever is longer. If a test plug is utilized, no bleed-off pressure is acceptable. For a test not utilizing a test plug, if a decline in pressure of more than 10 percent in 30 minutes occurs, the test shall be considered to have failed. Valve on casing head below test plug shall be open during test of BOP stack. A rotating head will be installed after setting the 7" intermediate casing and before drilling with air/nitrogen.

Annular type preventers shall be tested to 50 percent of rated working pressure. Pressure shall be maintained at least 10 minutes or until provisions of test are met, whichever is longer.

As a minimum, the above test shall be performed:

- a. when initially installed;
- b. whenever any seal subject to test pressure is broken
- c. following related repairs; and
- d. at 30-day intervals

Pressure tests are required before drilling out from under all casing strings set and cemented in place. Blowout preventer controls must be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned.

Preventers will be inspected and operated at least daily to insure good mechanical working order, and this inspection recorded on the daily drilling report. Preventers will be pressure tested before drilling casing cement plugs. All BOP pressure tests must be recorded on the daily drilling report. NOTIFY THE RESOURCE AREA PETROLEUM ENGINEER AT LEAST 24 HOURS IN ADVANCE OF PRESSURE TESTS.



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Valves shall be tested from working pressure side during BOPE tests with all down stream valves open.

When testing the kill line valve(s) the check valve shall be held open or the ball removed.

Annular preventers shall be functionally operated at least weekly.

Pipe and blind rams shall be activated each trip, however, this function need not be performed more than once a day.

A BOPE pit level drill shall be conducted weekly for each drilling crew.

Pressure tests shall apply to all related well control equipment.

All of the above described tests and/or drills shall be recorded in the drilling log. Test charts, with individual test results identified, shall be maintained on location while drilling and shall be made available to a BLM representative upon request.

The choke manifold, BOP extension rods and handwheels will be located outside the substructure. The hydraulic BOP closing unit will be located in the accumulator house at ground level. The casing head and BOP will be flanged 10" 3000 psi w.p. Kill line will be 2" i.d. with burst pressure rating of at least 3000 psi. These items will be pressure tested concurrently with BOP's. The BOP will be tested when the stack is first installed on the well. It will also be tested at each casing shoe and at least every 30 days. BOP and choke manifold sizes will be in accordance with API-RP-53 as per the attached. See attached schematic of choke manifold.

- a. The size and rating of the BOP stack is shown on the attached diagram.**
- b. A choke line and a kill line are to be properly installed. The kill line is not to be used as a fill-up line.**
- c. The accumulator system shall have a pressure capacity to provide for repeated operation of hydraulic preventers.**
- d. Drill string safety valve(s), to fit all tools in the drill string, are to be maintained on the rig floor while drilling operations are in progress.**



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4. Casing and Cement Programs

- a. The proposed casing and cementing program shall be conducted as approved to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. Any isolating medium other than cement shall receive approval prior to use. The casing setting depth shall be calculated to position the casing seat opposite a competent formation which will contain the maximum pressure to which it will be exposed during normal drilling operations. Determination of casing setting depth shall be based on all relevant factors, including; presence/absence of hydrocarbons; fracture gradients; usable water zones; formation pressures; lost circulation zones; other minerals; or other unusual characteristics. All indications of usable water shall be reported.
- b. Casing design shall assume formation pressure gradients of 0.44 to 0.50 psi per foot for exploratory wells (lacking better data).
- c. Casing design shall assume fracture gradients from 0.70 to 1.00 psi per foot for exploratory wells (lacking better data).
- d. Casing collars shall have a minimum clearance of 0.422 inches of all sides in the hole/casing annulus, with recognition that variances can be granted for justified exceptions.
- e. All waiting on cement times shall be adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.
- f. All indications of usable water shall be reported to the authorized officer prior to running the next string of casing or before plugging orders are requested, whichever occurs first.
- g. Top plugs shall be used to reduce contamination of cement by displacement fluid. A bottom plug or other acceptable technique, such as a suitable preflush fluid, inner string cement method, etc. shall be utilized to help isolate the cement from contamination by the mud fluid being displaced ahead of the cement slurry.



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Lease No. COC-45947

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- h. All casing strings below the conductor shall be pressure tested to 0.22 psi per foot of casing string length or 1500 psi, whichever is greater, but not to exceed 70 percent of the minimum internal yield. If pressure declines more than 10 percent in 30 minutes, corrective action shall be taken.
- i. Three centralizers will be run on the bottom three joints of surface casing with a minimum of one centralizer per joint starting with the shoe joint.
- j. The proposed casing program will be as follows:

<u>Purpose</u>	<u>Depth</u>	<u>Hole Size</u>	<u>O.D.</u>	<u>Weight</u>	<u>Grade</u>	<u>Type</u>	<u>New or Used</u>
Surface	0-364'	14"	10-3/4"	32.75#	H-40	(Existing)	
Intermed.	0-950'	8-1/4"	7"	20#	J-55	ST&C	New
Production	0-9700'	6-1/4"	4-1/2"	11.6#	N-80	LT&C	New

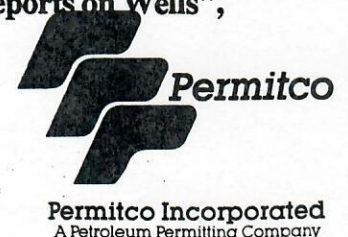
- k. Casing design subject to revision based on geologic conditions encountered.
- l. The cement program will be as follows:

Surface Type and Amount
0-364' 270 sx Class "G" (Existing).

Intermediate Type and Amount
0-950' 475 sx Class "G" w/2% gel.

Production Type and Amount
0-9700' 550 sx 50/50 Poz Mix, w/.2% Halad 322, .2% Halad 344,
2% gel, 2% HT Microbond. Top of cement @ approx.
8300'.

- m. After cementing but before commencing any test, the casing string shall stand cemented until the cement has reached a compressive strength of at least 500 psi at the shoe. WOC time shall be recorded in the driller's log.
- n. The following reports shall be filed with the Area Manager within 30 days after the work is completed.
 1. Progress reports, Form 3160-5 "Sundry Notices and Reports on Wells",



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- a. Setting of each string of casing, showing the size, grade, weight of casing set, hole size, setting depth, amounts and type of cement used, whether cement circulated or the top of the cement behind the casing, depth of cementing tools used, casing test method and results, and the date work was done. Show the spud date on the first reports submitted.
 - b. Temperature or bond logs must be submitted for each well where the casing cement was not circulated to the surface.
- o. Auxiliary equipment to be used is as follows:
- 1. Kelly cock
 - 2. No bit float is deemed necessary.
 - 3. A sub with a full opening valve.

5. Mud Program

- a. The proposed circulating mediums to be employed in drilling are as follows:

<u>Interval</u>	<u>Mud Type</u>	<u>Mud Wt.</u>	<u>Visc.</u>	<u>FL</u>	<u>PH</u>
8600'-9700'	Low Solids	9.0-9.4	50	10.0	9.0

There will be sufficient mud on location to control a blowout should one occur.

A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

- b. Mud monitoring equipment to be used is as follows:
- 1. Periodic checks will be made each tour of the mud system. Electronic/Mechanical mud monitoring equipment will be used, which shall include a minimum; pit volume totalizer (PVT); gas separator and flo sho.



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- c. The concentration of hazardous substances in the reserve pit at the time of pit backfilling must not exceed the standards set forth in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).
- d. All oil and gas drilling related CERCLA hazardous wastes/substances removed from a location and not reused at another drilling location must be disposed of at an EPA approved hazardous waste facility.

6. Evaluation Program

The anticipated type and amount of testing, logging and coring are as follows:

- a. No drill stem tests are anticipated, however, if DST's are run, the following requirements will be adhered to:

Initial opening of drill stem test tools shall be restricted to daylight hours unless specific approval to start during other hours is obtained from the authorized officer. However, DST's may be allowed to continue at night if the test was initiated during daylight hours and the rate of flow is stabilized and if adequate lighting is available (i.e. lighting which is adequate for visibility and vapor-proof for safe operations). Packers can be released, but tripping shall not begin before daylight, unless prior approval is obtained from the authorized officer. Closed chamber DSTs may be accomplished day or night.

A DST that flows to the surface with evidence of hydrocarbons shall be either reversed out of the testing string under controlled surface conditions, or displaced into the formation prior to pulling the test tool. This would involve providing some means for reverse circulation.

Separation equipment required for the anticipated recovery shall be properly installed before a test starts.

All engines within 100 feet of the wellbore that are required to "run" during the test shall have spark arresters or water cooled exhausts.

the test shall have spark arresters or water cooled exhausts.

- b. The logging program will consist of an Induction Gamma Ray, a Compensated Neutron Litho-Density and Sonic Gamma Ray to be run from base of surface - T.D.
- c. No cores are anticipated.
- d. Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) will be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3164. Two copies of all logs, core descriptions, core analysis, well-test data, geologic summaries, sample description, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with form 3160-4. Samples (cuttings, fluids, and/or gases) will be submitted when requested by the authorized officer (AO).

7. Anticipated Pressures and H₂S

- a. The expected bottom hole pressure is 4200 psi. No abnormal pressures or temperatures are anticipated.
- b. No hydrogen sulfide gas is anticipated, however, if H₂S is encountered the guidelines in Onshore Order No. 6 will be complied with.

8. Other Information and Notifications Requirements

- a. Re-entry/drilling is planned to commence in July 1997. It is anticipated that completion operations will begin within 30 days after the well has been drilled.
- b. It is anticipated that the drilling of this well will take approximately 4 days.
- c. The following shall be entered on the driller's log:

2. Blowout preventer tests for proper functioning;
 3. Blowout prevention drills conducted;
 4. Casing run, including size, grade, weight, and depth set;
 5. How the pipe was cemented, including amount of cement, type, whether cement circulated, location of the cementing tools, etc.
 6. Waiting on cement time for each casing string.
 7. Casing pressure tests after cementing, including test pressures and results.
- d. Section 102 (b) (3) of the Federal Oil and Gas Royalty Management Act of 1982, as implemented by the applicable provision of the operating regulations at Title 43 CFR 3162.4-1 (c), requires that "not later than the 5th business day after any well begins production on which royalty is due anywhere on the lease site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than 90 days, the operator shall notify the authorized officer by letter or sundry notice, Forms 3160-5 or orally to be followed by a letter or sundry notice, of the date on which such production has begun or resumed."

The date on which production is commenced or resumed will be construed for oil wells as the date on which liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which liquid hydrocarbons are first produced into a permanent storage facility, whichever first occurs; and, for gas wells as the date on which associated liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which gas is first measured through permanent metering facilities, whichever first occurs.



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If the operator fails to comply with this requirements in the manner and time allowed, the operator shall be liable for a civil penalty of up to \$10,000 per violation for each day such violation continues, not to exceed a maximum of 20 days. See Section 109 (c) (3) of the Federal Oil and Gas Royalty Management Act of 1982 and the implementing regulations at Title 43 CFR 3163.4-1 (b) (5) (ii).

e. Notification Requirements:

1. The BLM in Craig, Colorado (970/824-4441) will be notified verbally not more than 48 hours after the well is spudded, or on the next regular work day.
2. The Resource Area Engineer will be notified at least 24 hours in advance of BOP pressure tests.
3. The BLM will be notified verbally at least 48 hours prior to running/cementing surface casing.
4. No location will be constructed or moved, no well will be plugged and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approved of the BLM - Little Snake Resource Area. If operations are to be suspended for more than 30 days, prior approval of the BLM - Little Snake Resource Area office must be obtained and notification given before resumption of operations.
5. In the event abandonment of a drilling well is desired, an oral request may be granted by Resource Area Petroleum Engineer, but must be timely followed within 15 days with a "Notice of Intention to Abandon" (form 3160-5).
6. Unless the plugging is to take place immediately upon receipt of oral approval, the Resource Area Petroleum Engineer must be notified at least 48 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are



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ONSHORE ORDER NO. 1
P & M Petroleum Management, L.L.C.
Shaffers Draw #1
753' FSL and 997' FEL
Lot 25 (SE SE) Sec. 27, T9N- R96W
Moffat County, Colorado

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Drilling Program
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backfilled. The "Subsequent Report of Abandonment" (form 3160-5) must be submitted within 30 days after the actual plugging of the well bore, reporting where the plugs were placed, and the current status of the surface restoration. If surface restoration has not been completed at that time, a follow-up report on form 3160-5 should be filed when all surface restoration work has been completed and the location is considered ready for final inspection.

The following standards apply to the abandonment of newly drilled dry or non-productive wells in accordance with 43 CFR 3162.3-4. Approval shall be obtained prior to the commencement of abandonment. All formations bearing usable-quality water, oil, gas, or geothermal resources, and/or a prospectively valuable deposit of minerals shall be protected. Approval may be given orally by the authorized officer before abandonment operations are initiated. This oral request and approval shall be followed by a written notice of intent to abandon filed not later than the fifth business day following oral approval. Failure to obtain approval prior to commencement of abandonment operations shall result in immediate assessment under 43 CFR 3153.1(b)(3). The hole shall be in static condition at the time any plugs are placed (this does not pertain to plugging lost circulation zones). Within 30 days of completion of abandonment, a subsequent report of abandonment shall be filed.

7. The spud date will be reported orally to the Little Snake Resource Area within 48 hours after spudding. If the spudding occurs on a weekend or holiday, wait until the following regular workday to make this report.
8. Periodic drilling progress reports must be filed directly with the BLM - Little Snake Resource Area Office on a periodic basis and form or method as may be acceptable to the Petroleum Engineer.
9. In accordance with NTL-1, this well must be reported on the "Monthly Report of Operations" (form 3160-6) starting with the month in which operations commence and continue each month until the well is physically plugged and abandoned. This report should be filed in duplicate, directly with the Minerals Management Service (MMS).



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- f. There shall be no deviation from the proposed drilling and/or workover program as approved. Safe drilling and operating practices must be observed. All wells, whether drilling, producing, suspended or abandoned, shall be identified in accordance with CFR 43, 3162.2. There shall be a sign or marker with the name of the operator, lease serial number, well number and surveyed description of the well. Any changes in operation must have prior approval from the BLM - Little Snake Resource Area - Petroleum Engineer.
- g. Any change in the program must be approved by the BLM - Little Snake Resource Area. "Sundry Notices and Reports on Wells" (form 3160-5) must be filed for all changes of plans and other operations in accordance with CFR 43, 3162.2. Emergency approval may be obtained orally, but such approval does not waive the written report requirement. Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, will require the filing of a suitable plan pursuant to Onshore Oil & Gas Order No 1 of CFR 43, 3164.1 and prior approval by the BLM - Little Snake Resource Area Office.
- h. If a replacement rig is contemplated for completion operations, a "Sundry Notice" (form 3160-5) to that effect must be filed for prior approval of the BLM - Little Snake Resource Area and all conditions of this approved plan are applicable during all operations conducted with the replacement rig.
- i. Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (form 3160-4) will be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with CFR 43, 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during drilling, workover, and/or completion operations, will be file on form 3160-4. Samples (cuttings, fluid and/or gas) will be submitted only when requested by the BLM - Little Snake Resource Area.
- j. All off-lease storage, off-lease measurement, commingling on-lease or off-lease will have prior written approval from the BLM - Little Snake Resource Area.



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- k. The oil and gas measurement facilities will be installed on the well location. Oil and gas meters will be calibrated in place prior to any deliveries. The Resource Area Petroleum Engineer will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be submitted to the BLM - Little Snake Resource Area Office. All meter measurement facilities will conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.
- l. A schematic facilities diagram as required by CFR 43, Part 3162.7-5 (b.9.d.) shall be submitted to the BLM - Little Snake Resource Area Office within 60 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with 3162.7-5 (b.4.).
- m. This APD is subject to the requirement that, should the well be successfully completed for production, the BLM - Little Snake Resource Area office must be notified when it is placed in a producing status. Such notification will be by telegram or other written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
1. Operator name, address, and telephone number.
 2. Well name and number.
 3. Well location (1/4 1/4, Sec., Twn., Range and P.M.)
 4. Date well was placed in a producing status (date of first production for which royalty will be paid).
 5. The nature of the well's production, (i.e., crude oil, or crude oil and casinghead gas, or natural gas and entrained liquid hydrocarbons).
 6. The Federal or Indian lease prefix and number on which the well is located. Otherwise, the non-Federal or non-Indian land category, i.e., State or private.



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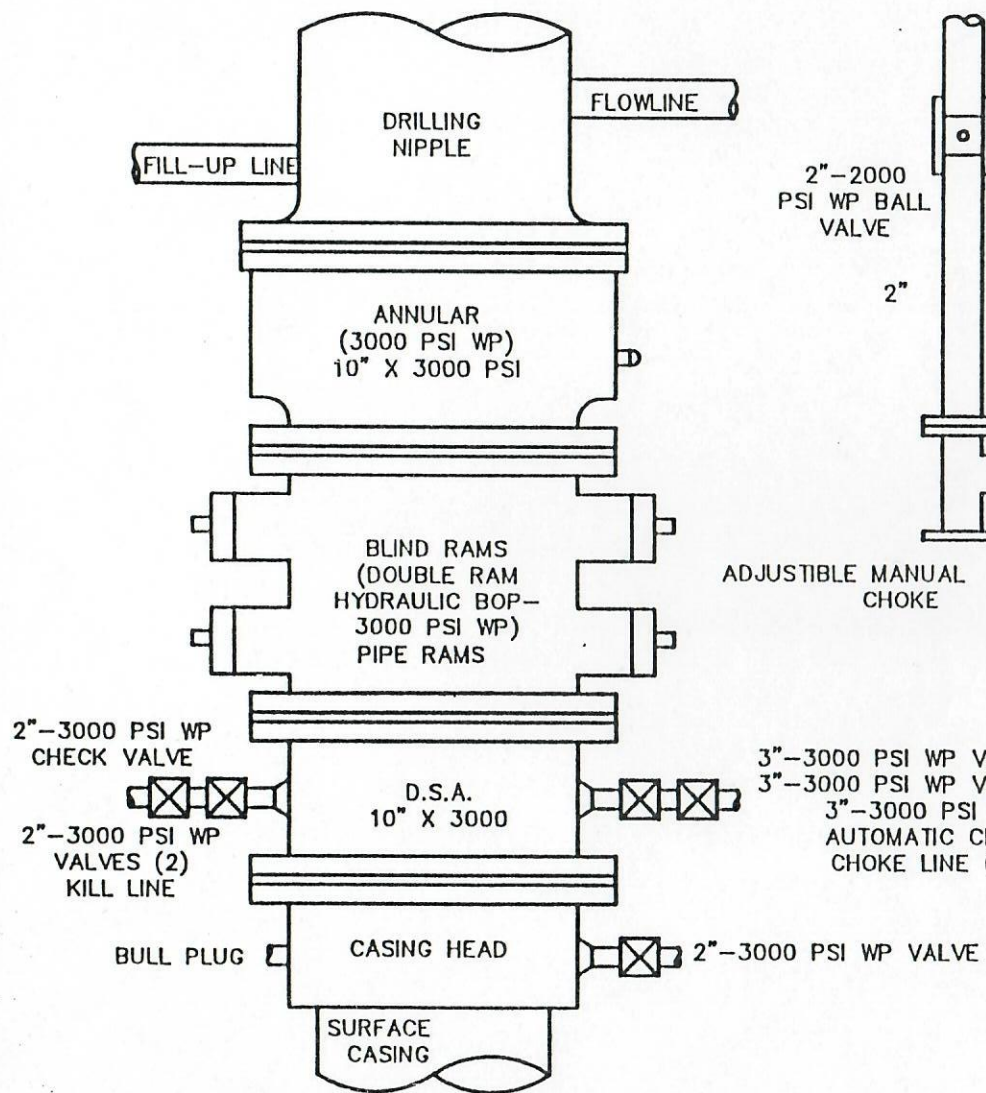
Drilling Program
Page 14

7. As appropriate, the unit agreement name, number and participating area name.
 8. As appropriate, the communitization agreement number.
- n. Any venting or flaring of gas will be done in accordance with Notice to Lessees (NTL 4A) and may need prior approval from the Resource Area Petroleum Engineer.
- o. All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in Notice to Lessee (NTL-3A) will be reported to the BLM - Little Snake Resource Area. Major events will be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production (Form 3160-6).

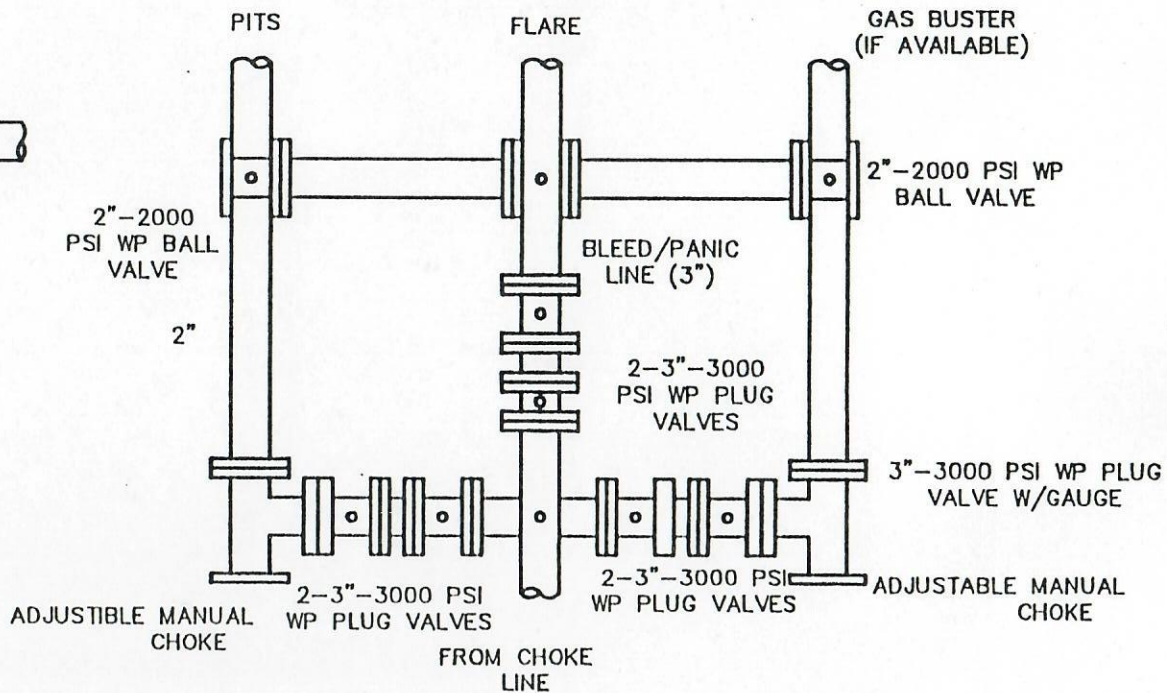


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BOP SCHEMATIC
3000 PSI WORKING PRESSURE



PLAN VIEW CHOKE MANIFOLD



THE HYDRAULIC CLOSING UNIT WILL BE LOCATED MORE THAN 30' FROM THE WELLHEAD. CHOKE AND BLEED/PANIC LINES WILL GO TO THE PIT AND FLARE. ALL CONNECTIONS IN CHOKE LINES AND MANIFOLD WILL BE FLANGED OR WELDED. ALL FLANGES SHOULD BE RING JOINT GASKET TYPE. ALL TURNS IN LINES SHALL BE CONSTRUCTED USING TARGETING 90° TEES OR ELLS. ALL LINES SHALL BE ANCHORED.

TYPICAL BOP EQUIPMENT. ACTUAL CONFIGURATION MAY VARY SLIGHTLY.

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Surface Use Plan
Page 1

**Approval of Operations on Onshore
Federal and Indian Oil and Gas Leases**

An onsite inspection of the subject well was conducted on Thursday, June 5, 1997 at approximately 1:00 p.m. Weather conditions were warm and sunny. In attendance at the onsite inspection were the following individuals:

Fred Conrath
Robert Kay
Lisa Smith
Don Johnson

Bureau of Land Management
Uintah Engineering & Land Surveying
Permitco Inc.
Julander Energy Company

1. Existing Roads

a. Directions to the location from Maybell, Colorado are as follows:

Proceed westerly on Highway 40 for 14.8 miles. Turn right on County Road 21 and proceed northerly for 11.4 miles. Turn right on County Road 71 and proceed 1.6 miles. Turn right onto the wellpad.

b. For access roads, see Maps "A" and "B".

c. All existing roads within a 2-mile radius are shown on Maps "A" and "B".

d. Improvement to existing roads will not be necessary. All roads are county maintained.

e. Existing roads will be maintained and kept in good repair during all drilling and completion operations associated with this well.

f. Existing roads and newly constructed roads on surface under the jurisdiction of any Surface Managing Agency shall be maintained in accordance with the standards of the SMA.

2. Access Roads to be Constructed and Reconstructed

- a. No new access will be necessary. An approach, approximately 50' in length will be constructed off of County Road #71 as shown on Map "B".
- b. The approach will be flatbladed with a running surface of approximately 14-18 feet. Drainage/water turnouts will be installed where necessary.
- c. Surface disturbance and vehicular travel will be limited to the approved location and approved access route. Any additional area needed will be approved in advance.
- d. The maximum grade of the approach will be approximately 3%.
- e. No turnouts are planned.
- f. No culverts or low water crossings will be necessary. There are no major cuts and fills.
- g. The access approach was centerline flagged at the time of staking.
- h. The use of surfacing material is not anticipated, however, it may be necessary depending on weather conditions.
- i. No cattleguards will be necessary.
- j. No right of way will be required since all roads are located within the lease boundaries or are maintained by the Moffat County Road Department.

3. Location of Existing Wells Within a 1-Mile Radius of the Proposed Location.

- a. Water Wells - none
- b. Injection or Disposal Wells - none
- c. Producing Wells - none

- d. Drilling Wells - none
- e. Temporarily Abandoned Wells - none
- f. Abandoned Wells - none

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

- a. All permanent structures (onsite for six months or longer) constructed or installed (including oil well pump jacks) will be painted a flat, non-reflective, earthtone color (Desert Tan) to match the standard environmental colors, as determined by the Rocky Mountain Five-State Interagency Committee. All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded.
- b. Compaction and construction of the berms surrounding the tank batteries will be designed to prevent lateral movement of fluids through the utilized materials, prior to storage of fluids. The berms must be constructed to contain a minimum of 110 percent of the storage capacity of the largest tank within the berm. All loading lines will be placed inside the berm.
- c. If the well is productive a production facility layout will be submitted. All portions of the pad not required for production operations will be reclaimed.
- d. All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the BLM - Little Snake Resource Area.
- e. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed.
- f. Gas meter runs for each well will be located within 500 feet of the wellhead. The gas flowline will be buried from the wellhead to the meter and 500 feet downstream of the meter run or any production facilities. Meter runs will be housed and/or fenced.



- g. The oil and gas measurement facilities will be installed on the well location. Oil and gas meters will be calibrated in place prior to any deliveries. The Resource Area Petroleum Engineer will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be submitted to the BLM - Little Snake Resource Area Office. All meter measurement facilities will conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.**
- h. A schematic facilities diagram as required by CFR 43, Part 3162.7-5, (b.9.d.) shall be submitted to the BLM - Little Snake Resource Area Office within sixty (60) days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Order No. 3, shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with 3162.7-5 (b.4.).**
- i. Any venting or flaring of gas will be done in accordance with Notice of Lessees (NTL 4A) and may need prior approval from the Resource Area Petroleum Engineer.**
- j. All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in Notice to Lessees (NTL-3A) will be reported to the BLM - Little Snake Resource Area. Major events will be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production (Form 3160-6, formerly 9-329).**
- k. Any production pits will be fenced with at least four (4) strands of barbed wire and held in place by side posts and corner H-braces to prevent wildlife entry.**
- l. All access roads will be upgraded and maintained as necessary to prevent erosion and accommodate year-round traffic.**

- m. Pursuant to Onshore Order No. 7, water produced from this well may be disposed of in an unlined pit for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90 day period. In order to meet this deadline, an application for the proposed permanent disposal method should be submitted along with any necessary water analysis, in compliance with Onshore Order No. 7 as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not be approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- n. The reserve pit will be properly backfilled and will not be used for production operations. No fluids, other than drilling fluids, will be placed in the reserve pit.

5. Location and Type of Water Supply

- a. Water will be purchased from a private source. The point of diversion has not been determined. A Sundry Notice will be submitted at a later date identifying the source and point of diversion.
- b. Water will be hauled to the location along the approved access roads.
- c. No water wells are to be drilled.

6. Construction Materials

- a. Surface and subsoil materials in the immediate area will be utilized.
- b. No construction materials will be removed from Federal lands.
- c. All surfacing material will be purchased from a private or commercial source.

- d. Any materials to be used which are under BLM jurisdiction shall be approved in advance, as per CFR 3610.2-3.

7. Methods for Handling Waste Disposal

- a. Drill cuttings are to be contained and buried in the reserve pit.
- b. Trash and garbage will be contained in a closed receptacle. Burning and/or burying is not authorized unless previously approved by the Authorized Officer during winter conditions. Contents from trash receptacle will be hauled to an approved landfill.
- c. Reserve pit fluids will evaporate or authorization for removal and disposal will be requested from the AO prior to backfilling the reserve pit.
- d. The salts and/or chemicals which are an integral part of the drilling system will be disposed of in the same manner as the drilling fluid.
- e. Chemical porta-toilets will be furnished with the drilling rig and their contents hauled to an approved disposal site at the end of drilling operations.
- f. The produced fluids will be produced into a test tank until such time as construction of production facilities is completed. Any spills of oil, gas salt water or other produced fluids will be cleaned up and removed.

8. Ancillary Facilities

No camps, airstrips or other facilities will be necessary.

9. Wellsite Layout

- a. The rig layout is attached.

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- b. A cross section of the well pad and cuts and fills are shown on the location layout.
- c. The location of reserve pit, trash cage, access roads onto the pad, living facilities, soil material stockpiles and orientation of the rig with respect to the pad and other facilities is shown on the location layout.
- d. Any areas to be disturbed will be stripped of brush and 6 inches of topsoil. Topsoil will be stockpiled separate from the brush and subsoil. Since this is an existing wellpad and the well will be drilled with a truck mounted rig, the need for surface disturbance is limited. It is anticipated that only the reserve pit area will be stripped.
- e. No pit liner will be required.
- f. Excavation of the reserve pit will require that at least one-half the fluid capacity is below the ground level.
- g. The reserve pit must be fenced on three sides during drilling; the fourth side must be fenced immediately after the rig is released. All fences will be constructed with corner H Braces to ensure stability. The fence will be kept in good repair while the pit is drying.

10. Plans for Reclamation of the Surface

- a. Immediately upon completion of drilling, all trash and debris will be collected from the location and surrounding area. All trash and debris will be disposed of in the trash cage and will then be hauled to an approved landfill.
- b. The reserve pit fluids will be allowed to evaporate through one entire summer season (June - August) after drilling is completed, unless an alternate method of disposal is approved. After the fluids disappear, the reserve pit muds will be allowed to dry sufficiently to allow backfilling. The backfilling of the reserve pit will be completed within 30 days after dry conditions exist and will meet the following requirements.



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1. Backfilling will be done in such a manner that the muds and associated solids will be confined to the pit and not squeezed out and incorporated in the surface materials.
 2. There will be a minimum of 5 feet of cover (overburden) on the pit.
 3. When the work is completed, the pit area will support the weight of heavy equipment without sinking and over time shall not subside over 6-inch depth.
- c. The Little Snake Resource Area office will be given 48-hour notification prior to construction and prior to any backfilling and/or recontouring activities.
 - d. The location will be reseeded with native grasses. A seed mixture and application rates will be furnished by the BLM.
 - e. In the event a producing well is completed, the unused areas of the well location will be recontoured to appropriate configuration (that allows lease operations and alleviates steep cut and fill slopes, minimizing accelerated erosion). Some of the stockpiled topsoil will be redistributed over the unused area and seeded.
 - f. In the event of a dry hole, the location will be recontoured to the original grade, topsoiled and seeded. The stockpiled brush and topsoil will be evenly distributed over the location.
 - g. All pits, cellars, rat holes and other bore holes unnecessary for further lease operations, excluding the reserve pit, will be backfilled immediately after the drilling rig is released. Pits, cellars and/or bore holes that remain on location must be fenced as specified for the reserve pit.
 - h. The lessee/operator is required to use the reclamation practices necessary to reclaim all disturbed areas. Reclamation will ensure surface and subsurface stability, growth of a self-regenerating permanent vegetative cover and compatibility with post land use. The vegetation will be diverse and of the same seasonal growth as adjoining vegetation. Post land use will be determined by the authorized officer but normally will be the same as adjoining uses.



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- i. Submission of the Final Abandonment Notice (FAN) will include the data collected and used to determine this reclamation standard has been met.
- j. Waste materials will be disposed of as stated in #7 of this Surface Use Plan.

11. Surface Ownership
Federal

Mineral Ownership
Federal

12. Other Information

- a. There will be no change from the proposed drilling and/or workover program without prior approval from the Area Manager. Safe drilling and operating practices must be used. All wells, whether drilling, producing, suspended, or abandoned will be identified in accordance with 43 CFR 3162.2.
- b. "Sundry Notice and Report on Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3164.
- c. All contractors employed to perform work on this location will be furnished and have onsite, a copy of the Surface Use Program and a copy of any supplemental conditions.
- d. A Class III archeological survey will not be required since this is a re-entry of an existing wellbore, and all equipment/disturbance will remain within the previously disturbed area.
- e. The operator is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator is to immediately stop work that might further



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Surface Use Plan

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disturb such materials, and contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places;
 - the mitigation measures the operator will likely have to undertake before the site can be used (assuring in situ preservation is not necessary); and,
 - a time frame for the AO to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.
- f. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.
- g. All state and local permits required for proposed operations will be obtained prior to commencing any activity that may be affected by such authorization.

13. Lessee's or Operator's Representative and Certification

PERMIT MATTERS

PERMITCO INC.
Lisa L. Smith
13585 Jackson Drive
Denver, CO 80241
303/452-8888

DRILLING & COMPLETION MATTERS

P & M Petroleum Management
1600 Broadway, Suite 1700
Denver, CO 80202
Robert W. Peterson - Petroleum Engineer
303/861-2470



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Surface Use Plan

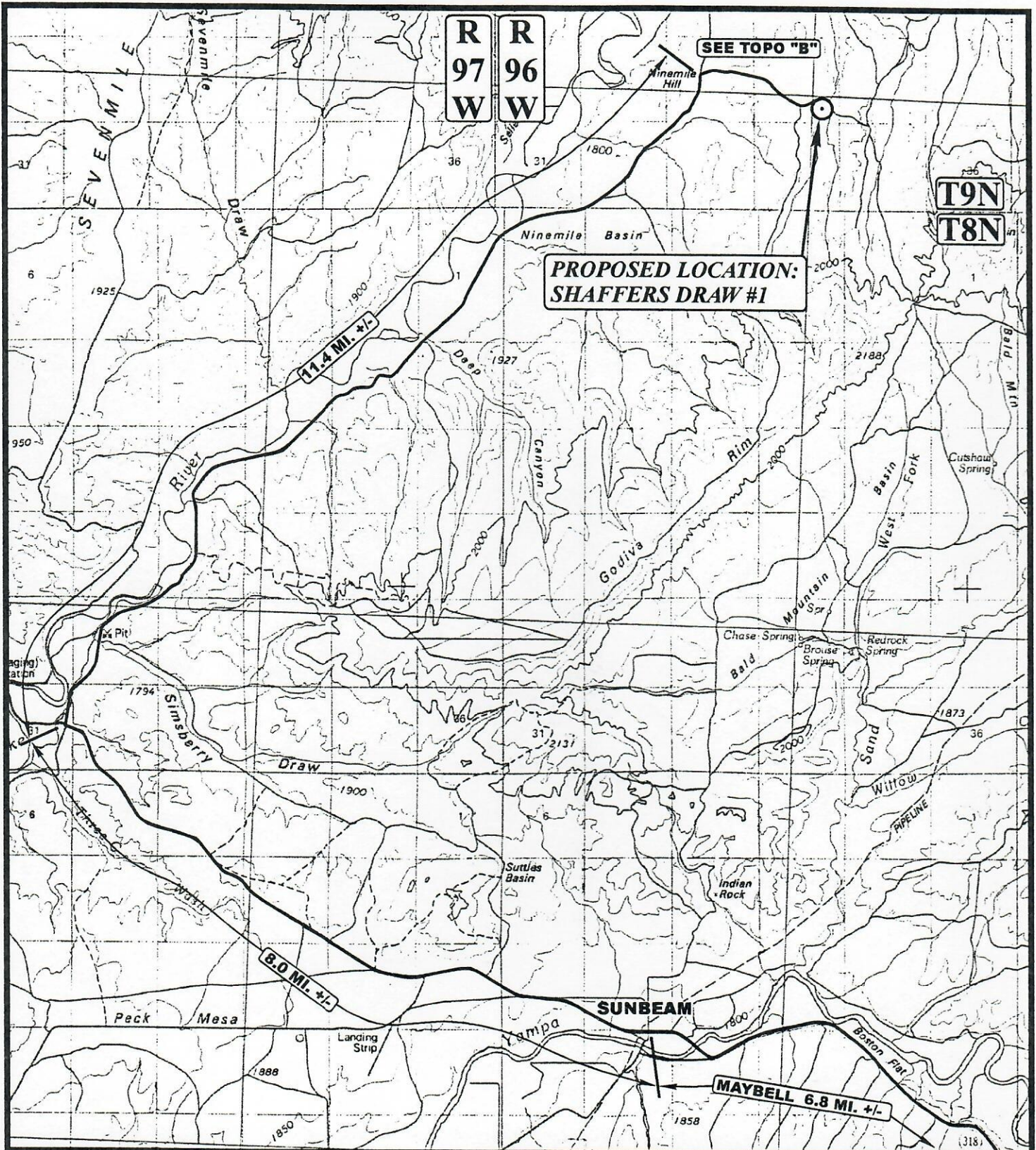
Page 11

CERTIFICATION

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 the operations proposed herein will be performed by P & M Petroleum Management, L.L.C. 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.

June 12, 1997
Date:

Lisa L. Smith - PERMITCO INC.
Authorized Agent for:
P & M Petroleum Management, L.L.C.



**PROPOSED LOCATION:
SHAFFERS DRAW #1**

SEE TOPO "B"

R 97 W
R 96 W

T9N
T8N

LEGEND:

⊙ PROPOSED LOCATION



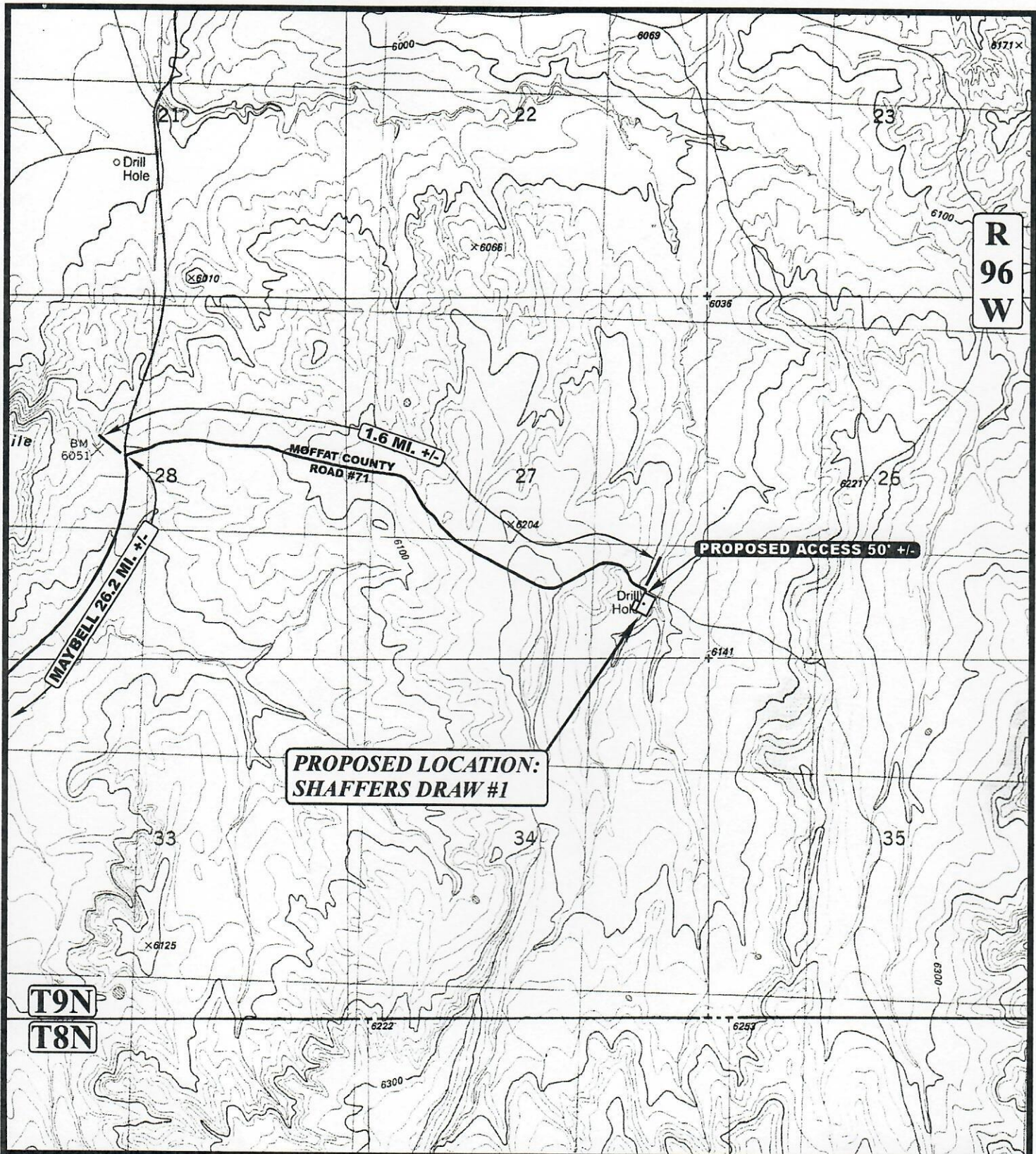
P & M PETROLEUM MANAGEMENT

SHAFFERS DRAW #1
SECTION 27, T9N, R96W, 6th P.M.
753' FSL 997' FEL

UEIS Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(801) 789-1017 * FAX (801) 789-1018
Email: uels@easilink.com

TOPOGRAPHIC **5 30 97**
MAP MONTH DAY YEAR
SCALE: 1 : 100,000 DRAWN BY: D.COX REVISED: 00-00-00





**PROPOSED LOCATION:
SHAFFERS DRAW #1**

PROPOSED ACCESS 50' +/-

**1.6 MI. +/-
MOFFAT COUNTY
ROAD #71**

MAYBELL 26.2 MI. +/-

LEGEND:

- PROPOSED ACCESS ROAD
- EXISTING ROAD

N



P & M PETROLEUM MANAGEMENT

**SHAFFERS DRAW #1
SECTION 27, T9N, R96W, 6th P.M.
753' FSL 997' FEL**



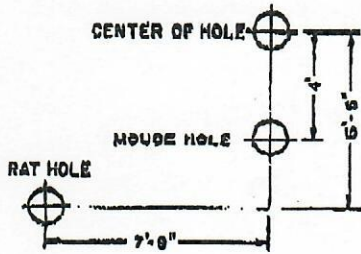
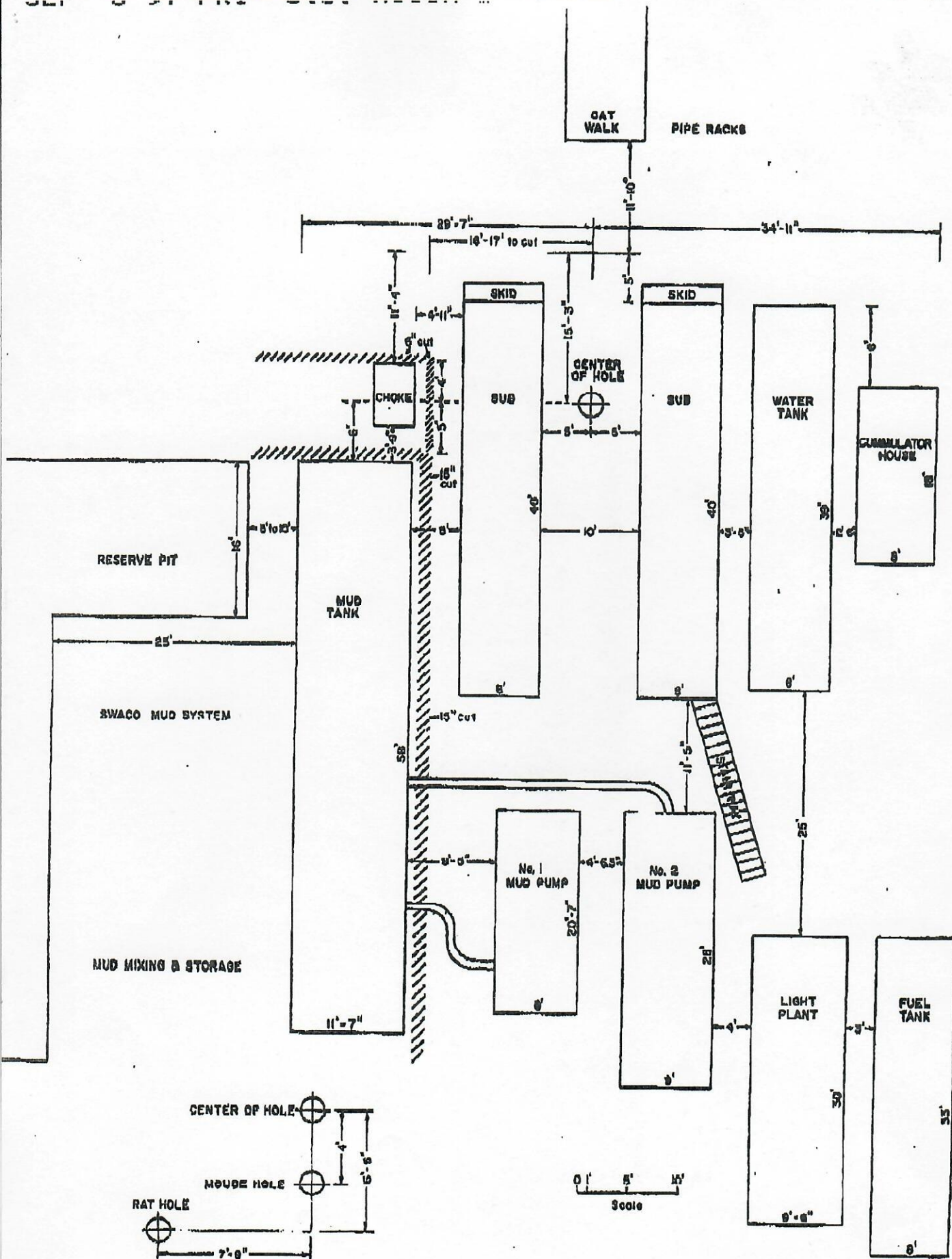
Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(801) 789-1017 * FAX (801) 789-1018
Email: uels@easilink.com

**TOPOGRAPHIC
MAP**

5 30 97
MONTH DAY YEAR

**B
TOPO**

SCALE: 1" = 2000' | DRAWN BY: D.COX | REVISED: 00-00-00



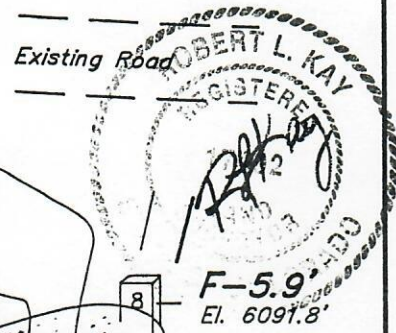
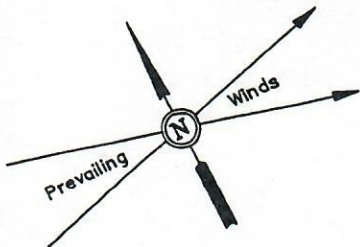
NUCOR DRILLING, INC.

RIG #4 2

P & M PETROLEUM MANAGEMENT

LOCATION LAYOUT FOR

SHAFFERS DRAW #1
SECTION 27, T9N, R96W, 6th P.M.
753' FSL 997' FEL



SCALE: 1" = 50'
DATE: 6-4-97
Drawn By: C.B.T.
Revised: 06-06-97 D.R.B.

C-1.3'
El. 6099.0'

Proposed Access Road

C-0.2'
El. 6097.9'

F-5.9'
El. 6097.8'

NOTE:
Flare Pit is to be located a min. of 100' from the Well Head.

FLARE PIT



Approx. Top of Cut Slope

6104
6106
Reserve Pit Backfill
El. 6107.1' & Spoils Stockpile
C-19.4'
(btm. pit)
El. 6099.0'

C-1.3'
El. 6099.0'

C-0.5'
El. 6098.2'

Sta. 3+25

35'

Approx. Toe of Fill Slope

DO NOT DISTURB BEYOND THIS LINE

Sta. 1+50

C-4.5'
El. 6102.2'

RESERVE PITS
(10' Deep)

Pit Capacity With
2' of Freeboard is
±15,490 Bbls.

10' WIDE BENCH

150'

SLOPE: 1 1/2 : 1

6108

906

6104

6102

Sta. 0+15

50'

125'

6102

6100

6098

6096

6094

6092

6090

Existing Ditch

Sta. 0+00

F-0.2'
El. 6097.5'

El. 6107.3'

C-19.6'
(btm. pit)

El. 6101.5'

C-3.8'

Topsoil Stockpile

C-4.2'
El. 6101.9'

Elev. Ungraded Ground at Location Stake = 6098.2'

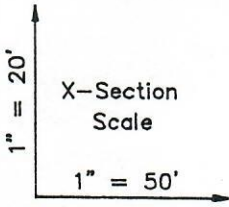
Elev. Graded Ground at Location Stake = 6097.7'

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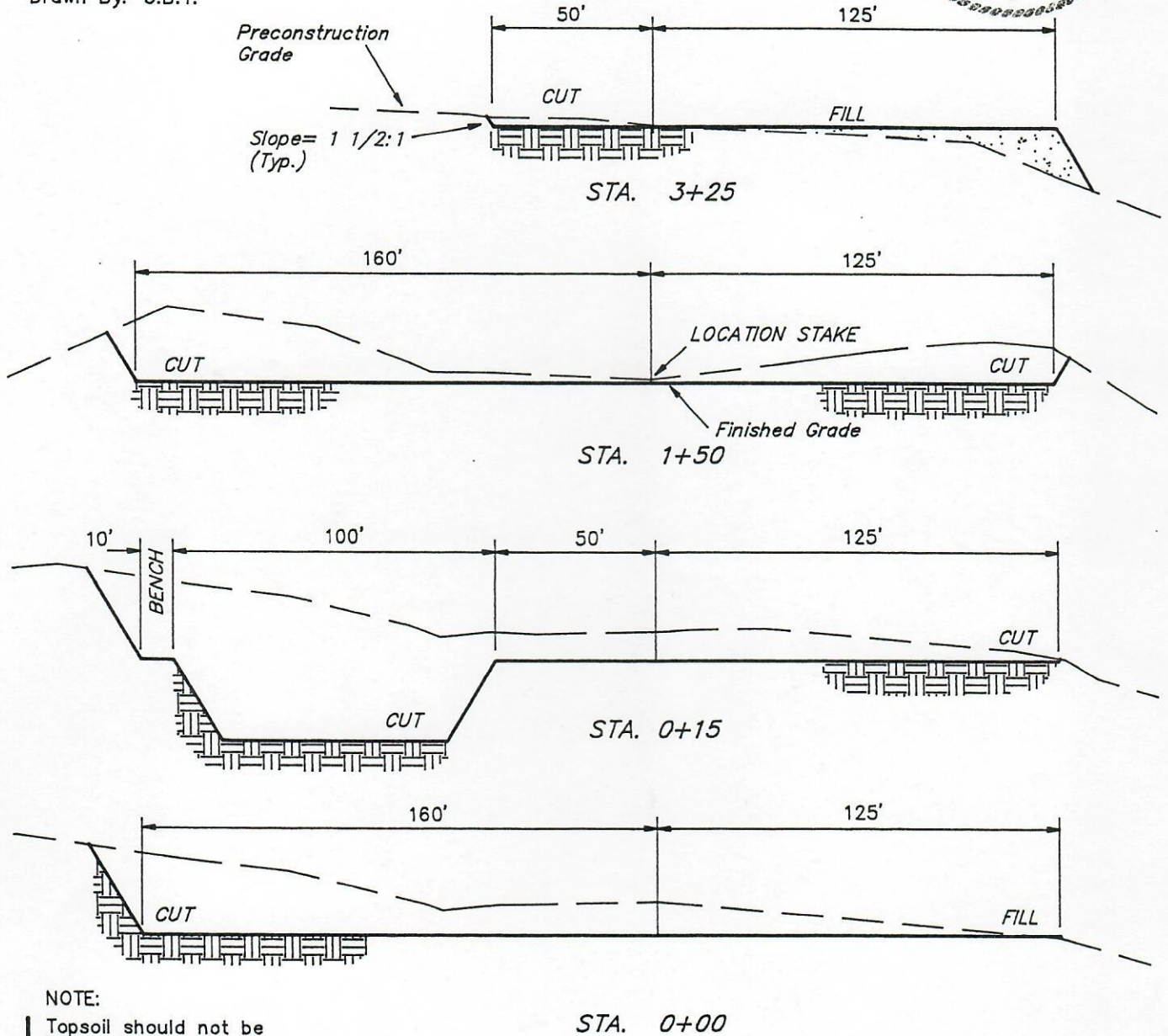
P & M PETROLEUM MANAGEMENT

TYPICAL CROSS SECTIONS FOR

SHAFFERS DRAW #1
SECTION 27, T9N, R96W, 6th P.M.
753' FSL 997' FEL



DATE: 6-4-97
Drawn By: C.B.T.



NOTE:

Topsoil should not be Stripped Below Finished Grade on Substructure Area.

APPROXIMATE YARDAGES

(6") Topsoil Stripping	=	1,330 Cu. Yds.
Remaining Location	=	11,050 Cu. Yds.
TOTAL CUT	=	12,380 CU.YDS.
FILL	=	770 CU.YDS.

EXCESS MATERIAL AFTER 5% COMPACTION	=	11,570 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	=	2,570 Cu. Yds.
EXCESS UNBALANCE (After Rehabilitation)	=	9,000 Cu. Yds.

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There are no federal stipulations at this time.



A Class III Archeological Survey will not be required since this is a re-entry of an existing well bore and all equipment/disturbance will remain within the previously disturbed area.



Permitco Incorporated
A Petroleum Permitting Company