New Mexico Oil Conservation Division, District I
1625 N. French Drive
Hobbs, NM 88240

Form 3160 -3
(April 2004)

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No: NMNM-119274

6 If Indian, Allotee or Tribe Name:

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

Ia Type of work- ☐ DRILL ☒ REENTER

Ib Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone

8, Lease Name and Well No: Peery Federal #5 <303941>

2 Name of Operator: Mack Energy Corporation <13837>

9 API Well No.: 30-005-21129

3a Address: P.O. Box 960 Artesia, NM 88211-0960

3b PhoneNo (include area code): (575)748-1288

10 Field and Pool, or Exploratory: ~~Strawn~~ Little Lucky Lake Penn

4 Location of Well (Report location clearly and in accordance with any State requirements*)

At surface: 760 FNL & 1775 FEL Unit B

At proposed prod zone:

11 Sec , T R M or Blk and Survey or Area: Sec. 29 T15S R30E

14 Distance in miles and direction from nearest town or post office*: 11 miles north of Loco Hills, NM

12. County or Parish: Chaves

13 State: NM

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drlg unit line, if any)	16 No of acres in lease	17 Spacing Unit dedicated to this well
455	640	40

18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft	19 Proposed Depth	20 BLM/BIA Bond No on file
1320	9850	NMB000286

21 Elevations (Show whether DF, KDB, RT, GL, etc.)	22 Approximate date work will start*	23. Estimated duration
3982' GR	4/17/08	2 days

24 Attachments

ROSWELL CONTROLLED WATER BASIN

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No 1, shall be attached to this form

1 Well plat certified by a registered surveyor
2 A Drilling Plan
3 A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office)
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above),
5 Operator certification
6 Such other site specific information and/or plans as may be required by the authorized officer

25 Signature	Name (Printed/Typed)	Date
Jerry W. Sherrell	Jerry W. Sherrell	3/19/08
Title: Production Clerk		
Approved by (Signature): /S/ JOHN S. SIMITZ	Name (Printed/Typed): /S/ JOHN S. SIMITZ	Date: 5-19-08
Title: Assistant Field Manager, Lands And Minerals	Office: ROSWELL FIELD OFFICE	APPROVED FOR 2 YEARS

Application approval does not warrantor certify that the applicant holds lega orequitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon
Conditions of approval, if any, are attached

Title 18 U S C Section 1001 and Tide 43 U.S C Section 1212 make it a crime for any person knowirilly and willfully to make to any department or agency ofthe United States any false, fictitious or fraudulent statements or representations as to any matter within its juris iction.

(Instructions on page 2)

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MAY 21 2008
HOBBS OCD

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS ATTACHED

ubmit to Appropriate
istrict Office
ate Lease - 4 copies
ee Lease - 3 copies

DISTRICT I
O. Box 1980, Hobbs, NM 88240

DISTRICT II
.O. Drawer DD, Artesia, NM 88210

DISTRICT III
000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

JUL 28 1 40 PM '94

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

30-005-21129

Operator	Lease	Well No.
Mack Energy Corporation	Peery Federal	5

Unit Letter	Section	Township	Range	County
B	~~20~~ 29	15 South	30 East NMPM	Chaves

Actual Footage Location of Well:
760 feet from the North line and 1775 feet from the East line

Ground level Elev.	Producing Formation	Pool	Dedicated Acreage:
3982	Strawn	Little Lucky Lake Penn	40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below

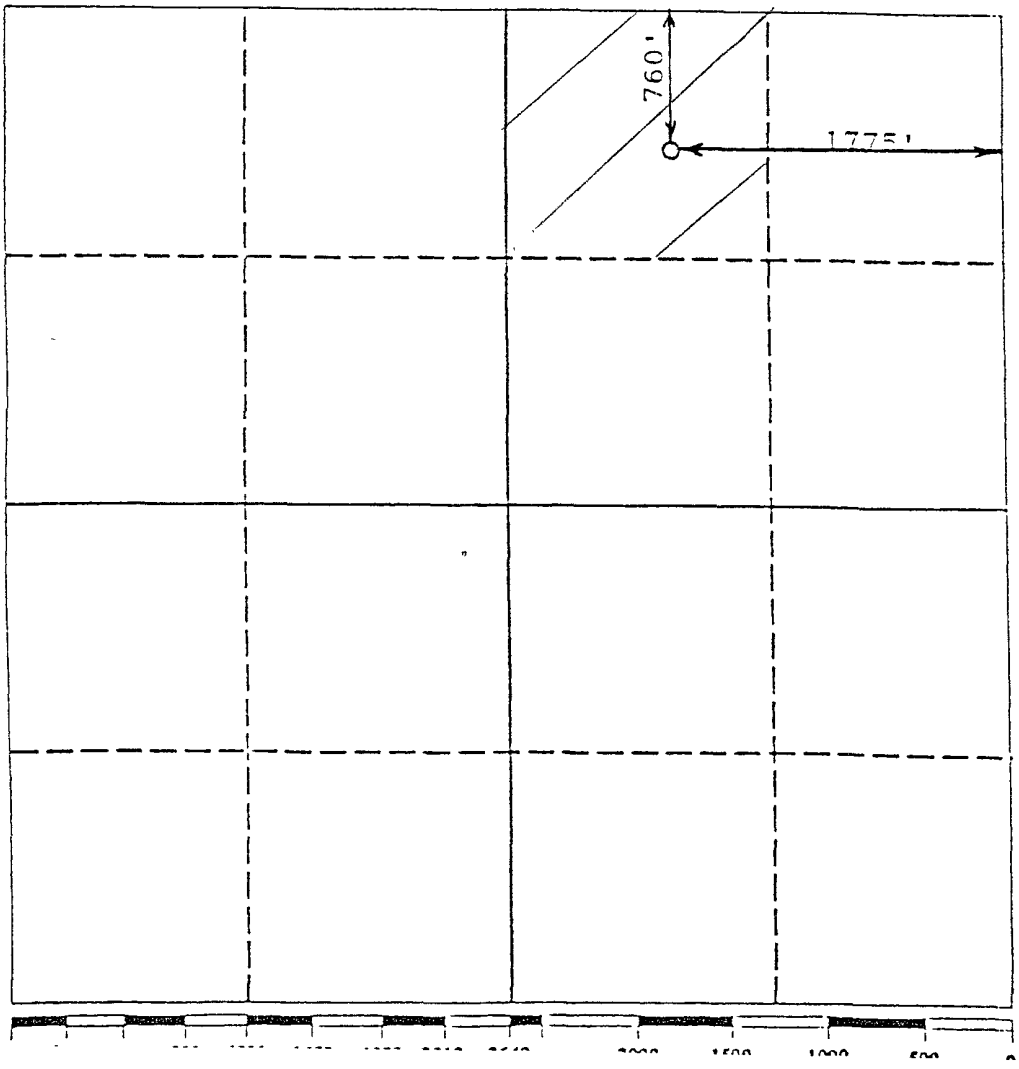
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?

☐ Yes ☐ No If answer is "yes" type of consolidation _____

If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary. _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



OPERATOR CERTIFICATION

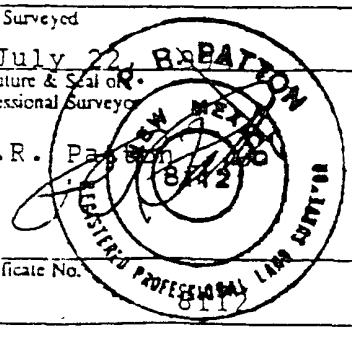
I hereby certify that the information contained herein in true and complete to the best of my knowledge and belief.

Signature: H. E. Gene Lee
Printed Name: H. E. GENE LEE
Position: AGENT
Company: PALOMA RESOURCES, INC.
Date: 7-25-94

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed: July 22, 1994
Signature & Seal of Professional Surveyor: P.R. Patton
Certificate No. 8142



Attached to Form 3160-3
Mack Energy Corporation
Peery Federal #5
760 FNL & 1775 FEL Unit B, Sec. 29 T15S R30E
Chaves County, NM

REVISED

DRILLING PROGRAM
Re-entry

1. **Geologic Name of Surface Formation**

   Quaternary

2. **Estimated Tops of Important Geologic Markers:**

Quaternary	Surface	Abo	6430'
San Andres	2837'	Wolfcamp	7708'
Glorieta	4350'	Atoka	9850'
Tubb	5590'	Morrow	9934'

3. **Estimated Depths of Anticipated Fresh Water, Oil and Gas:**

Water Sand	150'	Fresh Water
San Andres	2837'	Oil/Gas
Tubb	5590'	Oil/Gas
Wolfcamp	7708'	Oil/Gas
Atoka	9850'	Oil/Gas

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2009 MAR 26 AM 6:54
BUREAU OF LAND MGMT.
ROSWELL OFFICE

4. **Casing Program: Existing**

   13 3/8" 48#, set @ 428' w/450sx, circulated
   8 5/8" 32 & 24#, set 2950' w/900sx, circulated
   5 1/2" 17#, set @ 12,230' w/2675sx, TOC @ 2096'

5. **Cement Program:**

   Squeeze San Andres perfs from 3552-3578'

6. **Minimum Specifications for Pressure Control:**

   The blowout preventer equipment (BOP) will consist of a double ram-type 7 1/16 5000# Model T-81 preventer(attached). This unit will be manually operated and the ram type preventer will be equipped with blind rams on top of 2 7/8" tubing rams on bottom. The BOP will be nippled up on the 5 1/2" wellhead and used continuously until completed.

7. **Types and Characteristics of the Proposed Mud System:**

   The well will be drilled with a **closed loop system** to TD with a combination of cut brine and polymer mud system. The depths and properties of this system are as follows:

DEPTH	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-TD	Cut Brine	9.1	29	N.C.

8. Abnormal Conditions, Pressures, Temperatures and Potential Hazards:

No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 120 degrees and estimated maximum bottom hole pressure is 3862 psig. Low levels of Hydrogen sulfide have been found in producing wells in the area.

9. Anticipated Starting Date and Duration of Operations:

As soon as approved. Once approved, drilling should be finished in appr. 2 days.

SURFACE USE AND OPERATING PLAN

1. Existing & Proposed Access Roads

A. This is an existing P & A'd well, therefore no new contruction is anticipated. Re-surfacing of road and location will be neccessary.

B. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.

2. Proposed Access Road:

Access to this lease via NM-120085.

A. Surfacing material will consist of native caliche. Caliche will be obtained from the nearest BLM approved caliche pit or reserve pit area.

3. Location of Existing and/or Proposed Facilities:

A. Mack Energy Corporation does not operate a production facility on this lease.

B. If the well is productive, contemplated facilities will be as follows:

1) Strawn Completion: Will be sent to the Peery Federal TB located at the #2 well. The Facility is shown in Exhibit #5.

2) The tank battery and facilities including all flow lines and piping will be installed according to API specifications.

3) Any additional caliche will be obtained from a BLM approved caliche pit. Any additional construction materials will be purchased from contractors.

4) It will be necessary to run electric power if this well is productive. Power will be run by CVE and they will send in a separate plan for power.

Attached to Form 3160-3
Mack Energy Corporation
Peery Federal #5
760 FNL & 1775 FEL Unit B, Sec. 29 T15S R30E
Chaves County, NM

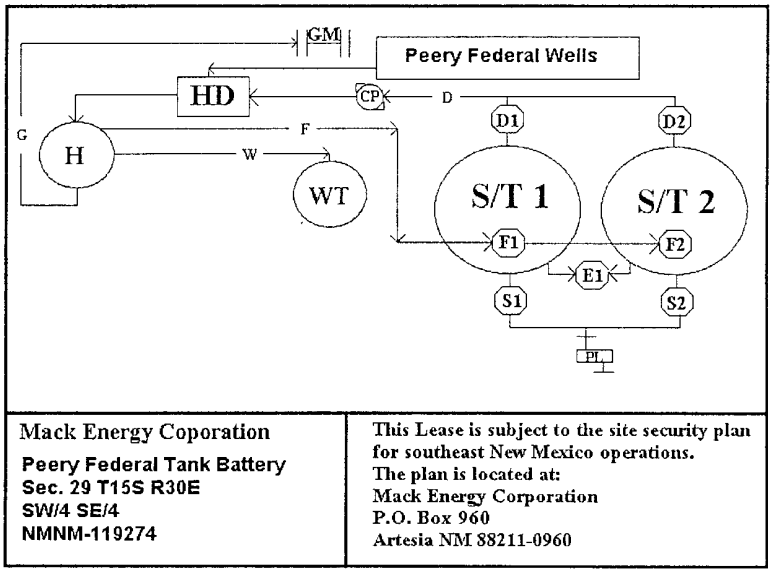


Exhibit #5

4. Location and Type of Water Supply:

The well will be drilled with brine water mud system. The water will be obtained from commercial water stations in the area and hauled to location.

5. Methods of Handling Water Disposal:

A. Drilling fluids will be contained in steel tanks using a **closed loop system**.

B. Garbage and trash produced during drilling or completion operations will be collected in a trash bin and hauled to an approved landfill.

6. Well Site Layout:

A. The well pad layout is shown in Exhibit #6. Dimensions of the pad are shown.

Attached to Form 3160-3
Mack Energy Corporation
Peery Federal #5
760 FNL & 1775 FEL Unit B, Sec. 29 T15S R30E
Chaves County, NM

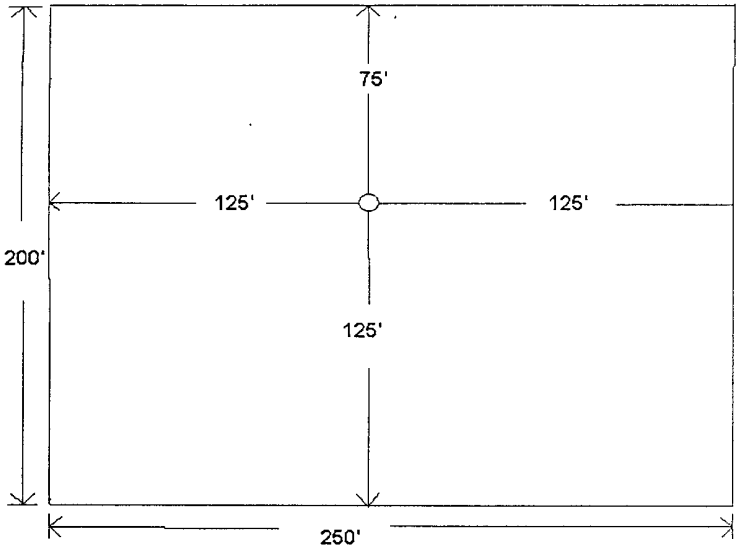


Exhibit #6

7. Plans for Restoration of the Surface:

A. In the event of a dry hole. Location will be recontoured to its original natural level and reseeded as per BLM specifications.

8. Surface Ownership:

The well site and lease is located entirely on Federal surface. We have notified the surface lessee of the impending operations. According to BLM the leasee is Bogel Limited Company, Lewis Derrick, P.O. Box 460 Dexter, NM 88230.

9. Other Information:

A. A Cultural Resources Examination has been completed by previous operator.

10. Lessee's and Operator's Representative:

The Mack Energy Corporation representative responsible for assuring compliance with the surface use plan is as follows:

Jerry W. Sherrell
Mack Energy Corporation
P.O. Box 960
Artesia, NM 88211-0960
Phone (505) 748-1288 (office)

Attached to Form 3160-3
Mack Energy Corporation
Peery Federal #5
760 FNL & 1775 FEL Unit B, Sec. 29 T15S R30E
Chaves County, NM

Mack Energy Corporation

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards an characteristics of hydrogen sulfide (H2S)

2. The proper use and maintenance of personal protective equipment and life support systems.

3. The proper use of H2S detectors alarms warning systems, briefing areas, evacuation procedures, and prevailing winds.

4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H2S on metal components. If high tensile tubular are to be used, personnel well be trained in their special maintenance requirements.

2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.

3. The contents and requirements of the H2S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H2S zone (within 3 days or 500 feet) and weekly H2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H2S Drilling Operations Plan and the Public Protection Plan. **The concentrations of H2S of wells in this area from surface to TD are low enough that a contingency plan is not required.**

II. H2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonable expected to contain H2S.

1. **Well Control Equipment:**

   A. Flare line.

B. Choke manifold.

C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.

2. Protective equipment for essential personnel:

A. Mark II Survive air 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

3. H2S detection and monitoring equipment:

A. 1 portable H2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 PPM are reached.

4. Visual warning systems:

A. Wind direction indicators as shown on well site diagram (Exhibit #8).

B. Caution/Danger signs (Exhibit #7) shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

5. Mud program:

A. The mud program has been designed to minimize the volume of H2S circulated to surface. Proper mud weight, safe operating practices, and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.

6. Metallurgy:

A. All drill strings, tubing, wellhead, blowout preventer, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.

B. All elastomers used for packing and seals shall be H2S trim.

7. Communication:

A. Radio communications in company vehicles including cellular telephone and 2-way radio.

B. Land line (telephone) communication at Office.

Attached to Form 3160-3
Mack Energy Corporation
Peery Federal #5
760 FNL & 1775 FEL Unit B, Sec: 29 T15S R30E
Chaves County, NM

EXHIBIT #7

WARNING

YOU ARE ENTERING AN H2S

AUTHORIZED PERSONNEL ONLY

1. **BEARDS OR CONTACT LENSES NOT ALLOWED**
2. **HARD HATS REQUIRED**
3. **SMOKING IN DESIGNATED AREAS ONLY**
4. **BE WIND CONSCIOUS AT ALL TIMES**
5. **CHECK WITH MACK ENERGY FOREMAN AT OFFICE**

MACK ENERGY CORPORATION

1-505-748-1288

CERTIFICATION

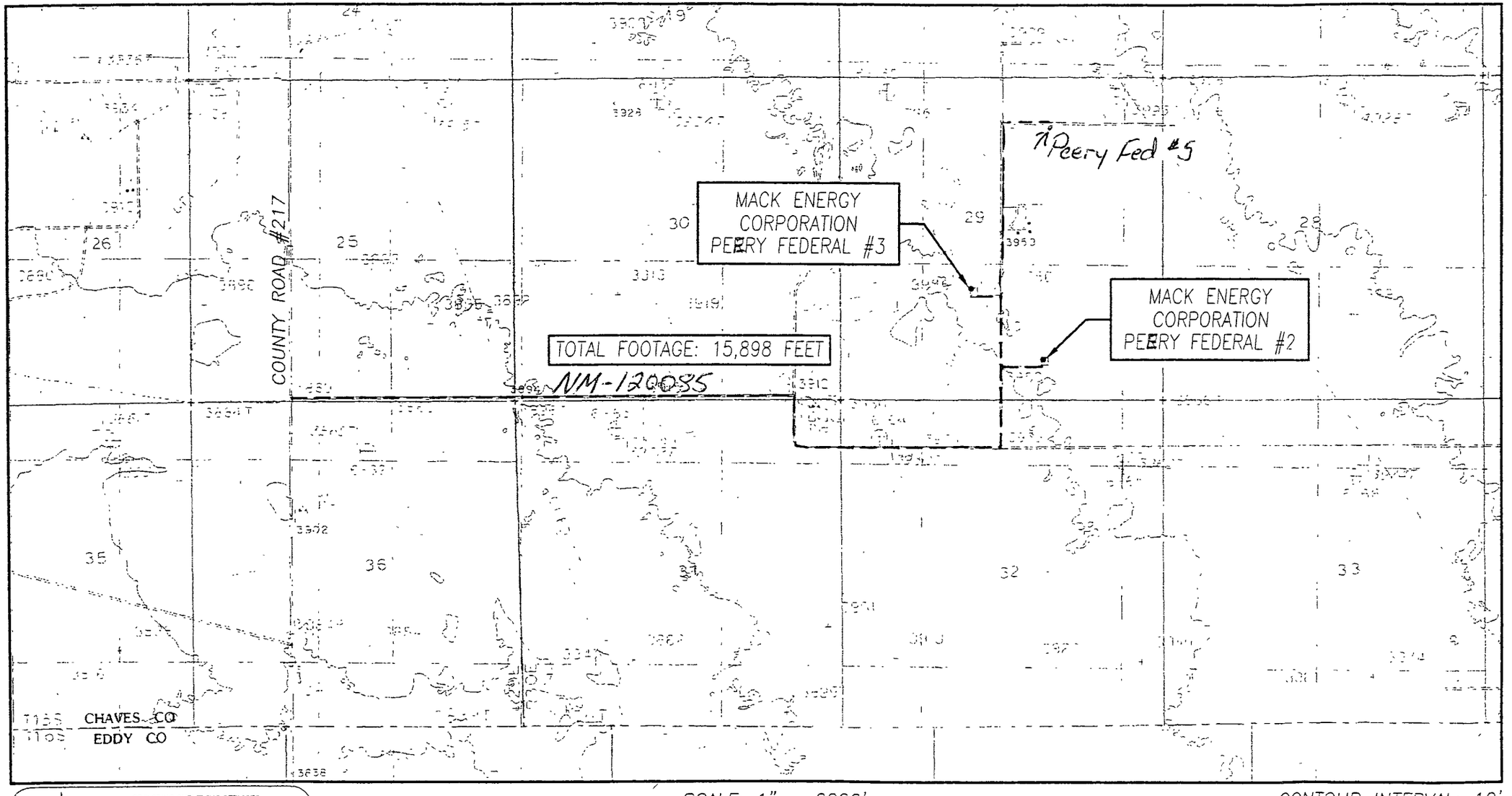
I hereby certify that I, or person under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this APD are to the best of my knowledge, true and correct; and the work associated with the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

Date: 3-25-08 Signed: Jerry W. Sherrell

Jerry W. Sherrell

SECTION 29, 30, 31 & 32, TOWNSHIP 15 SOUTH, RANGE 30 EAST & SECTION 25, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M.

CHAVES COUNTY – NEW MEXICO



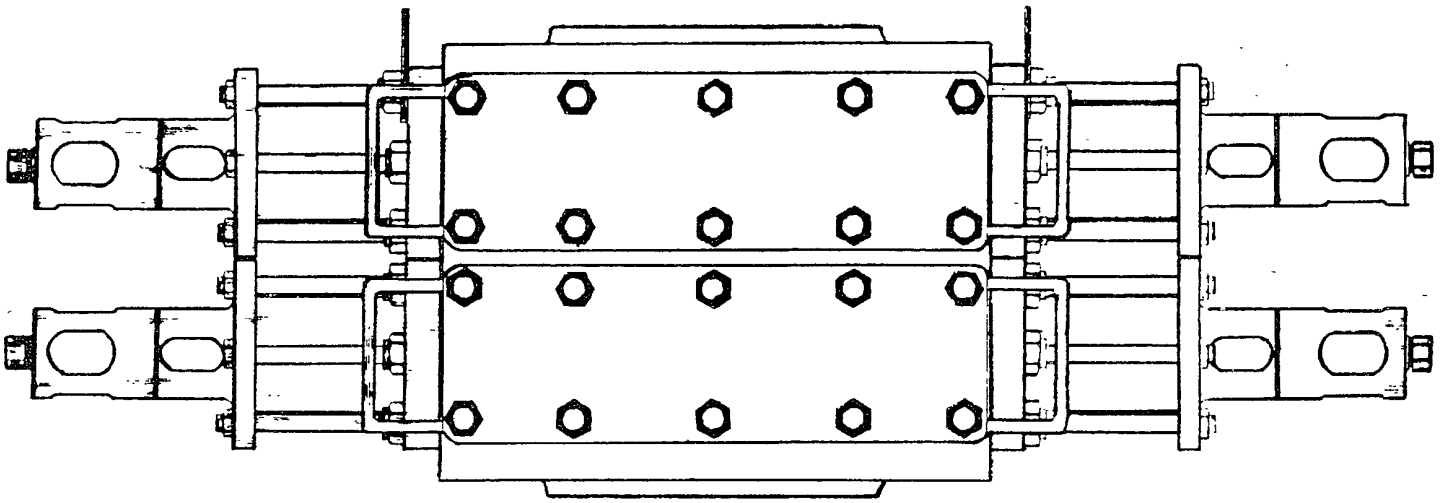
PROVIDING SURVEYING SERVICES SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'
HENSHAW TANK, N.M.

HYDRAULIC BOP
7-1/16" × 5,000#

	TO OPEN	TO CLOSE
Maximum operating pressure (psi)	1,500	1,500
Ratio		4.5:1
Volume of fluid (U.S gallons)	.60	.73
Piston Stroke (inches)	4-1/4"	4-1/4"



DIMENSIONS AND WEIGHTS

		HYDRAULIC
Weight	Single (pounds)	1,400#
	Double (pounds)	2,200#
Overall height, less studs	Single (inches)	13¼"
	Double (inches)	22½"
Overall length (inches)		65"
Overall width, less handwheel (inches)		24"
Opening through preventer (inches)		7-1/16"
Working pressure (psi)		5,000#
Test pressure (psi)		10,000#

TOWNSEND MACHINE & SUPPLY, INC.
5381 W. 42nd Street • P.O. Box 69138 • Odessa, TX 79769
OFFICE 915/381-8750 FAX 915/381-6324
24 HR. SERVICE 915/367-8963

TYPE 84 ANNULAR TYPE BOP

DIMENSIONS & SPECIFICATION DATA

DIMENSIONS								
DESCRIPTION		7-1/16 x 3M	7-1/16 x 5M Shorty	9 x 3M	9 x 5M	11 x 3M	11 x 5M	13-5/8 x 3M
Overall Height Studded Top (Less Studs)	Studded Bottom	27-3/4"	30-3/4"	32-3/4"	33"	34-1/4"	39-5/8"	39-3/8"
	Flanged	32"	34"	37-3/4"	38"	39-1/4"	47-3/4"	45-1/4"
Overall Width	Body Only	26"	26"	28"	28"	33-3/4"	37-1/2"	40-1/2"
	With Lift Eyes	32"	32"	34-1/2"	34-1/2"	40-3/8"	44-1/4"	47-1/2"
Through Bore		7-1/16"	7-1/16"	9"	9"	11"	11"	13-5/8"
Working Pressure (PSI)		3,000	5,000	3,000	5,000	3,000	5,000	3,000
Test Pressure (PSI)		6,000	10,000	6,000	10,000	6,000	10,000	6,000

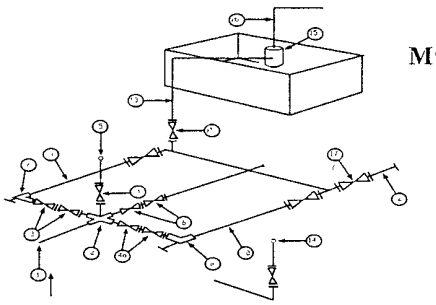
BOP CAPACITIES							
DESCRIPTION	7-1/16 x 3M	7-1/16 x 5M Shorty	9 x 3M	9 x 5M	11 x 3M	11 x 5M	13-5/8 x 3M
Maximum Operating Pressure/PSI (to open & close)	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Recommended Operating Pressure/PSI (to open & close)	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Volume to Open U S Gallons	2.24	2.240	3.41	3.41	5.54	7.98	8.94
Volume to Close U S Gallons	2.85	3.85	4.33	6.84	7.43	9.81	11.36
Piston Stroke	4-1/8"	4-1/2"	5-3/4"	5-3/4"	6-1/8"	7-1/8"	7-1/8"

WEIGHTS							

DESCRIPTION	7-1/16 x 3M	7-1/16 x 5M Shorty	9 x 3M	9 x 5M	11 x 3M	11 x 5M	13-5/8 x 3M
Studded	2,500	3,540	3,420	3,500	5,300	7,800	8,528
Flanged	2,675	3,940	3,560	3,650	5,450	8,250	8,775

Mack Energy Corporation

Exhibit #1-A
MIMIMUM CHOKE MANIFOLD
3,000, 5,000, and 10,000 PSI Working Pressure
3 M will be used or greater
3 MWP - 5 MWP - 10 MWP



Mud Pit

Reserve Pit

*** Location of separator optional**

Below Substructure

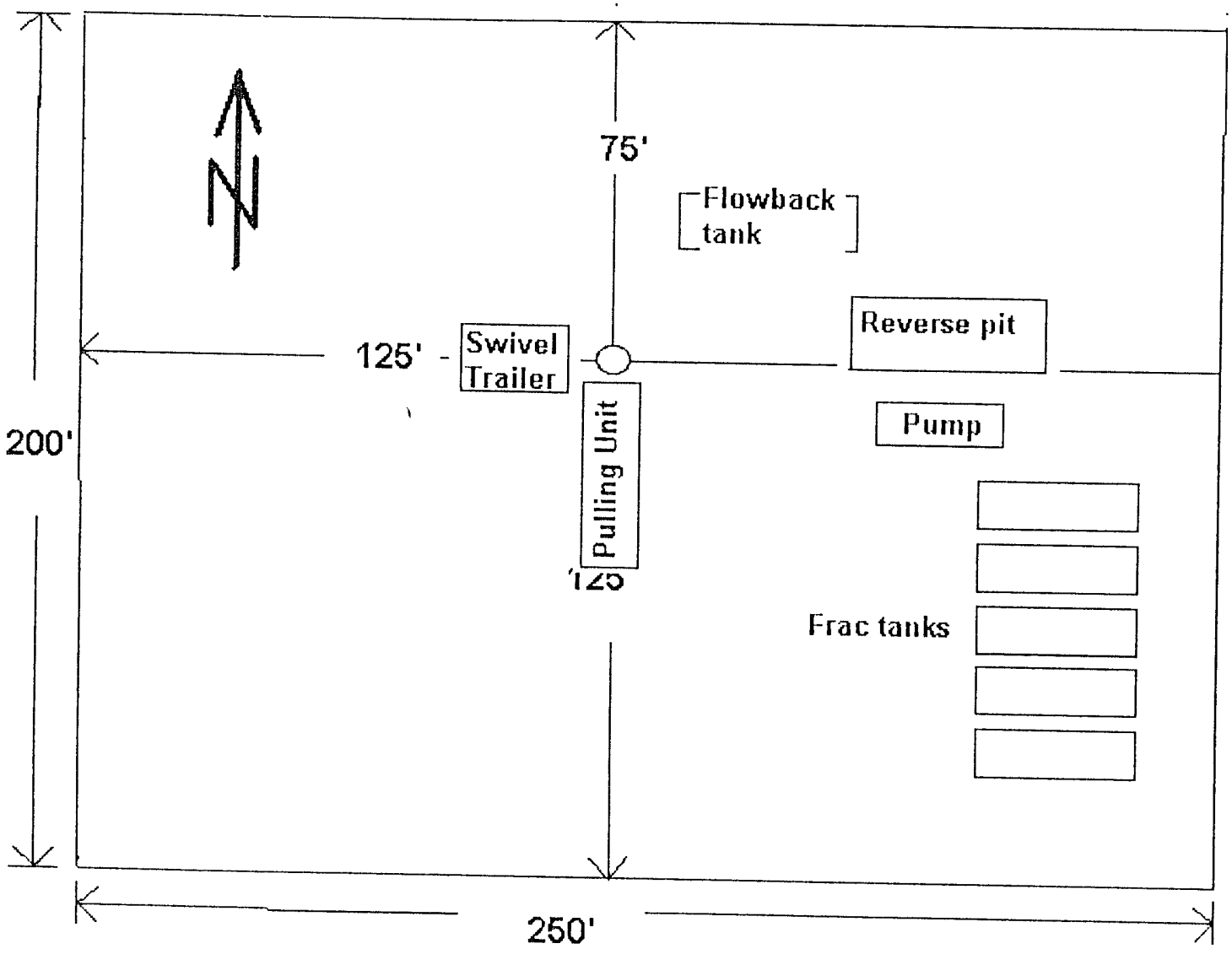
Mimimum requirements

		3,000 MWP			5,000 MWP			10,000 MWP		
No.		**I.D.**	**NOMINAL**	**Rating**	**I.D.**	**Nominal**	**Rating**	**I.D.**	**Nominal**	**Rating**
1	Line from drilling Spool		3"	3,000		3"	5,000		3"	10,000
2	Cross 3" x 3" x 3" x 2"			3,000			5,000			
2	Cross 3" x 3" x 3" x 2"									10,000
3	Valve Gate Plug	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000
4	Valve Gate Plug	1 13/16		3,000	1 13/16		5,000	1 13/16		10,000
4a	Valves (1)	2 1/16		3,000	2 1/16		5,000	2 1/16		10,000
5	Pressure Gauge			3,000			5,000			10,000
6	Valve Gate Plug	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000
7	Adjustable Choke (3)	2"		3,000	2"		5,000	2"		10,000
8	Adjustable Choke	1"		3,000	1"		5,000	2"		10,000
9	Line		3"	3,000		3"	5,000		3"	10,000
10	Line		2"	3,000		2"	5,000		2"	10,000
11	Valve Gate Plug	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000
12	Line		3"	1,000		3"	1,000		3"	2.000
13	Line		3"	1,000		3"	1,000		3"	2,000
14	Remote reading compound Standpipe pressure quage			3,000			5,000			10,000
15	Gas Separator		2' x5'			2' x5'			2' x5'	
16	Line		4"	1,000		4"	1,000		4"	2,000
17	Valve Gate Plug	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000

(1) Only one required in Class 3M
(2) Gate valves only shall be used for Class 10 M
(3) Remote operated hydraulic choke required on 5,000 psi and 10,000 psi for drilling

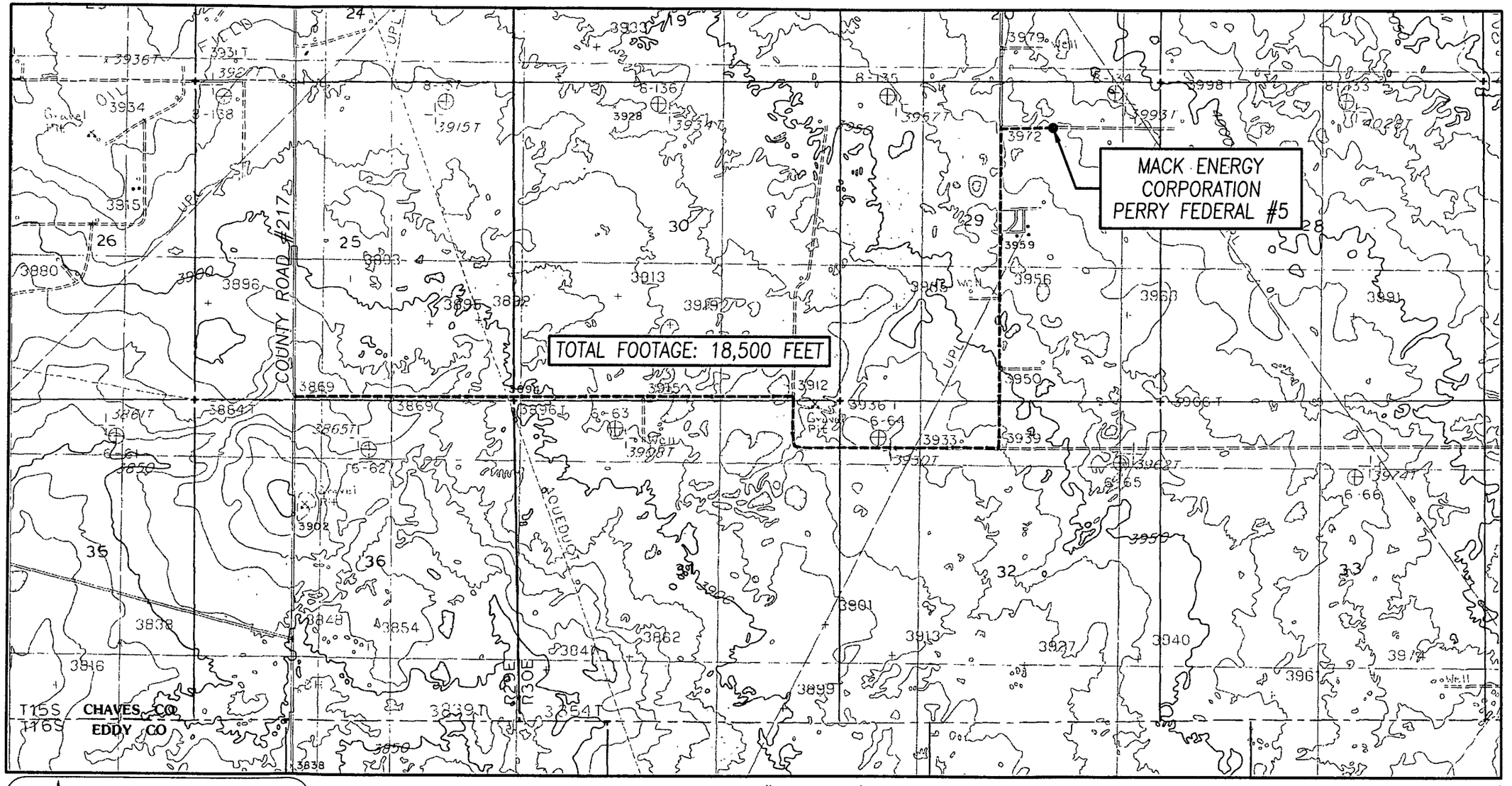
EQUIPMENT SPECIFICATIONS AND INSTALLATION INSTRUCTION

1 All connections in choke manifold shall be welded, studded, flanged or Cameron clamp of comparable rating.
2. All flanges shall be API 6B or 6BX and ring gaskets shall be API RX or BX. Use only BX for 10 MWP.
3 All lines shall be securely anchored
4 Chokes shall be equipped with tungsten carbide seats and needles, and replacements shall be available.
5 Choke manifold pressure and standpipe pressure gauges shall be available at the choke manifold to assist in regulating chokes As an alternate with automatic chokes, a choke manifold pressure gauge shall be located on the rig floor in conjunction with the standpipe pressure gauge
6. Line from drilling spool to choke manifold should bee as straight as possible Lines downstream from chokes shall make turns by large bends or 90 degree bends using bull plugged tees.


N
75'
Flowback tank
125'
Swivel Trailer
Reverse pit
Pump
Pulling Unit
125'
Frac tanks
200'
250'

SECTION 29, 30, 31 & 32, TOWNSHIP 15 SOUTH, RANGE 30 EAST & SECTION 25, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M.

CHAVES COUNTY – NEW MEXICO



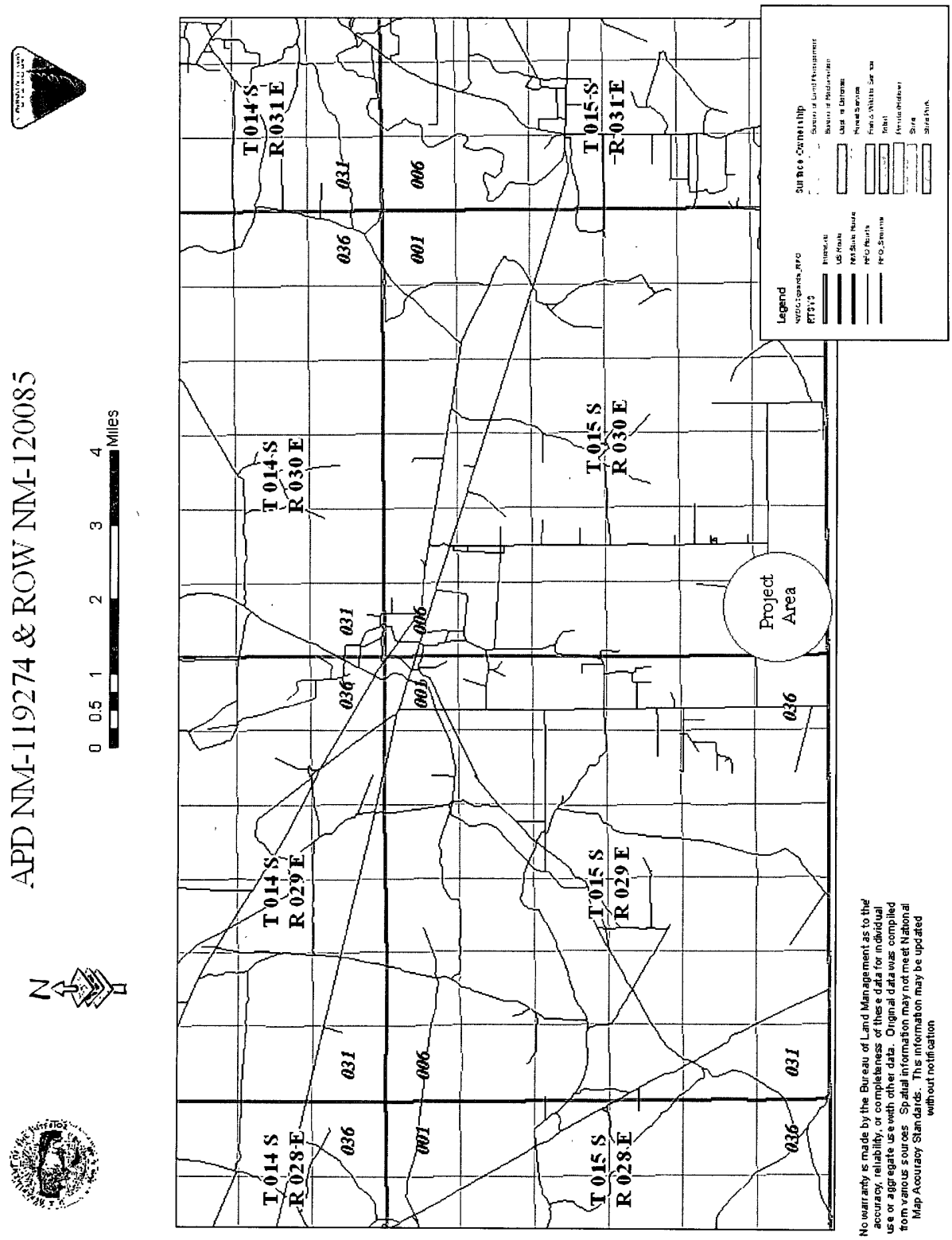
PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

SCALE: 1" = 2000'

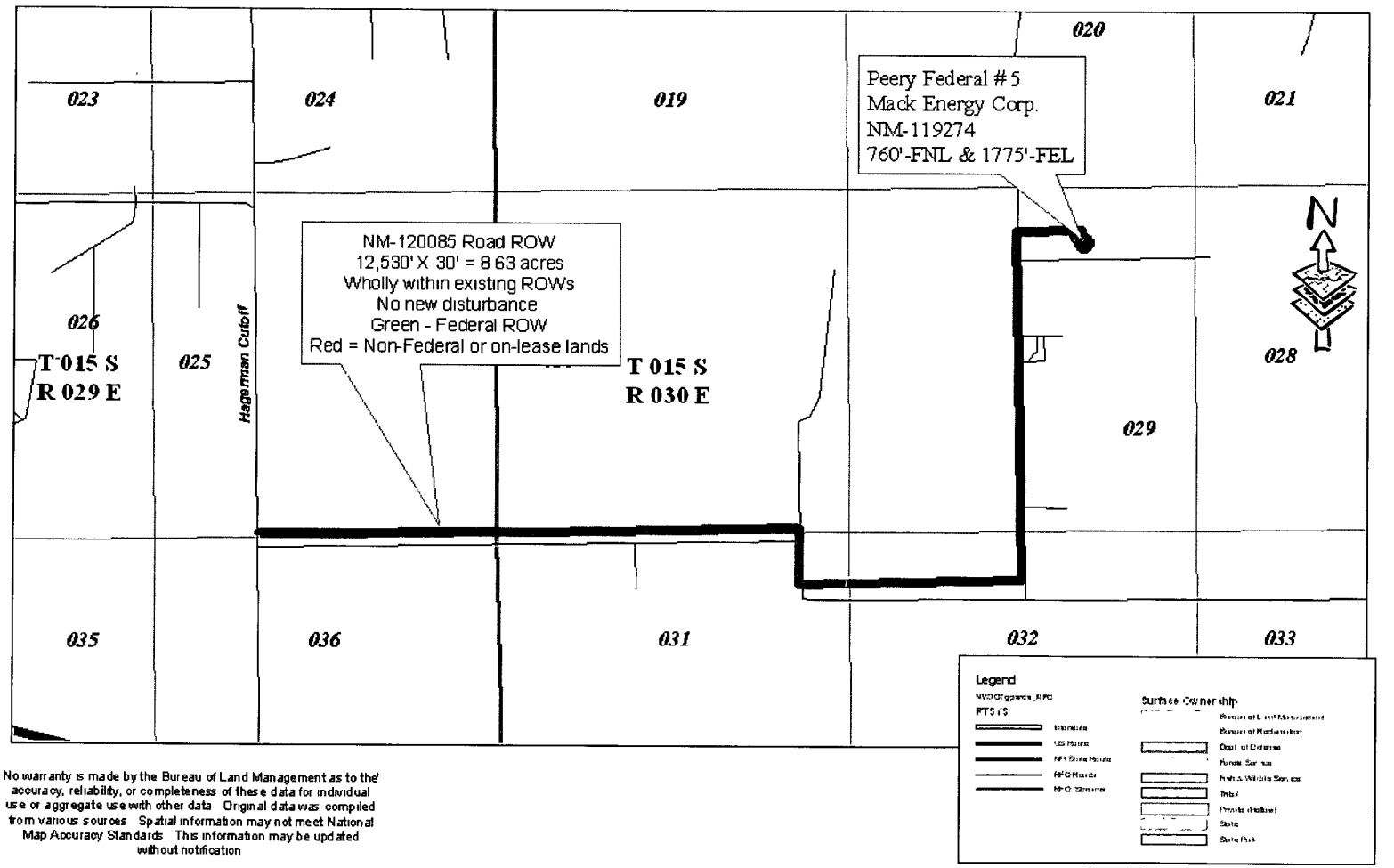
CONTOUR INTERVAL: 10'
HENSHAW TANK, N.M.

\DonnaS\Easements\2008\08130538 Mack Energy Access Road\08130538.dwg

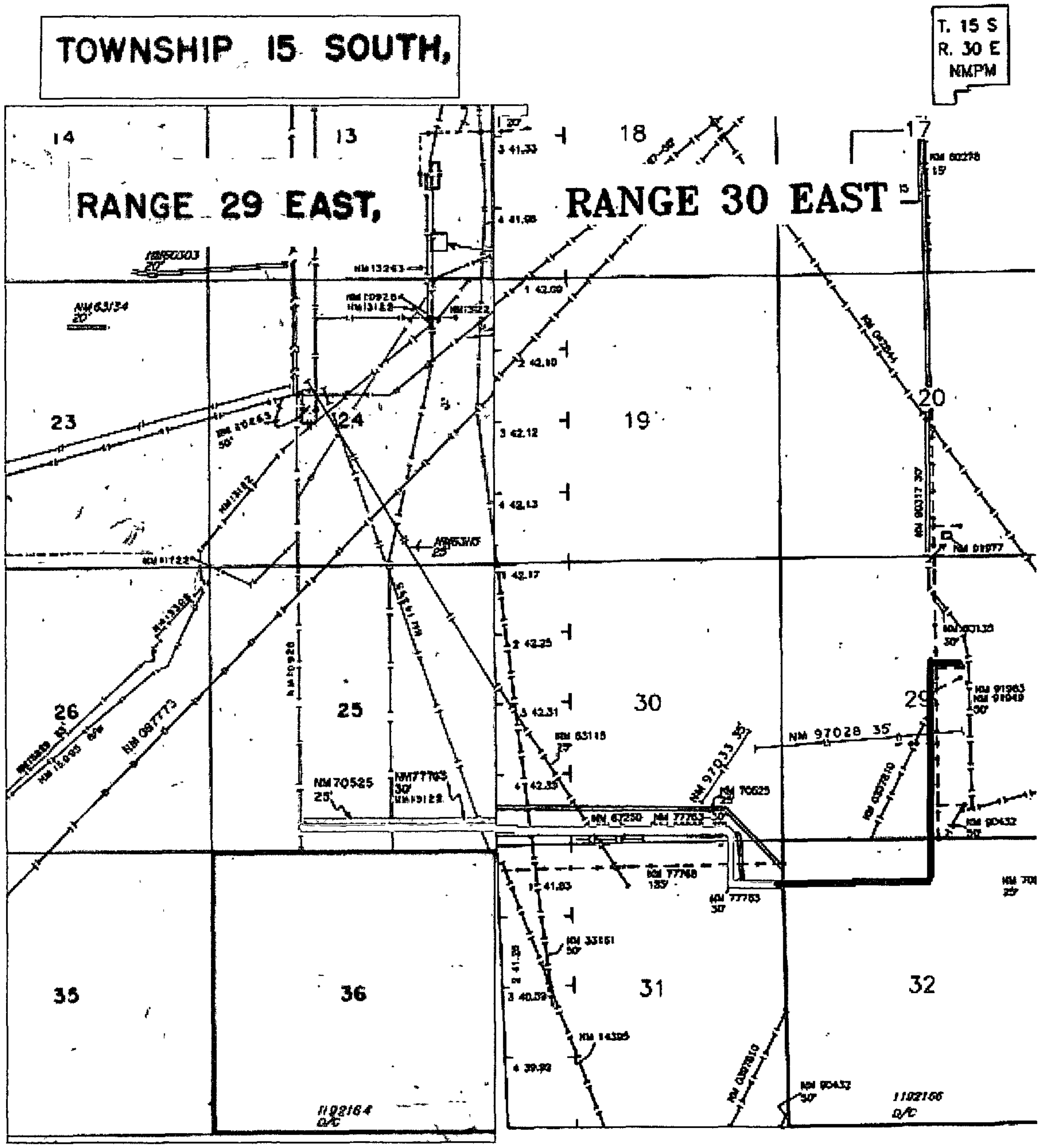
Exhibit A Maps
Lease NM-119274 & ROW NM-120085



APD NM-119274 & ROW NM-120085



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data was compiled from various sources. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.


TOWNSHIP 15 SOUTH,
T. 15 S
R. 30 E
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NM 97028 35'
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NM 097773

PECOS DISTRICT - RFO
CONDITIONS OF APPROVAL

5/16/08

OPERATORS NAME: **Mack Energy Corporation**
LEASE NO.: **NM-119274**
WELL NAME & NO: **Peery Federal #5**
SURFACE HOLE FOOTAGE: **760' FNL & 1775' FEL**
LOCATION: **Section 29, T. 15 S., R. 30 E., NMPM**
COUNTY: **Chaves County, New Mexico**

GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

I. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD (Filing of a Sundry Notice is required for this 60 day extension).

II. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

III. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations (access road and/or well pad). Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

IV. CONSTRUCTION

A. NOTIFICATION:

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Roswell Field Office at (505) 627-0247 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved Application for Permit to Drill and Conditions of Approval on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL:

There is no measurable soil on this well pad to stockpile. No topsoil stockpile is required.

C. CLOSED LOOP SYSTEM:

The lieu of reserve pit the operator has opted to use the closed loop system.

D. FEDERAL MINERAL MATERIALS PIT:

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Roswell Field Office at (505) 627-0236.

E. WELL PAD SURFACING:

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational need.

F. ON LEASE ACCESS ROADS:

Road Egress and Ingress

The access road shall be renovated and the road will access the northwest corner of the well pad.

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

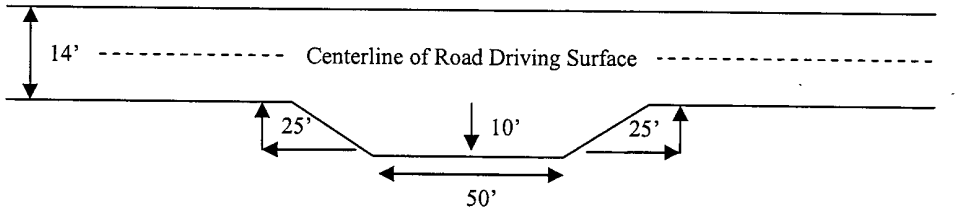
Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Turnouts

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

Standard Turnout – Plan View

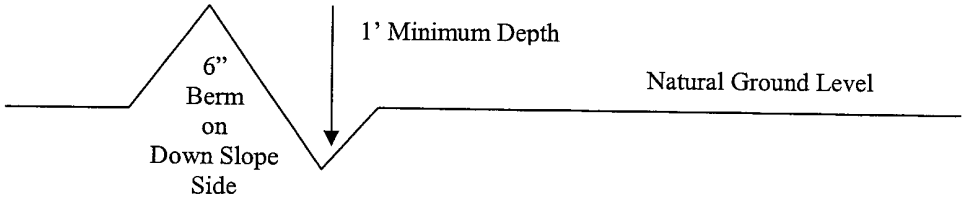


Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section Of Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula For Spacing Interval Of Lead-off Ditches

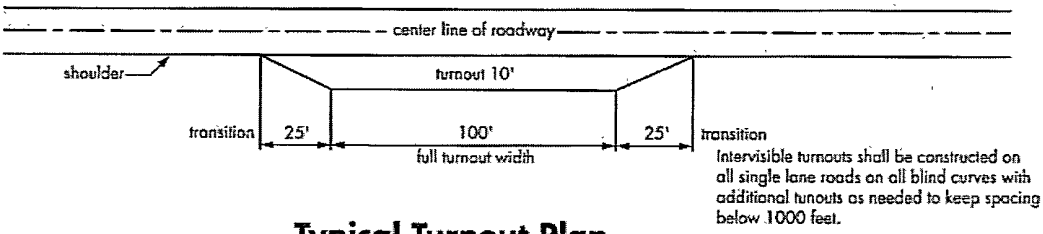
Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ lead-off ditch interval

Public Access

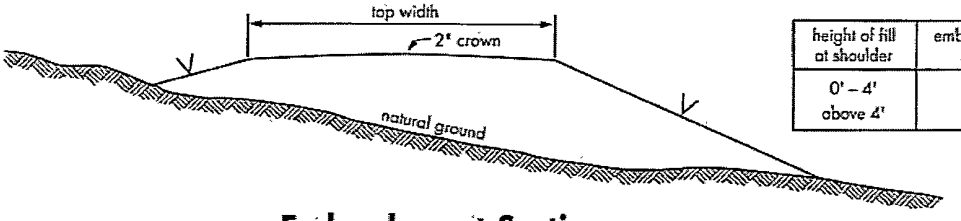
Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



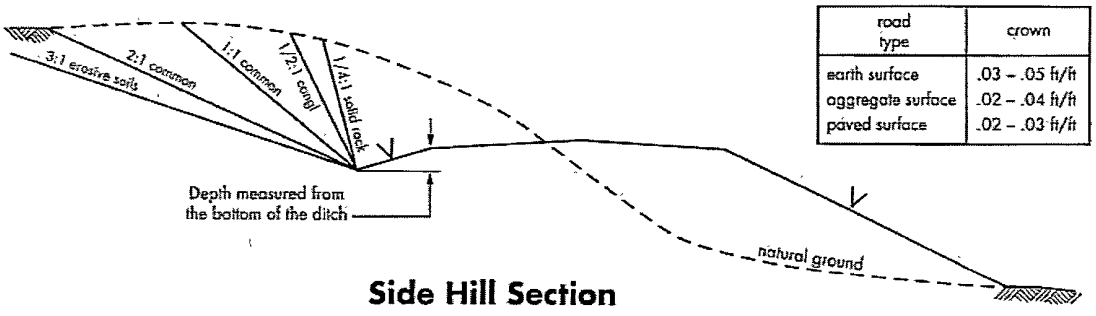
Intervisible turnouts shall be constructed on all single lane roads on all blind curves with additional turnouts as needed to keep spacing below 1000 feet.

Typical Turnout Plan



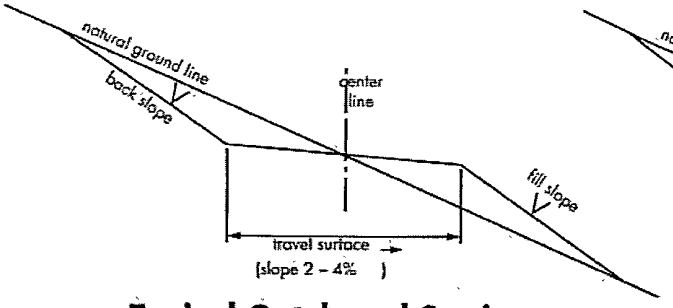
height of fill at shoulder	embankment slope
0' – 4'	3:1
above 4'	2:1

Embankment Section

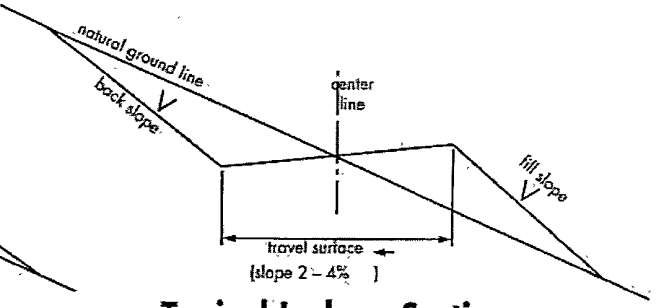


road type	crown
earth surface	.03 – .05 ft/ft
aggregate surface	.02 – .04 ft/ft
paved surface	.02 – .03 ft/ft

Side Hill Section



Typical Outsloped Section



Typical Inslope Section

V. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

1. Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201. During office hours call (505) 627-0258. After office hours call (505) 627-0205. Engineer on call phone (after hours): (505) 626-5749.

2. The Roswell Field Office is to be notified a minimum of 4 hours in advance for a representative to witness:

a. Re-Entry

b. BOPE Tests

3. Include the API No. assigned to well by NMOCD on the subsequent report of re-entry.

B. PRESSURE CONTROL

1. Before drilling into the **cement plug set at the base of the 13-3/8 inch surface casing from 475 feet to 0 feet (surface)**, the blowout preventer assembly shall consist of a minimum of One Annular Preventer or Two Ram-Type Preventers and a Kelly Cock/Stabbing Valve. Before drilling into the **cement plug set at the base of the 8-5/8 inch intermediate casing from 3000 feet to 2677 feet**, the blowout preventer assembly shall consist of a minimum of One Annular Preventer, Two Ram-Type Preventers, and a Kelly Cock/Stabbing Valve.

2. Before drilling into the **cement plug set at the base of the 13-3/8 inch surface casing from 475 feet to 0 feet (surface)**, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be **2000** psi. Before drilling into the **cement plug set at the base of the 8-5/8 inch intermediate casing from 3000 feet to 2677 feet**, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be **3000** psi.

3. The BOPE shall be installed before drilling into the **cement plug set at the base of the 8-5/8 inch intermediate casing from 3000 feet to 2677 feet**, and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

a. The BLM Roswell Field office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

b. The tests shall be done by an independent service company.

c. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

d. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the BLM Roswell Field Office at 2909 West Second Street, Roswell, New Mexico 88201.

e. Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.

f. Testing must be done in a safe workman like manner. Hard line connections shall be required.

VI. PRODUCTION

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, Olive Drab, Munsell Soil Color Chart 18-0622 TPX.

VII. INTERIM RECLAMATION

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo "interim" reclamation in order to minimize the environmental impacts of development on other resources and uses.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used in road repairs, fire walls or for building other roads and locations.

In addition, in order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

The operator should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

The following seed mixture shall be used for interim reclamation and upon abandonment of the well on all areas of disturbance:

Sand Hills CP-2 Ecological Site

Common Name and Preferred Variety	Scientific Name	Pounds of Pure Live Seed Per Acre
Sand bluestem	(*Andropogon hallii)*	0.50 lb.
Little bluestem	(*Schizachyrium scoparium*)	0.50 lb.
Sideoats grama,	(*Bouteloua curtipendula)*	1.50 lbs.
Sand dropseed	(*Sporobolus cryptandrus)*	0.50 lb.
Spike dropseed	(*S. contractus*)	0.50 lb.
Mesa dropseed	(*S. flexuosus*)	0.50 lb.
Plains bristlegrass	(*Setaria macrostachya)*	2.00 lbs.
Desert or Scarlet Globemallow or Buckwheat	(*Sphaeralcea ambigua*) (*S. coccinea)* (*Eriogonum* spp.)	0.50 lb. 1.50 lbs.
TOTAL POUNDS PURE LIVE SEED (pls) PER ACRE		8.00 lbs.

IF ONE SPECIES IS NOT AVAILABLE, INCREASE ALL OTHER PROPORTIONATELY. NO LESS THAN SIX (6) SPECIES WITH A MINIMUM OF ONE (1) FORB. NO LESS THAN 8.0 POUNDS PLS PER ACRE SHALL BE APPLIED. CERTIFIED WEED FREE SEED.

VIII. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

a. Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

b. All casing shall be cut-off at the base of the cellar or 3-feet below final restored ground level (whichever is deeper). The well bore shall then be covered with a metal plate at least ¼ inch thick and welded in place. The well location and identity shall be permanently inscribed. A weep hole shall be left in the metal plate is welded in place.