

N.M. Oil Cons. DIV-Dist. 2
1301 W. Grand Avenue
Artesia, NM 88210

Form 3160 -3
(April 2004)

RECEIVED

OCT 8 2009

FORM APPROVED
OMB No. 1009-0157
Expires March 31, 2007
NM OGD ARTESIA

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a Type of work- <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5 Lease Serial No NMNM-44374
1b Type of Well. <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6 If Indian, Allottee or Tribe Name
2 Name of Operator Mack Energy Corporation		7 If Unit or CA Agreement, Name and No
3a Address P.O. Box 960 Artesia, NM 88211-0960	3b Phone No (include area code) (575)748-1288	8, Lease Name and Well No. Moose Jaw Federal Com
4 Location of Well (Report location clearly and in accordance with any State requirements*) At surface 2285 FNL & 330 FWL At proposed prod zone 2285 FNL & 330 FEL		9 API Well No. 1 30 005-64120
14 Distance in miles and direction from nearest town or post office* 12 miles north/northwest of Loco Hills, NM		10 Field and Pool, or Exploratory Abo
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drlg unit line, if any) 330		11 Sec., T R M or Blk and Survey or Area Sec. 19 T15S R27E
16 No. of acres in lease 281.29		12 County or Parish Chaves
17 Spacing Unit dedicated to this well 160		13 State NM
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 1320		19 Proposed Depth 11,424' MD 7054' TVD
20 BLM/BIA Bond No on file NMB000286		21 Elevations (Show whether DF, KDB, RT, GL, etc) 3740' GR
22 Approximate date work will start* 8/22/09		23 Estimated duration 30 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 <i>Jerry W. Sherrell</i>	Name (Printed/Typed) Jerry W. Sherrell	Date 7/23/09
Title Production Clerk		
Approved by (Signature) <i>Angel Mayes</i>	Name (Printed/Typed) <i>Angel Mayes</i>	Date OCT 06 2009
Title Assistant Field Manager, Lands And Minerals	Office ROSWELL FIELD OFFICE	

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

APPROVED FOR 2 YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

*(Instructions on page 2)

DECLARED WATER BASIN

DECLARED WATER BASIN

CEMENT BEHIND THE 133"
CASING MUST BE CIRCULATED
±100'

CEMENT BEHIND THE 85"
CASING MUST BE CIRCULATED
±150'

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS ATTACHED

WITNESS

WITNESS

State of New Mexico

DISTRICT I

1625 N. FRENCH DR., HOBBS, NM 88240

Energy, Minerals and Natural Resources Department

Form C-102

DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

1220 S ST. FRANCIS DR., SANTA FE, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-005-2707	Pool Code WC;	Pool Name Abo
Property Code 37872	Property Name MOOSE JAW FEDERAL COM	Well Number 1
OGRID No. 013837	Operator Name MACK ENERGY CORPORATION	Elevation 3740'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
2	19	15-S	29-E		2285	NORTH	330	WEST	CHAVES

Bottom Hole Location If Different From Surface

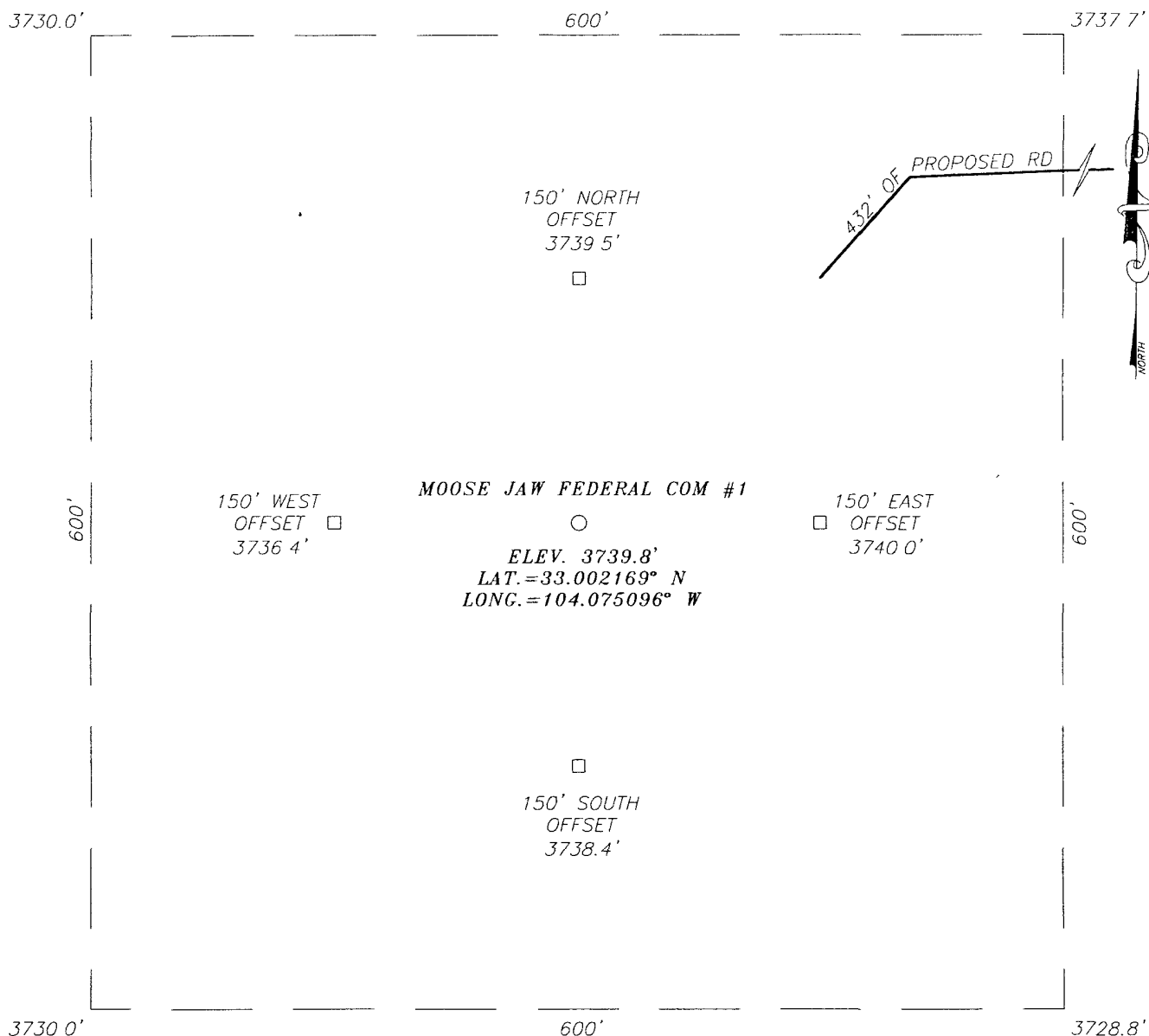
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	19	15-S	29-E		2285	NORTH	330	EAST	CHAVES

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

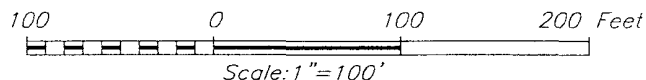
				<p>OPERATOR CERTIFICATION</p> <p>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division</p> <p><i>Jerry W. Sherrell</i> 7/23/09 Signature Date</p> <p>Jerry W. Sherrell Printed Name</p>	
<p>LOT 3 DETAIL</p> <p>3730.0' 3737.7' 3730.0' 3728.8'</p> <p>600' 600'</p>				<p>SURVEYOR CERTIFICATION</p> <p>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 supervision, and that the same is true and correct to the best of my belief.</p> <p>DATE SURVEYED: 09.11.05 Signature & Seal of Professional Surveyor: <i>Ronald J. Eidson</i> 12641 6/22/09</p>	
<p>LOT 4</p> <p>GEODETIC COORDINATES NAD 27 NME</p> <p>SURFACE LOCATION Y=728399.0 N X=579169.5 E</p> <p>LAT = 33 002169' N LONG = 104 075096' W</p>				<p>DATE SURVEYED: 09.11.05 Signature & Seal of Professional Surveyor: <i>Ronald J. Eidson</i> 12641 6/22/09</p> <p>Certificate of Survey: <i>Ronald J. Eidson</i> 12641</p>	

SECTION 19, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M.,
CHAVES COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

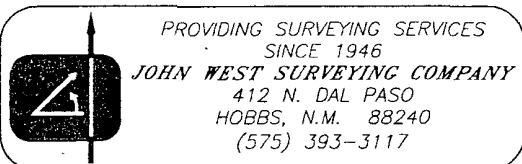
FROM THE INTERSECTION OF CO. RD. #217 AND
EDDY/CHAVES COUNTY ROAD, GO NORTHWEST ON
LEASE ROAD APPROX. 5.0 MILES. TURN RIGHT AND
GO NORTHWEST APPROX. 1.2 MILES TO PROPOSED
ROAD SURVEY TURN LEFT AND GO WEST ON ROAD
SURVEY APPROX. 400 FEET TO THIS LOCATION.



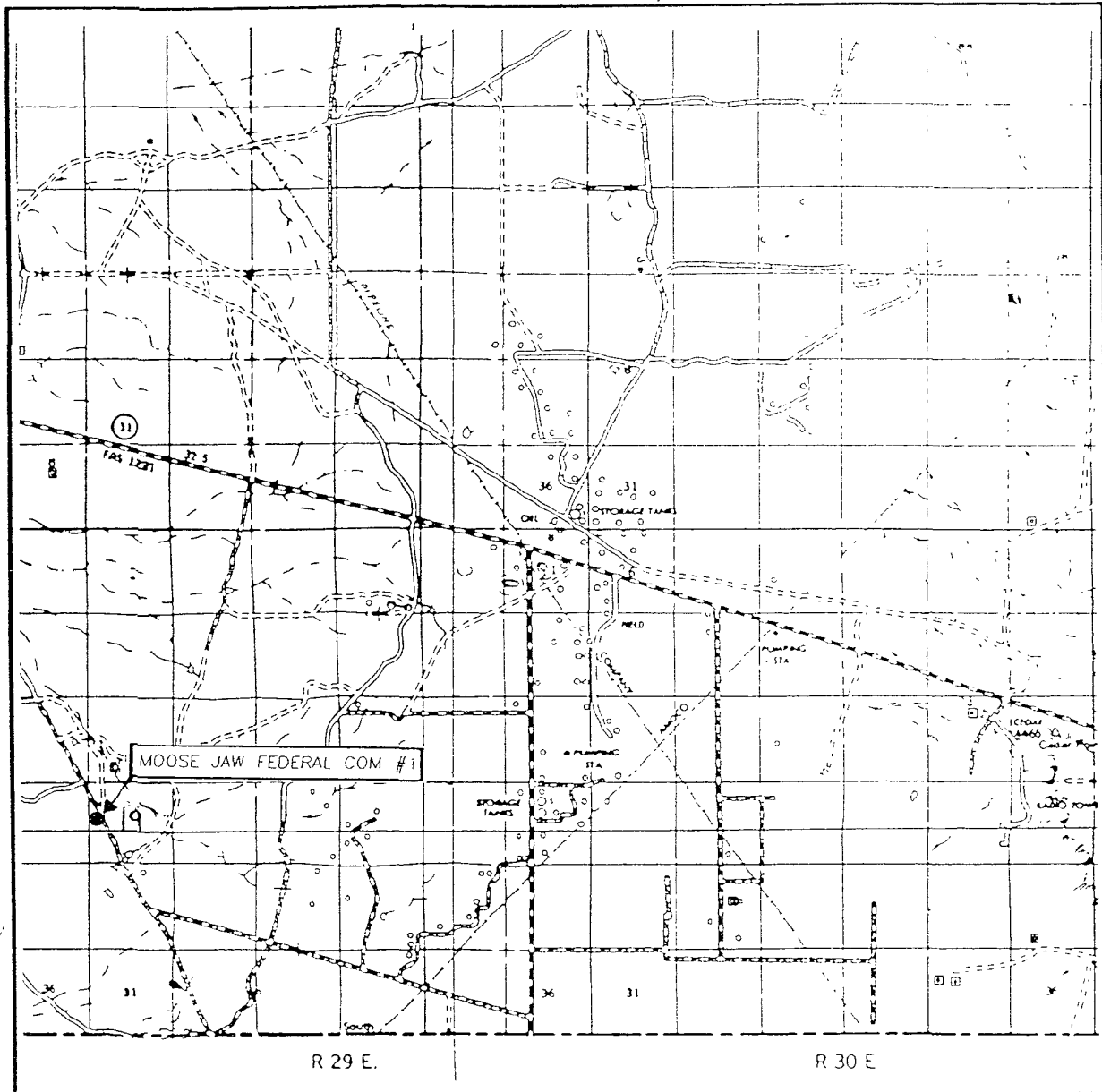
MACK ENERGY CORPORATION

MOOSE JAW FEDERAL COM #1
LOCATED 2285 FEET FROM THE NORTH LINE
AND 330 FEET FROM THE WEST LINE OF SECTION 19,
TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M.,
CHAVES COUNTY, NEW MEXICO

Survey Date: 6/15/09	Sheet 1 of 1 Sheets
W.O. Number: 09.11.0516	Dr By: AR
Date: 6/19/09	Disk: 09110516
	Rev 1: N/A
	Scale: 1"=100'



VICINITY MAP

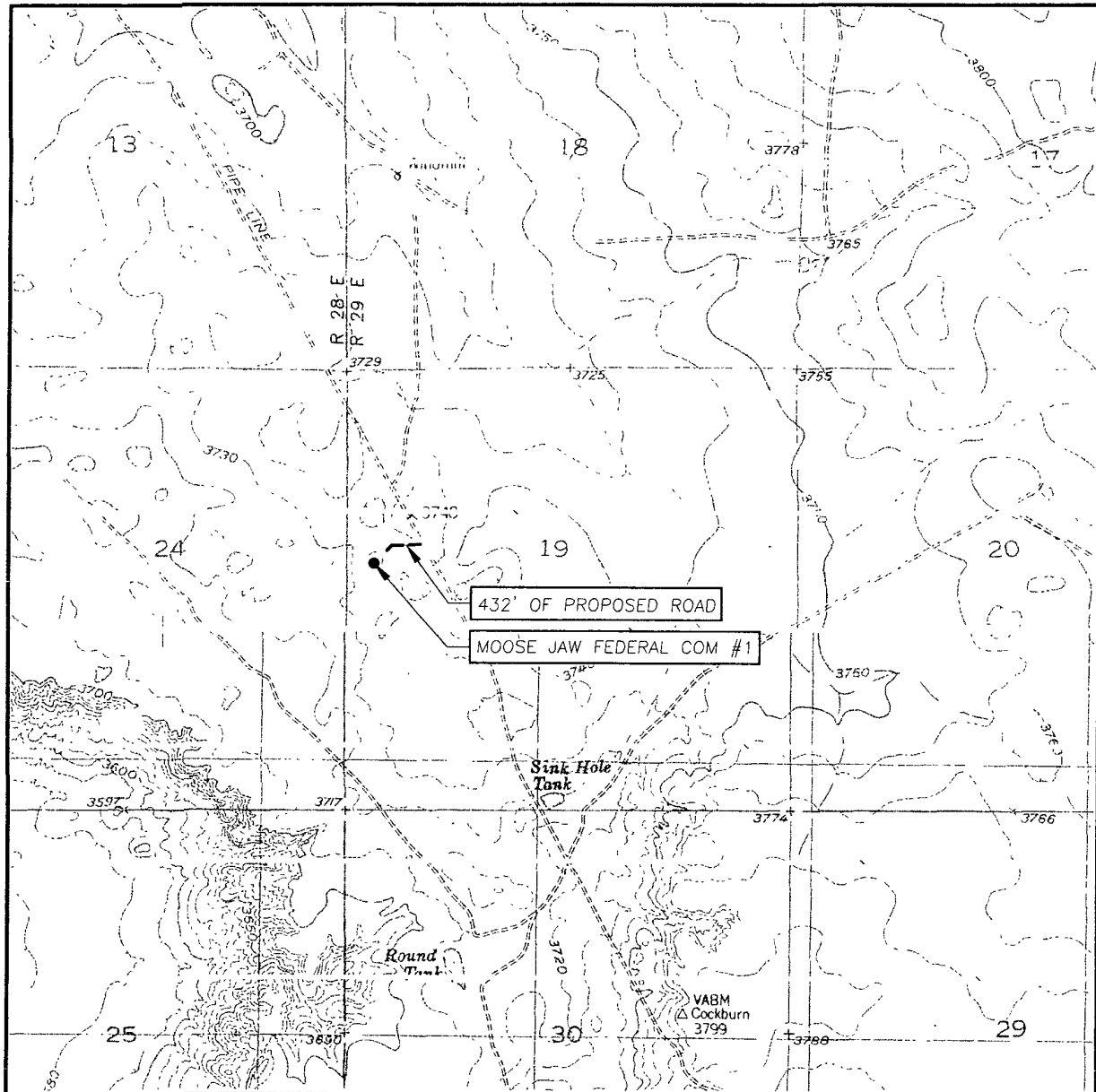


SCALE. 1" = 2 MILES

SEC. 19 TWP. 15-S RGE. 29-E
 SURVEY N.M.P.M
 COUNTY CHAVES STATE NEW MEXICO
 DESCRIPTION 2285' FNL & 330' FWL
 ELEVATION 3740'
 OPERATOR MACK ENERGY CORPORATION
 LEASE MOOSE JAW FEDERAL COM

PROVIDING SURVEYING SERVICES
 SINCE 1946
JOHN WEST SURVEYING COMPANY
 412 N DAL PASO
 HOBBS, N.M. 88240
 (575) 393-3117

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:

KING CAMP, N.M. - 10'
BASIN WELL, N.M. - 10'

SEC. 19 TWP 15-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY CHAVES STATE NEW MEXICO

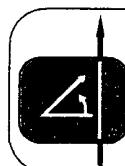
DESCRIPTION 2285' FNL & 330' FWL

ELEVATION 3740'

OPERATOR MACK ENERGY CORPORATION

LEASE MOOSE JAW FEDERAL COM

U.S.G.S. TOPOGRAPHIC MAP
KING CAMP, N.M.



PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(575) 393-3117



Mack Energy

Chaves County

Moose Jaw Federal Com

#1H

OH

Plan: Plan #1

Pathfinder X & Y Planning Report

22 July, 2009

PATHFINDER



Azimuths to Grid North
True North: -0.14°
Magnetic North: 7.95°

Magnetic Field
Strength: 49244.1snT
Dip Angle: 60.88°
Date: 07/21/2009
Model: IGRF200510

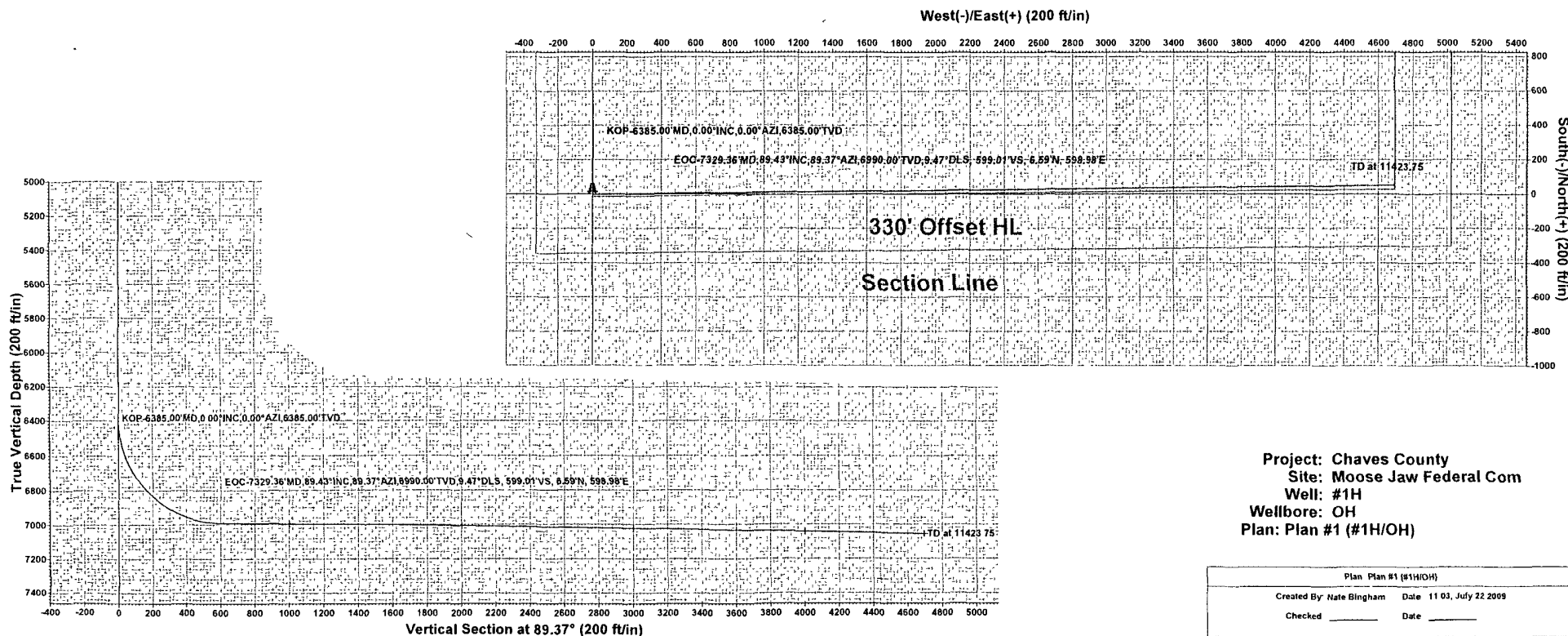


WELL DETAILS #1H						
Ground Elevation: 3740.00						
RKB Elevation: WELL @ 3758.00ft (Original Well Elev)						
Rig Name: Original Well Elev						
+N/-S 0 00	+E/-W 0 00	Northing 728399 000	Easting 579169 500	Latitude 33° 0' 7.808 N	Longitude 104° 4' 30.345 W	Slot

PROJECT DETAILS Chaves County
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
2	6385 00	0 00	0 00	6385 00	0 00	0 00	0 00	0 00	0 00	
3	7329 36	89 43	89 37	6990 00	6 59	599 97	9 47	89 37	599 01	
4	7353 60	89 43	89 37	6990 24	6 85	623 21	0 00	0 00	623 25	
5	7730 37	89 43	89 37	6994 00	11 00	999 94	0 00	0 00	1000 00	LT#1(MJ#1H)
6	7736 26	89 31	89 37	6994 06	11 06	1005 83	2 00	180 00	1005 89	
7	8730 44	89 31	89 37	7006 00	21 99	1999 88	0 00	0 00	2000 00	LT#2(MJ#1H)
8	8741 95	89 08	89 37	7006 16	22 12	2011 38	2 00	-180 00	2011 50	
9	9730 57	89 08	89 37	7022 00	32 99	2999 82	0 00	0 00	3000 00	LT#3(MJ#1H)
10	9736 25	88 97	89 37	7022 10	33 05	3005 50	2 00	-180 00	3005 68	
11	10730 73	88 97	89 37	7040 00	43 98	3999 76	0 00	0 00	4000 00	LT#4(MJ#1H)
12	10737 27	88 84	89 40	7040 13	44 05	4006 30	2 00	165 30	4006 54	
13	11423 75	88 84	89 40	7054 00	51 20	4692 60	0 00	0 00	4692 88	BHL(MJ#1H)

WELLBORE TARGET DETAILS			
Name	TVD	+N/-S	+E/-W Shape
LT#1(MJ#1H)	6994.00	11.00	999.94 Point
LT#2(MJ#1H)	7006.00	21.99	1999.88 Point
LT#3(MJ#1H)	7022.00	32.99	2999.82 Point
LT#4(MJ#1H)	7040.00	43.98	3999.76 Point
BHL(MJ#1H)	7054.00	51.20	4692.60 Point





Pathfinder Energy Services

Pathfinder X & Y Planning Report



Company: Mack Energy
Project: Chaves County
Site: Moose Jaw Federal Com
Well: #1H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #1H
TVD Reference: WELL @ 3758.00ft (Original Well Elev)
MD Reference: WELL @ 3758.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Project: Chaves County

Map System: US State Plane 1927 (Exact solution)
Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: New Mexico East 3001

System Datum: Mean Sea Level

Site: Moose Jaw Federal Com

Site Position:
From: Map
Position Uncertainty: 0.00 ft

Northing: 728,399.000 ft
Easting: 579,169.500 ft
Slot Radius: "

Latitude: 33° 0' 7.808 N
Longitude: 104° 4' 30.345 W
Grid Convergence: 0.14 °

Well: #1H

Well Position +N/-S 0.00 ft
 +E/-W 0.00 ft
Position Uncertainty 0.00 ft

Northing: 728,399.000 ft
Easting: 579,169.500 ft
Wellhead Elevation: ft

Latitude: 33° 0' 7.808 N
Longitude: 104° 4' 30.345 W
Ground Level: 3,740.00 ft

Wellbore: OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	07/21/2009	8.09	60.88	49,244

Design: Plan #1

Audit Notes:

Version: **Phase:** PLAN **Tie On Depth:** 0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	89.37

Survey Tool Program Date 07/21/2009

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	11,423.75	Plan #1 (OH)	MWD	MWD - Standard



Pathfinder Energy Services

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MD Reference: WELL @ 3758.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
0.00	0.00	0.00	0.00	-3,758.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
100.00	0.00	0.00	100.00	-3,658.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
200.00	0.00	0.00	200.00	-3,558.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
300.00	0.00	0.00	300.00	-3,458.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
400.00	0.00	0.00	400.00	-3,358.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
500.00	0.00	0.00	500.00	-3,258.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
600.00	0.00	0.00	600.00	-3,158.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
700.00	0.00	0.00	700.00	-3,058.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
800.00	0.00	0.00	800.00	-2,958.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
900.00	0.00	0.00	900.00	-2,858.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
1,000.00	0.00	0.00	1,000.00	-2,758.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
1,100.00	0.00	0.00	1,100.00	-2,658.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
1,200.00	0.00	0.00	1,200.00	-2,558.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
1,300.00	0.00	0.00	1,300.00	-2,458.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
1,400.00	0.00	0.00	1,400.00	-2,358.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
1,500.00	0.00	0.00	1,500.00	-2,258.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
1,600.00	0.00	0.00	1,600.00	-2,158.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
1,700.00	0.00	0.00	1,700.00	-2,058.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
1,800.00	0.00	0.00	1,800.00	-1,958.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
1,900.00	0.00	0.00	1,900.00	-1,858.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
2,000.00	0.00	0.00	2,000.00	-1,758.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
2,100.00	0.00	0.00	2,100.00	-1,658.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
2,200.00	0.00	0.00	2,200.00	-1,558.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
2,300.00	0.00	0.00	2,300.00	-1,458.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
2,400.00	0.00	0.00	2,400.00	-1,358.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
2,500.00	0.00	0.00	2,500.00	-1,258.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
2,600.00	0.00	0.00	2,600.00	-1,158.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50



Pathfinder Energy Services
Pathfinder X & Y Planning Report



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Project: Chaves County
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Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #1H
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2,700.00	0.00	0.00	2,700.00	-1,058.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
2,800.00	0.00	0.00	2,800.00	-958.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
2,900.00	0.00	0.00	2,900.00	-858.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
3,000.00	0.00	0.00	3,000.00	-758.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
3,100.00	0.00	0.00	3,100.00	-658.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
3,200.00	0.00	0.00	3,200.00	-558.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
3,300.00	0.00	0.00	3,300.00	-458.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
3,400.00	0.00	0.00	3,400.00	-358.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
3,500.00	0.00	0.00	3,500.00	-258.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
3,600.00	0.00	0.00	3,600.00	-158.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
3,700.00	0.00	0.00	3,700.00	-58.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
3,800.00	0.00	0.00	3,800.00	42.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
3,900.00	0.00	0.00	3,900.00	142.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
4,000.00	0.00	0.00	4,000.00	242.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
4,100.00	0.00	0.00	4,100.00	342.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
4,200.00	0.00	0.00	4,200.00	442.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
4,300.00	0.00	0.00	4,300.00	542.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
4,400.00	0.00	0.00	4,400.00	642.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
4,500.00	0.00	0.00	4,500.00	742.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
4,600.00	0.00	0.00	4,600.00	842.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
4,700.00	0.00	0.00	4,700.00	942.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
4,800.00	0.00	0.00	4,800.00	1,042.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
4,900.00	0.00	0.00	4,900.00	1,142.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
5,000.00	0.00	0.00	5,000.00	1,242.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
5,100.00	0.00	0.00	5,100.00	1,342.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
5,200.00	0.00	0.00	5,200.00	1,442.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
5,300.00	0.00	0.00	5,300.00	1,542.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50



Pathfinder Energy Services

Pathfinder X & Y Planning Report



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Site: Moose Jaw Federal Com
Well: #1H
Wellbore: OH
Design: Plan #1

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Planned Survey

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5,400.00	0.00	0.00	5,400.00	1,642.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
5,500.00	0.00	0.00	5,500.00	1,742.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
5,600.00	0.00	0.00	5,600.00	1,842.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
5,700.00	0.00	0.00	5,700.00	1,942.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
5,800.00	0.00	0.00	5,800.00	2,042.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
5,900.00	0.00	0.00	5,900.00	2,142.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
6,000.00	0.00	0.00	6,000.00	2,242.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
6,100.00	0.00	0.00	6,100.00	2,342.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
6,200.00	0.00	0.00	6,200.00	2,442.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
6,300.00	0.00	0.00	6,300.00	2,542.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
6,385.00	0.00	0.00	6,385.00	2,627.00	0.00	0.00	0.00	0.00	728,399.00	579,169.50
KOP-6385.00°MD,0.00°INC,0.00°AZI,6385.00°TVD										
6,400.00	1.42	89.37	6,400.00	2,642.00	0.00	0.19	0.19	9.47	728,399.00	579,169.69
6,450.00	6.16	89.37	6,449.88	2,691.88	0.04	3.49	3.49	9.47	728,399.04	579,172.99
6,500.00	10.89	89.37	6,499.31	2,741.31	0.12	10.90	10.90	9.47	728,399.12	579,180.40
6,550.00	15.63	89.37	6,547.96	2,789.96	0.25	22.36	22.36	9.47	728,399.25	579,191.86
6,600.00	20.36	89.37	6,595.50	2,837.50	0.42	37.80	37.80	9.47	728,399.42	579,207.30
6,650.00	25.10	89.37	6,641.61	2,883.61	0.63	57.11	57.11	9.47	728,399.63	579,226.61
6,700.00	29.83	89.37	6,685.96	2,927.96	0.88	80.16	80.16	9.47	728,399.88	579,249.66
6,750.00	34.57	89.37	6,728.26	2,970.26	1.17	106.79	106.80	9.47	728,400.17	579,276.29
6,800.00	39.30	89.37	6,768.22	3,010.22	1.50	136.83	136.83	9.47	728,400.50	579,306.33
6,850.00	44.04	89.37	6,805.56	3,047.56	1.87	170.05	170.07	9.47	728,400.87	579,339.55
6,900.00	48.77	89.37	6,840.03	3,082.03	2.27	206.25	206.27	9.47	728,401.27	579,375.75
6,950.00	53.50	89.37	6,871.39	3,113.39	2.70	245.17	245.19	9.47	728,401.70	579,414.67
7,000.00	58.24	89.37	6,899.43	3,141.43	3.15	286.55	286.56	9.47	728,402.15	579,456.05
7,050.00	62.97	89.37	6,923.97	3,165.97	3.63	330.10	330.12	9.47	728,402.63	579,499.60
7,100.00	67.71	89.37	6,944.82	3,186.82	4.13	375.52	375.54	9.47	728,403.13	579,545.02



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7,150.00	72.44	89.37	6,961.85	3,203.85	4.65	422.51	422.54	9.47	728,403.65	579,592.01
7,200.00	77.18	89.37	6,974.95	3,216.95	5.18	470.75	470.78	9.47	728,404.18	579,640.25
7,250.00	81.91	89.37	6,984.02	3,226.02	5.72	519.90	519.93	9.47	728,404.72	579,689.40
7,300.00	86.65	89.37	6,989.00	3,231.00	6.26	569.64	569.67	9.47	728,405.26	579,739.14
7,329.36	89.43	89.37	6,990.00	3,232.00	6.59	598.97	599.01	9.47	728,405.59	579,768.47
EOC-7329.36°MD,89.43°INC,89.37°AZI,6990.00°TVD,9.47°DLS, 599.01°VS, 6.59°N, 598.98°E										
7,353.60	89.43	89.37	6,990.24	3,232.24	6.85	623.21	623.25	0.00	728,405.85	579,792.71
7,400.00	89.43	89.37	6,990.70	3,232.70	7.36	669.61	669.65	0.00	728,406.36	579,839.11
7,500.00	89.43	89.37	6,991.70	3,233.70	8.46	769.60	769.64	0.00	728,407.46	579,939.10
7,600.00	89.43	89.37	6,992.69	3,234.69	9.56	869.59	869.64	0.00	728,408.56	580,039.09
7,700.00	89.43	89.37	6,993.69	3,235.69	10.66	969.57	969.63	0.00	728,409.66	580,139.07
7,730.37	89.43	89.37	6,994.00	3,236.00	11.00	999.94	1,000.00	0.00	728,410.00	580,169.44
LT#1(MJ#1H)										
7,736.26	89.31	89.37	6,994.06	3,236.06	11.06	1,005.83	1,005.89	2.00	728,410.06	580,175.33
7,800.00	89.31	89.37	6,994.83	3,236.83	11.76	1,069.56	1,069.63	0.00	728,410.76	580,239.06
7,900.00	89.31	89.37	6,996.03	3,238.03	12.86	1,169.55	1,169.62	0.00	728,411.86	580,339.05
8,000.00	89.31	89.37	6,997.23	3,239.23	13.96	1,269.54	1,269.61	0.00	728,412.96	580,439.04
8,100.00	89.31	89.37	6,998.43	3,240.43	15.06	1,369.52	1,369.60	0.00	728,414.06	580,539.02
8,200.00	89.31	89.37	6,999.63	3,241.63	16.16	1,469.51	1,469.60	0.00	728,415.16	580,639.01
8,300.00	89.31	89.37	7,000.83	3,242.83	17.26	1,569.50	1,569.59	0.00	728,416.26	580,739.00
8,400.00	89.31	89.37	7,002.03	3,244.03	18.36	1,669.48	1,669.58	0.00	728,417.36	580,838.98
8,500.00	89.31	89.37	7,003.23	3,245.23	19.46	1,769.47	1,769.58	0.00	728,418.46	580,938.97
8,600.00	89.31	89.37	7,004.43	3,246.43	20.56	1,869.46	1,869.57	0.00	728,419.56	581,038.96
8,700.00	89.31	89.37	7,005.63	3,247.63	21.66	1,969.44	1,969.56	0.00	728,420.66	581,138.94
8,730.44	89.31	89.37	7,006.00	3,248.00	21.99	1,999.88	2,000.00	0.00	728,420.99	581,169.38
LT#2(MJ#1H)										
8,741.95	89.08	89.37	7,006.16	3,248.16	-22.12	2,011.38	2,011.50	2.00	728,421.12	581,180.88
8,800.00	89.08	89.37	7,007.09	3,249.09	22.76	2,069.43	2,069.55	0.00	728,421.76	581,238.93



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8,900.00	89.08	89.37	7,008.69	3,250.69	23.85	2,169.41	2,169.54	0.00	728,422.85	581,338.91
9,000.00	89.08	89.37	7,010.30	3,252.30	24.95	2,269.39	2,269.53	0.00	728,423.95	581,438.89
9,100.00	89.08	89.37	7,011.90	3,253.90	26.05	2,369.37	2,369.51	0.00	728,425.05	581,538.87
9,200.00	89.08	89.37	7,013.50	3,255.50	27.15	2,469.35	2,469.50	0.00	728,426.15	581,638.85
9,300.00	89.08	89.37	7,015.10	3,257.10	28.25	2,569.33	2,569.49	0.00	728,427.25	581,738.83
9,400.00	89.08	89.37	7,016.70	3,258.70	29.35	2,669.31	2,669.47	0.00	728,428.35	581,838.81
9,500.00	89.08	89.37	7,018.31	3,260.31	30.45	2,769.29	2,769.46	0.00	728,429.45	581,938.79
9,600.00	89.08	89.37	7,019.91	3,261.91	31.55	2,869.27	2,869.45	0.00	728,430.55	582,038.77
9,700.00	89.08	89.37	7,021.51	3,263.51	32.65	2,969.26	2,969.44	0.00	728,431.65	582,138.76
9,730.57	89.08	89.37	7,022.00	3,264.00	32.99	2,999.82	3,000.00	0.00	728,431.99	582,169.32
LT#3(MJ#1H)										
9,736.25	88.97	89.37	7,022.10	3,264.10	33.05	3,005.50	3,005.68	2.00	728,432.05	582,175.00
9,800.00	88.97	89.37	7,023.24	3,265.24	33.75	3,069.23	3,069.42	0.00	728,432.75	582,238.73
9,900.00	88.97	89.37	7,025.04	3,267.04	34.85	3,169.21	3,169.40	0.00	728,433.85	582,338.71
10,000.00	88.97	89.37	7,026.84	3,268.84	35.95	3,269.19	3,269.39	0.00	728,434.95	582,438.69
10,100.00	88.97	89.37	7,028.65	3,270.65	37.05	3,369.17	3,369.37	0.00	728,436.05	582,538.67
10,200.00	88.97	89.37	7,030.45	3,272.45	38.15	3,469.15	3,469.36	0.00	728,437.15	582,638.65
10,300.00	88.97	89.37	7,032.25	3,274.25	39.25	3,569.12	3,569.34	0.00	728,438.25	582,738.62
10,400.00	88.97	89.37	7,034.05	3,276.05	40.35	3,669.10	3,669.32	0.00	728,439.35	582,838.60
10,500.00	88.97	89.37	7,035.85	3,277.85	41.44	3,769.08	3,769.31	0.00	728,440.44	582,938.58
10,600.00	88.97	89.37	7,037.65	3,279.65	42.54	3,869.06	3,869.29	0.00	728,441.54	583,038.56
10,700.00	88.97	89.37	7,039.45	3,281.45	43.64	3,969.03	3,969.27	0.00	728,442.64	583,138.53
10,730.73	88.97	89.37	7,040.00	3,282.00	43.98	3,999.76	4,000.00	0.00	728,442.98	583,169.26
LT#4(MJ#1H)										
10,737.27	88.84	89.40	7,040.13	3,282.13	44.05	4,006.30	4,006.54	2.00	728,443.05	583,175.80
10,800.00	88.84	89.40	7,041.39	3,283.39	44.70	4,069.01	4,069.26	0.00	728,443.70	583,238.51
10,900.00	88.84	89.40	7,043.41	3,285.41	45.75	4,168.98	4,169.23	0.00	728,444.75	583,338.48



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11,000.00	88.84	89.40	7,045.44	3,287.44	46.79	4,268.96	4,269.21	0.00	728,445.79	583,438.46
11,100.00	88.84	89.40	7,047.46	3,289.46	47.83	4,368.93	4,369.19	0.00	728,446.83	583,538.43
11,200.00	88.84	89.40	7,049.48	3,291.48	48.87	4,468.91	4,469.17	0.00	728,447.87	583,638.41
11,300.00	88.84	89.40	7,051.50	3,293.50	49.91	4,568.88	4,569.15	0.00	728,448.91	583,738.38
11,400.00	88.84	89.40	7,053.52	3,295.52	50.95	4,668.85	4,669.13	0.00	728,449.95	583,838.35
11,423.75	88.84	89.40	7,054.00	3,296.00	51.20	4,692.60	4,692.88	0.00	728,450.20	583,862.10

TD at 11423.75 - BHL(MJ#1H)



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North Reference: Gnd
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
LT#1(MJ#1H) - plan hits target - Point	0.00	0.00	6,994.00	11.00	999.94	728,409.995	580,169.440	33° 0' 7.892 N	104° 4' 18.603 W
LT#2(MJ#1H) - plan hits target - Point	0.00	0.00	7,006.00	21.99	1,999.88	728,420.991	581,169.379	33° 0' 7.976 N	104° 4' 6.860 W
LT#4(MJ#1H) - plan hits target - Point	0.00	0.00	7,040.00	43.98	3,999.76	728,442.981	583,169.258	33° 0' 8.143 N	104° 3' 43.376 W
BHL(MJ#1H) - plan hits target - Point	0.00	0.00	7,054.00	51.20	4,692.60	728,450.200	583,862.100	33° 0' 8.197 N	104° 3' 35.240 W
LT#3(MJ#1H) - plan hits target - Point	0.00	0.00	7,022.00	32.99	2,999.82	728,431.986	582,169.319	33° 0' 8.060 N	104° 3' 55.118 W

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
6,385.00	6,385.00	0.00	0.00	KOP-6385.00°MD,0.00°INC,0.00°AZI,6385.00°TVD
7,329.36	6,990.00	6.59	598.97	EOC-7329.36°MD,89.43°INC,89.37°AZI,6990.00°TVD,9.47°DLS, 599.01
11,423.75	7,054.00	51.20	4,692.60	TD at 11423.75

Checked By: _____ Approved By: _____ Date: _____

DRILLING PROGRAM

1. Geologic Name of Surface Formation

Quaternary

2. Estimated Tops of Important Geologic Markers:

Quaternary	Surface	Glorieta	3700'
Yates	770'	Tubb	4960'
Queen	1500'	Abo	5710'
Grayburg	1900'	Wolfcamp	7060'
San Andres	2210'	Cisco	7875'

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

Water Sand	150'	Fresh Water
Queen	1500'	Oil/Gas
San Andres	2210'	Oil/Gas
Abo	5710'	Oil/Gas
Wolfcamp	7060'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 8 5/8" casing to 450' and circulating cement back to surface will protect the surface fresh water sand. Salt Section and any shallower zones above TD, which contain commercial quantities of oil and/or gas, will have cement circulated across them by cementing a combination string of 5 1/2" and 4 1/2" production casing thru a ported collar @ 6100', sufficient cement will be pumped to circulate back to surface.

4. Casing Program:

8/10/2009

Hole Size	Interval	OD Casing	Wt, Grade, Jt, cond, collapse/burst/tension
17	0-100'	13 3/8"	
12 1/4"	0-450'	8 5/8"	24#, J-55, ST&C, New, 6.228/5.739/5.9
7 7/8"	0-7330'	5 1/2"	17#, HCP-110, LT&C, New, 2.251/3.737/3.547
6 1/8"	7330-11,424'	4 1/2"	11.6# HCP-110, LT&C, New, 1.414/4.137/3.563

5. Cement Program:

8 5/8" Surface Casing: Class C, 450sx yield 1.34
5 1/2" Production Casing: Class C, 1000sx, yield 1.34.
4 1/2" Production Casing: Set with isolation packers.

Mack Energy proposes Option 1(Cementing with well service unit) production string cementing plan for this well as follows: Production casing will be run and packers inflated. Casing cut off and collar welded on. Swedge with valve, gauge and bleed off line with a pop-off valve set at 150psi to a frac tank will be installed to maintain less than 150psi on annulus. Mack Energy personnel will check gauge for pressure daily. Drilling rig moved off location

and pad prepared for well service unit. Well service unit rigged up between 2 and 5 days. Rig up unit and cementing equipment. Rig 2 7/8" BOPE and test to 1000# for 30 minutes using cement pump. RIH with 2 7/8 tubing open ported collar and establish circulation. Cement casing to surface and close ported collar.

Note: If any issues or loss circulation is encountered during drilling BLM will be notified and Option 2(Cementing with drilling rig) cementing plan will be used.

6. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit #9 will consist of a double ram-type (3000 psi WP) minimum preventer. This unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top of 4 1/2" drill pipe rams on bottom. **The BOP will be nipped up on the 8 5/8" surface casing and tested to 1000 psi using the rig pump and used continuously until TD is reached.** All BOP's and accessory equipment will be tested to 2000 psi before drilling out of intermediate casing. Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment (Exhibit #10) will include a Kelly cock and floor safety valve and choke lines and choke manifold (Exhibit #11) with a minimum 3000 psi WP rating.

7. Types and Characteristics of the Proposed Mud System:

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

gll
8/10/2009

<i>0-100</i>	<i>Fresh Water</i>	<i>8.5</i>	<i>28</i>	<i>LC</i>
DEPTH	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-450'	<i>Brine</i> Fresh Water	<i>8.5</i> 10	28	N.C.
450-3050'	Brine	10	30	N.C.
3050'-TD	Cut Brine	9.1	29	N.C.

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the well site at all times.

8. Auxiliary Well Control and Monitoring Equipment:

- Kelly cock will be kept in the drill string at all times.
- A full opening drill pipe-stabbing valve with proper drill pipe connections will be on the rig floor at all times.

9. Logging, Testing and Coring Program:

- The electric logging program will consist of GR-Dual Laterolog, Spectral Density, Dual Spaced Neutron, CSNG Log from T.D. to 8 5/8 casing shoe.
- Drill Stem test is not anticipated.
- No conventional coring is anticipated.
- Further testing procedures will be determined at TD.

10. 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 2250 psig. Low levels of Hydrogen sulfide have been monitors in producing wells in the area, so H2S may be present while drilling of the well; a plan is attached to the Drilling program. No major loss of circulation zones has been reported in offsetting wells.

11. Anticipated Starting Date and Duration of Operations:

Road and location work will not begin until approval has been received from the BLM. The anticipated spud date is August 22, 2009. Once commenced, the drilling operation should be finished in approximately 12 days. If the well is productive, an additional 30 days will be required for completion and testing before a decision is made to install permanent facilities.

1. Well Site Layout:

- A. The drill pad layout, with elevations staked by John West Engineering, is shown in Exhibit #6. Dimensions of the pad are shown. Topsoil, if available, will be stockpiled per BLM specifications. Because the pad is almost level no major cuts will be required.
- B. Diagram below shows the proposed orientation of the location. No permanent living facilities are planned, but a temporary foreman/toolpusher's trailer will be on location during the drilling operations.

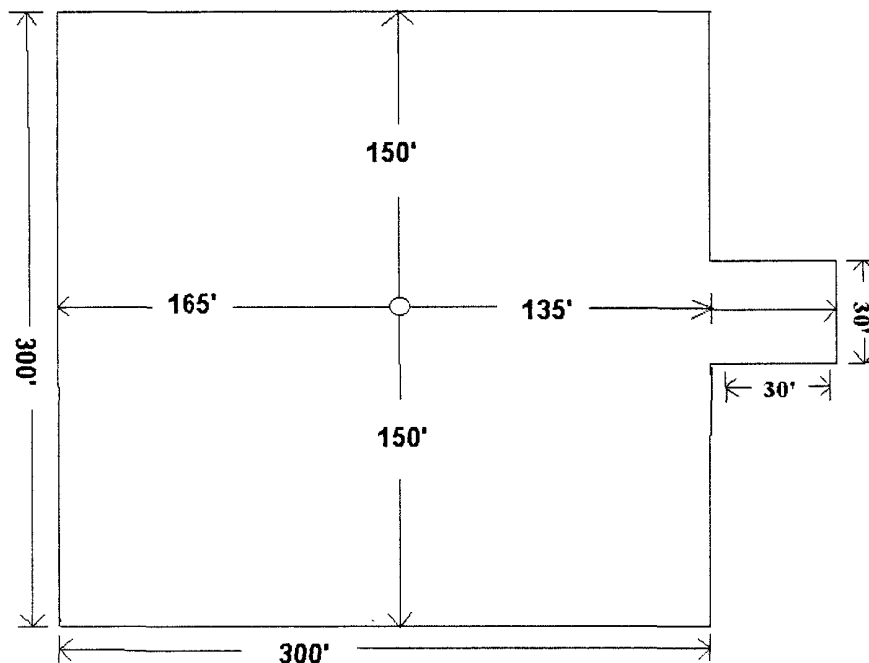


Exhibit #6

Attached to Form 3160-3
Mack Energy Corporation
Moose Jaw Federal Com #1
SL 2285 FNL & 330 FWL, Lot 2, Sec. 19 T15S R29E
BHL 2285 FNL & 330 FEL, Unit H, Sec. 19 T15S R29E
Chaves County, NM

Attachment to Exhibit #9
NOTES REGARDING THE BLOWOUT PREVENTERS
Moose Jaw Federal Com #1
~~Eddy~~ County, New Mexico
Chaves

1. Drilling nipple to be so constructed that it can be removed without use of a welder through rotary table opening, with minimum I.D. equal to preventer bore.
2. Wear ring to be properly installed in head.
3. Blow out preventer and all fittings must be in good condition, 2000 psi WP minimum.
4. All fittings to be flanged.
5. Safety valve must be available on rig floor at all times with proper connections, valve to be full 2000 psi WP minimum.
6. All choke and fill lines to be securely anchored especially ends of choke lines.
7. Equipment through which bit must pass shall be at least as large as the diameter of the casing being drilled through.
8. Kelly cock on Kelly.
9. Extension wrenches and hands wheels to be properly installed.
10. Blow out preventer control to be located as close to driller's position as feasible.
11. Blow out preventer closing equipment to include minimum 40-gallon accumulator, two independent sources of pump power on each closing unit installation all API specifications.

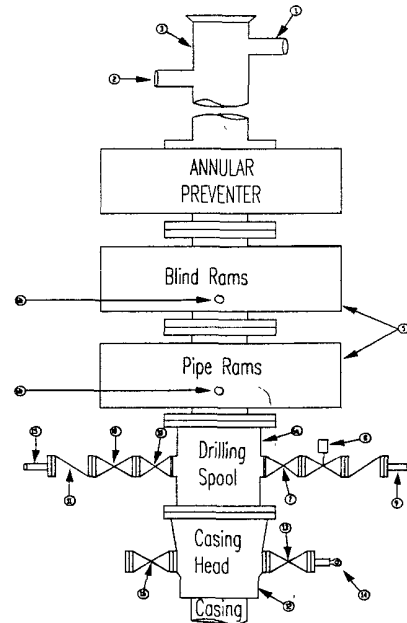
Mack Energy Corporation
Minimum Blowout Preventer Requirements
 3000 psi Working Pressure
 3 MWP
 EXHIBIT #10

Stack Requirements

NO	Items	Min. I.D	Min. Nominal
1	Flowline		2"
2	Fill up line		2"
3	Drilling nipple		
4	Annular preventer		
5	Two single or one dual hydraulically operated rams		
6a	Drilling spool with 2" min kill line and 3" min choke line outlets		2" Choke
6b	2" min. kill line and 3" min. choke line outlets in ram. (Alternate to 6a above)		
7	Valve Gate Plug	3 1/8	
8	Gate valve-power operated	3 1/8	
9	Line to choke manifold		3"
10	Valve Gate Plug	2 1/16	
11	Check valve	2 1/16	
12	Casing head		
13	Valve Gate Plug	1 13/16	
14	Pressure gauge with needle valve		
15	Kill line to rig mud pump manifold		2"

OPTIONAL

16	Flanged Valve	1 13/16	
----	---------------	---------	--



CONTRACTOR'S OPTION TO FURNISH.

1. All equipment and connections above bradenhead or casinghead. Working pressure of preventers to be 2000 psi minimum
2. Automatic accumulator (80 gallons, minimum) capable of closing BOP in 30 seconds or less and, holding them closed against full rated working pressure.
3. BOP controls, to be located near drillers' position.
4. Kelly equipped with Kelly cock.
5. Inside blowout preventer or its equivalent on derrick floor at all times with proper threads to fit pipe being used.
6. Kelly saver-sub equipped with rubber casing protector at all times.
7. Plug type blowout preventer tester.
8. Extra set pipe rams to fit drill pipe in use on location at all times.
9. Type RX ring gaskets in place of Type R.

MEC TO FURNISH.

1. Bradenhead or casing head and side valves
2. Wear bushing. If required.

GENERAL NOTES:

1. Deviations from this drawing may be made only with the express permission of MEC's Drilling Manager.
2. All connections, valves, fittings, piping, etc., subject to well or pump pressure must be flanged (suitable clamp connections acceptable) and have minimum working pressure equal to rated working pressure of preventers up through choke valves must be full opening and suitable for high pressure mud service
3. Controls to be of standard design and each marked, showing opening and closing position
4. Chokes will be positioned so as not to hamper or delay changing of choke beans

5. Replaceable parts for adjustable choke, or bean sizes, retainers, and choke wrenches to be conveniently located for immediate use
6. All valves to be equipped with hand-wheels or handles ready for immediate use.
7. Choke lines must be suitably anchored.
8. Handwheels and extensions to be connected and ready for use.
9. Valves adjacent to drilling spool to be kept open. Use outside valves except for emergency
10. All seamless steel control piping (2000 psi working pressure) to have flexible joints to avoid stress. Hoses will be permitted.
11. Casinghead connections shall not be used except in case of emergency.
12. Does not use kill line for routine fill up operations.

Mack Energy Corporation

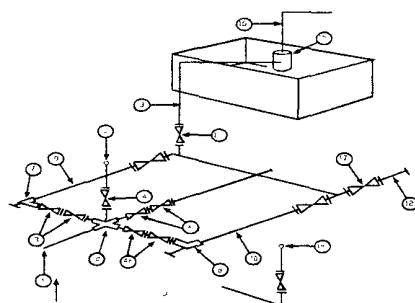
Exhibit #11

MINIMUM CHOKE MANIFOLD

3,000, 5,000, and 10,000 PSI Working Pressure

3M will be used

3 MWP - 5 MWP - 10 MWP



Mud Pit

Reserve Pit

* Location of separator optional

Below Substructure

Minimum requirements

No.		3,000 MWP			5,000 MWP			10,000 MWP		
		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			10,000
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' x 5'			2' x 5'			2' x 5'	
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

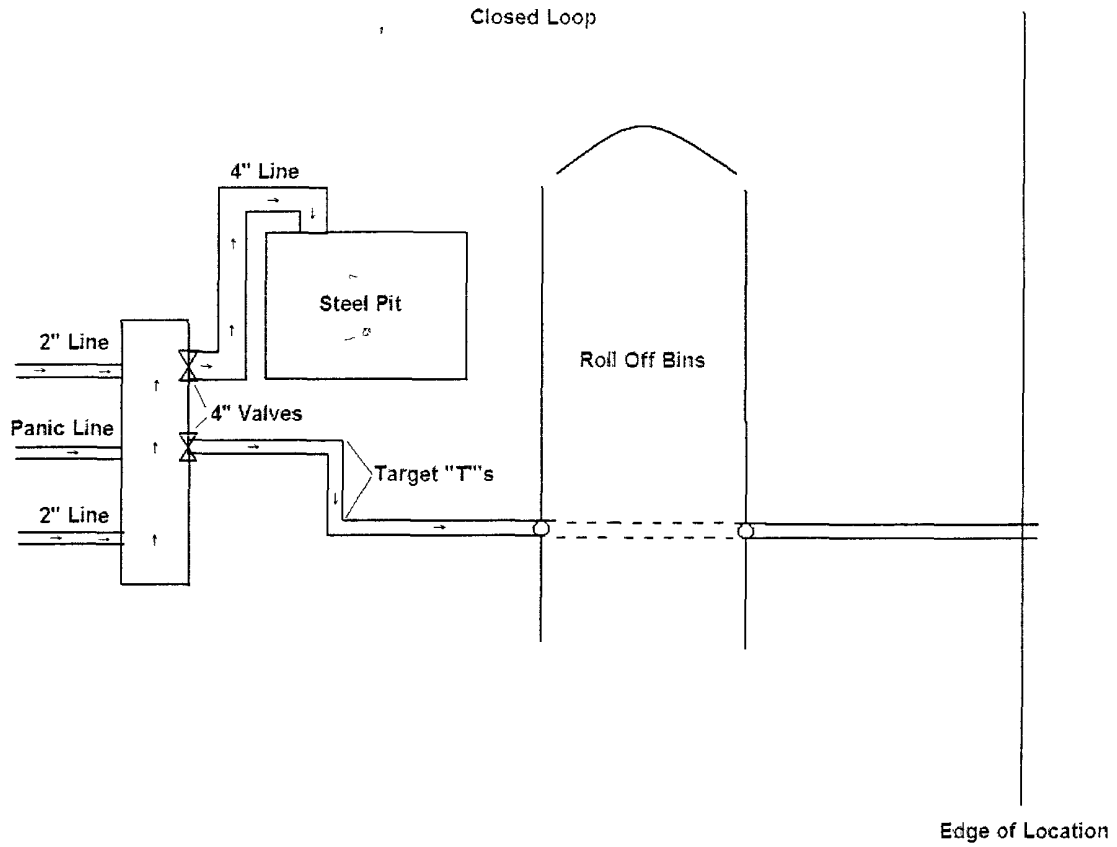
- (1) Only one required in Class 3M
- (2) Gate valves only shall be used for Class 10 M
- (3) Remote operated hydraulic choke required on 5,000 psi and 10,000 psi for drilling.

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 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 be as straight as possible. Lines downstream from chokes shall make turns by large bends or 90 degree bends using bull plugged tees

Mack Energy Corporation

MANIFOLD SCHEMATIC



Mack Energy Corporation
Onshore Order #6
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 and 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 will 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.
- D. Auxiliary equipment may include if applicable: annular preventer & rotating head.

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 drilling practices and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.

6. Metallurgy:

- A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, 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.

8. Well testing:

- A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H₂S environment will use the closed chamber method of testing.
- B. There will be no drill stem testing.

EXHIBIT #7

WARNING

**YOU ARE ENTERING AN H₂S
AUTHORIZED PERSONNEL ONLY**

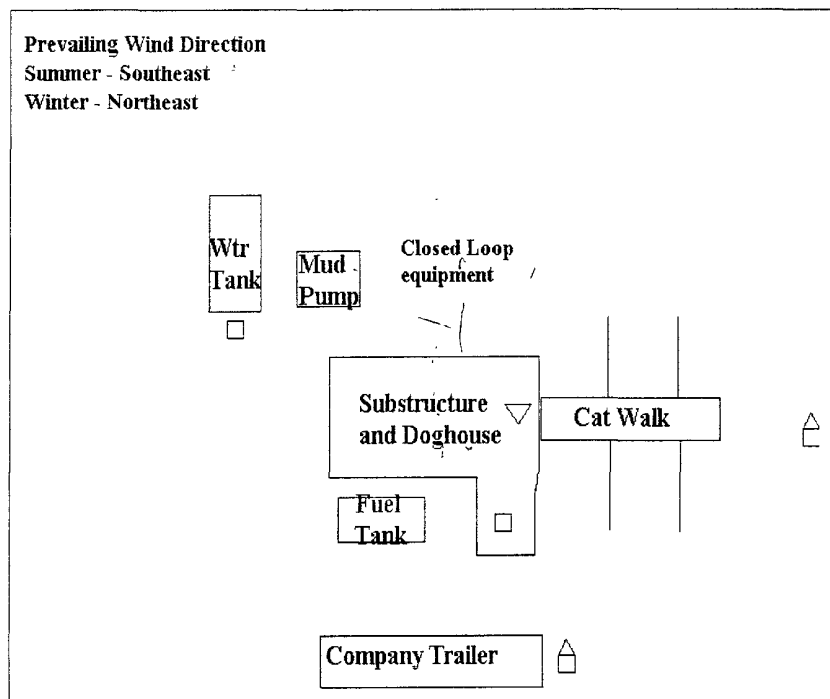
- 1. BEARDS OR CONTACT LENSES NOT ALLOWED**
- 2. HARD HATS REQUIRED**
- 3. SMOKING IN DESIGNATED AREAS ONLY**
- 4. BE WIND CONSCIOUS AT ALL TIMES**
- 5. CHECK WITH MACK ENERGY FOREMAN AT
OFFICE**

MACK ENERGY CORPORATION

1-575-748-1288

DRILLING LOCATION H2S SAFETY EQUIPMENT

Exhibit # 8



- ▽ H2S Monitors with alarms at the bell nipple
- Wind Direction Indicators
- △ Safe Briefing areas with caution signs and breathing equipment min 150 feet from

Mack Energy Corporation Call List, Chaves County

Artesia (575)	Cellular	Office	Home
Jim Krogman.....	746-5515.....	748-1288.....	746-2674
Lonnie Archer.....	746-7889.....	748-1288.....	365-2998
Donald Archer.....	748-7875.....	748-1288.....	748-2287
Chris Davis.....	746-7132.....	748-1288.....	
Kevin Garrett.....	746-7423.....	748-1288.....	

Agency Call List (575)**Roswell**

State Police.....	622-7200
City Police.....	624-6770
Sheriff's Office.....	624-7590
Ambulance.....	624-7590
Fire Department.....	624-7590
LEPC (Local Emergency Planning Committee).....	624-6770
NMOCD.....	748-1283
Bureau of Land Management.....	627-0272

Emergency Services

Boots & Coots IWC.....	1-800-256-9688 or (281)931-8884
Cudd pressure Control.....	(915)699-0139 or (915)563-3356
Halliburton.....	746-2757
B. J. Services.....	746-3569
Flight For Life-Lubbock, TX.....	(806)743-9911
Aerocare-Lubbock, TX.....	(806)747-8923
Med Flight Air Amb-Albuquerque, NM.....	(505)842-4433
Lifeguard Air Med Svc. Albuquerque, NM.....	(505)272-3115

SURFACE USE AND OPERATING PLAN

1. Existing & Proposed Access Roads

- A. The well site and elevation plat for the proposed well is shown in Exhibit #1. It was staked by John West Engineering, Hobbs, NM.
- B. All roads to the location are shown in Exhibit below. The existing lease roads are illustrated and are adequate for travel during drilling and production operations. Upgrading existing roads prior to drilling well will be done where necessary.
- C. Directions to Location: From the intersection of CR #217 and Eddy/Chaves County RD. go NW 5 miles, turn right/NW 1.2 miles to a proposed road survey, turn left/west 400'.
- D. 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.

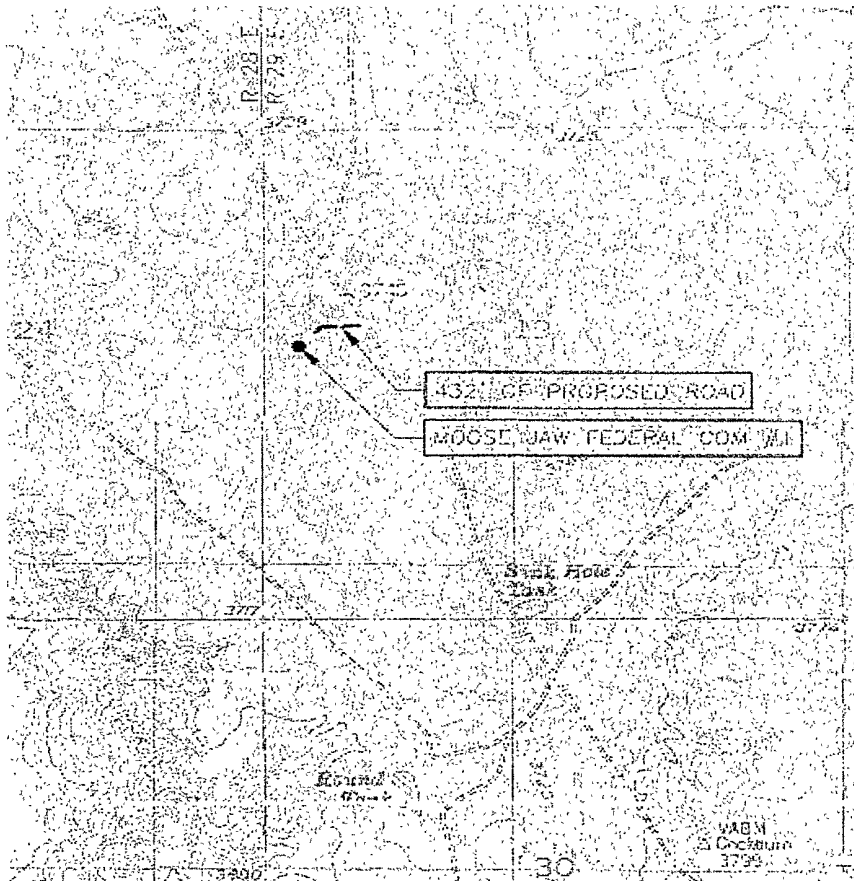


Exhibit #4

2. Proposed Access Road:

Exhibit #3 shows the 432' of new access road to be constructed. The road will be constructed as follows:

- A. The Maximum width of the running surface will be 14'. The road will be crowned and ditched and constructed of 6" rolled and compacted caliche. Ditches will be at 3:1 slope and 4 feet wide. Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.
- B. The average grade will be less than 1%.
- C. No turnouts are planned.
- D. No culverts, cattle guard, gates, low water crossings or fence cuts are necessary.
- E. Surfacing material will consist of native caliche. Caliche will be obtained from the nearest BLM approved caliche pit.
- F. The proposed access road as shown in Exhibit #3 has been centerline flagged by John West Engineering, Hobbs, New Mexico.

3. Location of Existing Wells & Proposed flow lines for New Wells:

Exhibit #4 shows all existing wells within a one-mile radius of this well. Proposed flow lines, will stay on location, TB at the #1 well.

4. 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) Abo Completion: Will be sent to the Moose Jaw Federal TB located at the #1 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.

- A. Drill cuttings not retained for evaluation purposes will be disposed into the steel tanks and hauled to an approved facility.
- B. Drilling fluids will be contained in steel tanks using a closed loop system.
- C. Water produced from the well during completion may be disposed into a steel tank. After the well is permanently placed on production, produced water will be collected in tanks (fiberglass) until pumped to an approved disposal system.
- D. Garbage produced during drilling or completion operations will be collected and hauled to an approved landfill. All water and fluids will be disposed of into an approved facility. No toxic waste or hazardous chemicals will be produced by this operation.
- E. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. In the event of a dry hole only a dry hole marker will remain.

8. Plans for Restoration of the Surface:

- A. Upon completion of the proposed operations, if the well is completed, any additional caliche required for facilities will be obtained from a BLM approved caliche pit.
- B. In the event of a dry hole. Topsoil removed from the drill site will be used to recontour the area to its original natural level and reseeded as per BLM specifications.

9. 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.

10. Other Information:

- A. The area around the well site is grassland and the topsoil is sandy. The vegetation is native scrub grass with sagebrush.
- B. There is no permanent or live water in the immediate area.
- C. A Cultural Resources Examination has been requested and will be forwarded to your office in the near future.

11. 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 (575) 748-1288 (office)

APD 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: 7-23-09

Signed: _____

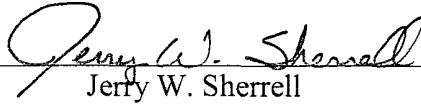

Jerry W. Sherrell

EXHIBIT B

PECOS DISTRICT - RFO CONDITIONS OF APPROVAL

October 6, 2009

Mack Energy Corporation
NM-4434
Moose Jaw Federal Com #1
Surface: 2285' FNL & 330' FWL
Bottom: 2285' FNL & 330' FEL
Sec. 19, T. 15 S., R. 29 E.,
NMPM, 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:

The topsoil will be stripped to approximately 6 inches in depth within the area designated for construction of the well pad. The operator shall stockpile the stripped topsoil adjacent to the constructed well pad. The topsoil will be used for interim and final reclamation of the surface disturbance created by the construction of the well pad.

C. CLOSED SYSTEMS OR STEEL TANKS:

A closed system or steel tanks will be used in lieu of reserve pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT:

If the operator elects to surface the access road and/or well pad, mineral materials extracted, payment shall be made to the BLM prior to removal of any federal mineral materials. 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 on lease access road shall be constructed to access the northeast 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.

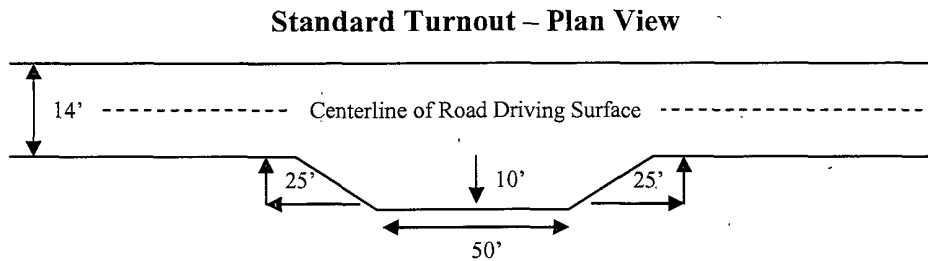
Ditching

Ditching shall be required on the uphill side of the road.

Ditching shall be required on both sides of the road.

Turnouts

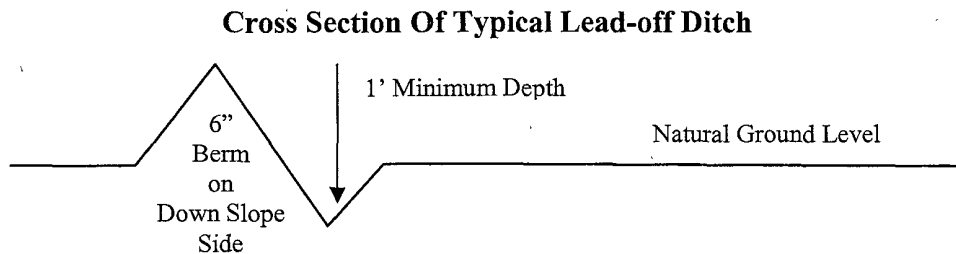
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



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.



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:

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

Culvert Installations

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

Fence Requirement

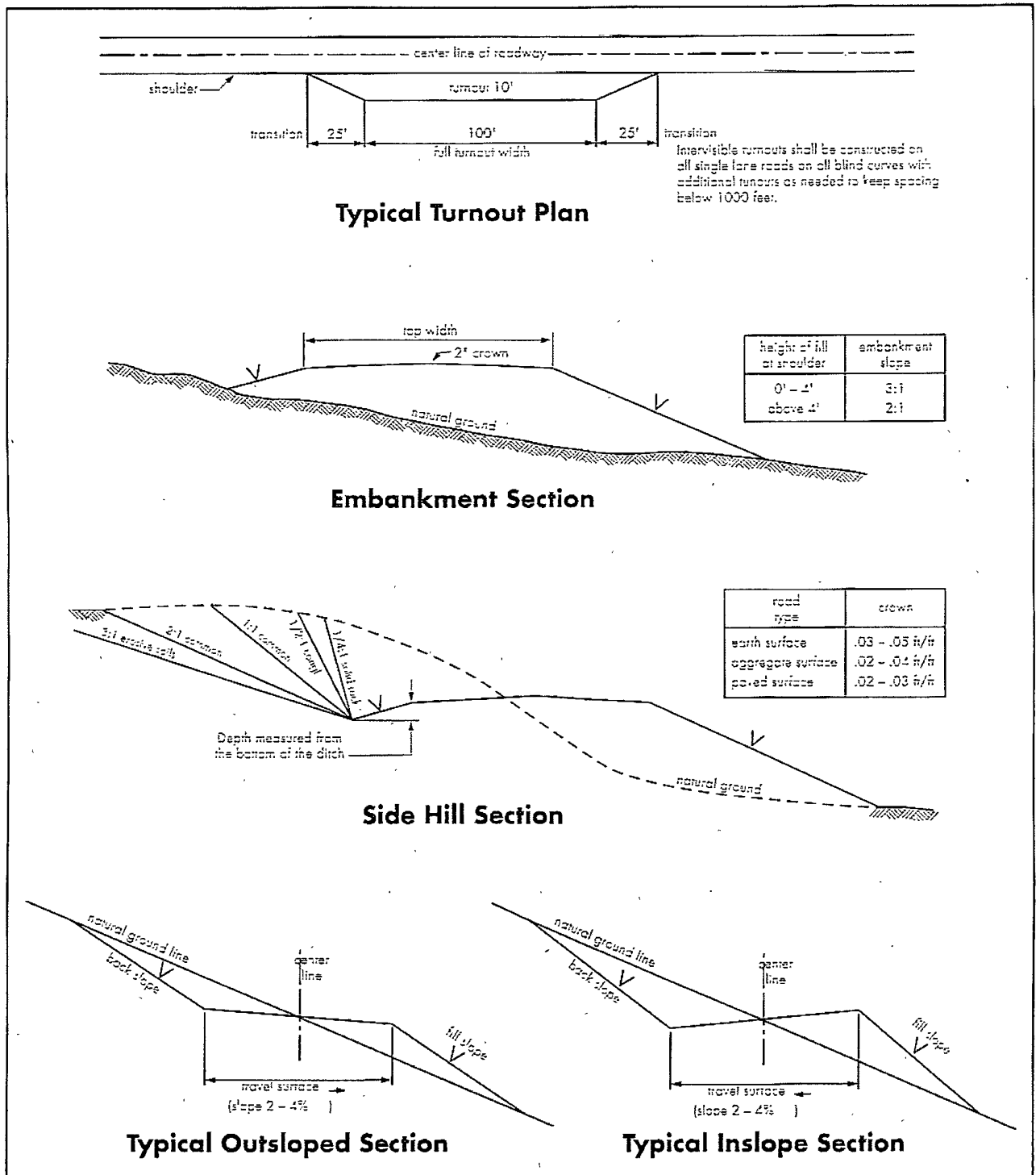
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

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



V. DRILLING

DRILLING OPERATIONS REQUIREMENTS

1. Call the Roswell Field Office, 2909 West Second St., Roswell, NM 88201. During office hours call (575) 627-0205 or after office hours call (575) 910-6024. Engineer on call during office hours call (575) 627-0275 or after office hours call (575) 626-5749.
2. The BLM is to be notified a minimum of 24 hours in advance for a representative to witness:
 - a. Spudding well
 - b. Setting and/or Cementing of all casing strings

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

BOPE Tests

3. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
4. Include the API Number assigned to well by NMOCD on the subsequent report of setting the first casing string.
5. A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales.
6. The operator will accurately measure the drilling rate in ft/min to set the base of the usable water protection casing string(s) opposite competent rock. The record of the drilling rate along with the caliper-gamma ray-neutron well log run to surface will be submitted to this office as well as all other logs run on the borehole 30 days from completion
7. A closed loop, fresh water gel drilling system will be used to drill to the base of the usable water and set the protection casing string(s). All drilling mud and polymers used will be water based and non-toxic. Put a berm around the steel tanks sufficient to contain any leaks or over-flows.

B. CASING

1. A 13-3/8 inch conductor pipe set at an approximate depth of 100 feet opposite competent beds and cemented in-place with ready mix will be used to protect the usable water

The minimum required fill of cement behind the **8-5/8** inch surface casing set **at approximately 450 feet** is **sufficient to circulate to the surface.**

- a. If cement does not circulate to the surface, the Roswell Field Office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin or 500 pounds compression strength, whichever is greater. (This is to include the lead cement).
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compression strength, whichever is greater.
 - d. If cement falls back, remedial action will be done prior to drilling out that string.
2. The minimum required fill of cement behind the 5-1/2 inch intermediate casing is **sufficient to circulate to the surface**. If cement does not circulate see B.1.a-d above.
 3. There is no required fill of cement behind the 4-1/2 inch production casing since a Peak Systems Iso-Pak liner will be used for lateral and will not require cementing.
 4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
 5. All casing shall be new or reconditioned and tested casing and meet API standards for new casing. The use of reconditioned and tested casing shall be subject to approval by the authorized officer. Approval will be contingent upon the wall thickness of any casing being verified to be at least 87-1/2 per cent of the nominal wall thickness of new casing.

C. PRESSURE CONTROL

1. Before drilling below the 8-5/8 inch surface casing shoe and the 5-1/2 inch intermediate casing shoe, the blowout preventer assembly shall consist of a minimum of One Annular Preventer or Two Ram-Type Preventers and a Kelly Cock/Stabbing Valve.
2. Before drilling below the 8-5/8 inch surface casing shoe and the 5-1/2 inch intermediate casing shoe, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be **2000** psi.
3. The BOPE shall be installed before drilling below the 8-5/8 inch surface casing and the 5-1/2 inch intermediate casing 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.
- g. The requested variance to test the BOPE prior to drilling below the 8-5/8 inch surface casing to the reduced pressure of 1000 psi using the rig pumps is approved.

VI. PRODUCTION

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, Juniper Green (Standard Environmental Color Chart June 2008).

VRM Facility Requirement

Low-profile tanks not greater than eight-feet-high shall be used.

VII. 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. Earthwork for interim and final reclamation must be completed within 6 months of well completion or well plugging

(weather permitting). The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

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.

PECOS DISTRICT
SEED MIX FOR

The following Soils or Soil associations may represent this ecological site:

Bascal Gravelly Loam, Bascom.
Philder Very Gravelly Fine Sandy Loam
Yturbide Loamy Sand

Gravelly SD-3 Ecological Site

April 4, 2006

<u>Common Name and Preferred Variety</u>	<u>Scientific Name</u>	<u>Pounds of Pure Live Seed Per Acre</u>
Blue grama	(<i>Bouteloua gracilis</i>)	1.50
Sideoats grama.	(<i>Bouteloua curtipendula</i>)	1.50
Sand dropseed	(<i>Sporobolus cryptandrus</i>)	0.50
Plains bristlegrass	(<i>Setaria macrostachya</i>)	2.50
Vine mesquite	(<i>Panicum obtusum</i>)	1.50
Desert or Scarlet Globemallow	(<i>Sphaeralcea ambigua</i>) or (<i>S. coccinea</i>)	1.00
Croton or Desert zinnia	(<i>Croton spp.</i>) or (<i>Zinnia grandiflora</i>)	<u>0.50</u>

TOTAL POUNDS PURE LIVE SEED (pls) PER ACRE 9.00
Certified Weed Free Seed

If one species is not available,
increase ALL others proportionately.
NOT JUST ONE SPECIES!
Use at least 4 species, including 1 forb

No less than 9.0 pounds pls per acre shall be applied

APPROVED: /s/ Douglas J. Burger
District Manager, Pecos District

VIII. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

- a) Upon abandonment of the well and/or when the access road is no longer in service, a Notice of Intent for Final Abandonment with the proposed surface restoration procedure must be submitted for approval.
- b) On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the Private Surface Land Owner agreements and a copy of the release is to be submitted upon abandonment.
- c) Upon abandonment of the well, 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 $\frac{1}{4}$ inch thick and welded in place. The following information shall be permanently inscribed on the dry hole marker: Well name and number, the name of the operator, the lease serial number, the surveyed location (the quarter-quarter section, section, township and range or other authorized survey designation acceptable to the authorized officer; such as metes and bounds).
- d) d. Surface Reclamation must be completed within 6 months of well plugging. If the operator proposes to modify the plans for surface reclamation approved on the APD, the operator must attach these modifications to the Subsequent Report of Plug and Abandon using Sundry Notices and Reports on Wells, Form 3160-5.