

District I
1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Road, Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-101

May 27, 2004

HOBBS OCD

MAY 26 2011

Oil Conservation Division

1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit to appropriate District Office

☒ AMENDED REPORT

APPLICATION FOR RECEIVED TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

Operator Name and Address Mack Energy Corporation P.O. Box 960 Artesia, NM 88211-0960		OGRID Number 013837
Property Code 37603	Property Name Jerry State	Well No. 2
Proposed Pool 1 Wildcat; Abo/Wolfcamp		Proposed Pool 2

7 Surface Location

UL or lot no. M	Section 21	Township 15S	Range 31E	Lot Idn	Feet from the 365	North/South line South	Feet from the 330	East/West line West	County Chaves
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8 Proposed Bottom Hole Location If Different From Surface

UL or lot no. P	Section 21	Township 15S	Range 31E	Lot Idn	Feet from the 365	North/South line South	Feet from the 330	East/West line East	County Chaves
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Additional Well Information

Work Type Code New	Well Type Code O	Cable/Rotary Rotary	Lease Type Code S	Ground Level Elevation 4420' GR
Multiple No	Proposed Depth 13185	Formation Abo/Wolfcamp	Contractor	Spud Date 5/30/2011
Depth to Groundwater 145'		Distance from nearest fresh water well 1000'		Distance from nearest surface water 1000'
Pit Liner: Synthetic ☐ mils thick Clay ☐		Pit Volume: _____ bbls		
Closed-Loop System ☒		Drilling Method - Fresh Water ☒ Brine ☐ Diesel/Oil-based ☐ Gas/Air ☐		

21 Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
14 3/4	9 5/8	36	1400	750sx	Surface
8 3/4	7	26	8650	1200sx	Surface
6 1/8	4 1/2	11.6	8100-13185	Open hole packers	

Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone.

Describe the blowout prevention program, if any. Use additional sheets if necessary.

Mack Energy proposes to drill a 12 1/4 hole to 1400', run 9 5/8 casing and cement to surface. Drill a 8 3/4 hole to 8650', run 7" casing and cement. Drill a 6 1/8 hole to 13,185', run 4 1/2 casing from 8100-13,185' set using Liner Hange and Open hole Packer System.

**Permit Expires 2 Years From Approval
Date Unless Drilling Underway**

I hereby certify that the information given above is true and complete to the best of my knowledge and belief I further certify that the drilling pit will be constructed according to NMOCD guidelines ☒ a general permit ☐ or an (attached) alternative OCD-approved plan. ☐		OIL CONSERVATION DIVISION	
Signature Jerry W. Sherrell		Approved by:	
Printed name: Jerry W. Sherrell		Title: PETROLEUM ENGINEER	
Title: Production Clerk		Approval Date: 06/01/11	
E-mail Address: jerrys@mec.com		Expiration Date:	
Date: 5/24/11	Phone: (575)748-1288	Conditions of Approval Attached ☐	

JUN 02 2011

DISTRICT I

1625 N. FRENCH DR., HOBBS, NM 88240

HOBBS OGD

State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88203

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.

Santa Fe, New Mexico 87505

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

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

RECEIVED

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-005-29182	Pool Code 97722	Pool Name Wildcat;Abo/Wolfcamp
Property Code 37603	Property Name JERRY STATE	Well Number 2
OGRID No. 013837	Operator Name MACK ENERGY CORPORATION	Elevation 4420'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	21	15-S	31-E		365	SOUTH	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
P	21	15-S	31-E		365	SOUTH	330	EAST	CHAVES
Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.						

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

GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=726054.2 N X=653142.5 E LAT.=32.994992° N LONG.=103.833850° W		BOTTOM HOLE LOCATION Y=726075.1 N X=657773.9 E	
S.L. 330' 365'		B.H. 330' 365'	
GRID. AZ=89°44'24" HORZ. DIST.=4632.6'			

OPERATOR CERTIFICATION

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.

Jerry W. Sherrell 5/25/2011
Signature Date

Jerry W. Sherrell
Printed Name

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 supervision, and that the same is true and correct to the best of my belief.

APR 13 2009
Date Surveyed
Signature Seal of Professional Surveyor 3239
GARY EIDSON
3/02/09
Certificate No. GARY EIDSON 12641



HOBBS OCD

MAY 26 2011

RECEIVED

Mack Energy

Chaves County

Jerry State #2

Jerry State #2

OH

Plan: Plan #1

Pathfinder X & Y Survey Report

19 March, 2009

PATHFINDER

SCANNED



Mack Energy

Chaves County

Jerry State #2

Jerry State #2

OH

Plan: Plan #1

Pathfinder X & Y Survey Report

19 March, 2009

PATHFINDER

SCANNED



Pathfinder Energy Services
Pathfinder X & Y Survey Report

PATHFINDER

SCANNED

Company: Mack Energy
Project: Chaves County
Site: Jerry State #2
Well: Jerry State #2
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well Jerry State #2
TVD Reference: WELL @ 4420.00ft (Original Well Elev)
MD Reference: WELL @ 4420.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

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: Jerry State #2

Site Position: Northing: 726,054.200 ft Latitude: 32° 59' 41.970 N
From: Map Easting: 653,142.500 ft Longitude: 103° 50' 1.862 W
Position Uncertainty: 0.00 ft Slot Radius: " Grid Convergence: 0.27 °

Well: Jerry State #2

Well Position +N/-S 0.00 ft Northing: 726,054.200 ft Latitude: 32° 59' 41.970 N
+E/-W 0.00 ft Easting: 653,142.500 ft Longitude: 103° 50' 1.862 W
Position Uncertainty 0.00 ft Wellhead Elevation: ft Ground Level: 4,420.00 ft

Wellbore: OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	3/19/2009	8.02	60.92	49,295

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	89.74

Survey Tool Program Date 3/19/2009

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	13,185.09	Plan #1 (OH)	MWD	MWD - Standard



Pathfinder Energy Services
Pathfinder X & Y Survey Report



SCANNED

Company: Mack Energy
Project: Chaves County
Site: Jerry State #2
Well: Jerry State #2
Wellbore: OH
Design: Plan #1

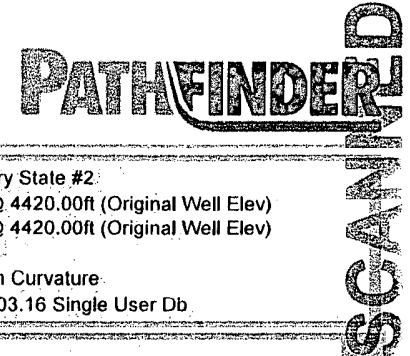
Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well Jerry State #2
WELL @ 4420.00ft (Original Well Elev)
WELL @ 4420.00ft (Original Well Elev)
Grid
Minimum Curvature
EDM 2003.16 Single User Db

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	-4,420.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
100.00	0.00	0.00	100.00	-4,320.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
200.00	0.00	0.00	200.00	-4,220.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
300.00	0.00	0.00	300.00	-4,120.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
400.00	0.00	0.00	400.00	-4,020.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
500.00	0.00	0.00	500.00	-3,920.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
600.00	0.00	0.00	600.00	-3,820.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
700.00	0.00	0.00	700.00	-3,720.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
800.00	0.00	0.00	800.00	-3,620.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
900.00	0.00	0.00	900.00	-3,520.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
1,000.00	0.00	0.00	1,000.00	-3,420.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
1,100.00	0.00	0.00	1,100.00	-3,320.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
1,200.00	0.00	0.00	1,200.00	-3,220.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
1,300.00	0.00	0.00	1,300.00	-3,120.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
1,400.00	0.00	0.00	1,400.00	-3,020.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
1,500.00	0.00	0.00	1,500.00	-2,920.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
1,600.00	0.00	0.00	1,600.00	-2,820.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
1,700.00	0.00	0.00	1,700.00	-2,720.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
1,800.00	0.00	0.00	1,800.00	-2,620.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
1,900.00	0.00	0.00	1,900.00	-2,520.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
2,000.00	0.00	0.00	2,000.00	-2,420.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
2,100.00	0.00	0.00	2,100.00	-2,320.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
2,200.00	0.00	0.00	2,200.00	-2,220.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
2,300.00	0.00	0.00	2,300.00	-2,120.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
2,400.00	0.00	0.00	2,400.00	-2,020.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
2,500.00	0.00	0.00	2,500.00	-1,920.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	
2,600.00	0.00	0.00	2,600.00	-1,820.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50	



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company: Mack Energy
Project: Chaves County
Site: Jerry State #2
Well: Jerry State #2
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well Jerry State #2:
WELL @ 4420.00ft (Original Well Elev)
WELL @ 4420.00ft (Original Well Elev)
Grid:
Minimum Curvature:
EDM 2003.16 Single User Db

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)
2,700.00	0.00	0.00	2,700.00	-1,720.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
2,800.00	0.00	0.00	2,800.00	-1,620.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
2,900.00	0.00	0.00	2,900.00	-1,520.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
3,000.00	0.00	0.00	3,000.00	-1,420.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
3,100.00	0.00	0.00	3,100.00	-1,320.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
3,200.00	0.00	0.00	3,200.00	-1,220.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
3,300.00	0.00	0.00	3,300.00	-1,120.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
3,400.00	0.00	0.00	3,400.00	-1,020.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
3,500.00	0.00	0.00	3,500.00	-920.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
3,600.00	0.00	0.00	3,600.00	-820.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
3,700.00	0.00	0.00	3,700.00	-720.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
3,800.00	0.00	0.00	3,800.00	-620.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
3,900.00	0.00	0.00	3,900.00	-520.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
4,000.00	0.00	0.00	4,000.00	-420.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
4,100.00	0.00	0.00	4,100.00	-320.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
4,200.00	0.00	0.00	4,200.00	-220.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
4,300.00	0.00	0.00	4,300.00	-120.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
4,400.00	0.00	0.00	4,400.00	-20.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
4,500.00	0.00	0.00	4,500.00	80.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
4,600.00	0.00	0.00	4,600.00	180.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
4,700.00	0.00	0.00	4,700.00	280.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
4,800.00	0.00	0.00	4,800.00	380.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
4,900.00	0.00	0.00	4,900.00	480.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
5,000.00	0.00	0.00	5,000.00	580.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
5,100.00	0.00	0.00	5,100.00	680.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
5,200.00	0.00	0.00	5,200.00	780.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
5,300.00	0.00	0.00	5,300.00	880.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company: Mack Energy
Project: Chaves County
Site: Jerry State #2
Well: Jerry State #2
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well Jerry State #2
TVD Reference: WELL @ 4420.00ft (Original Well Elev)
MD Reference: WELL @ 4420.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db



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)
5,400.00	0.00	0.00	5,400.00	980.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
5,500.00	0.00	0.00	5,500.00	1,080.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
5,600.00	0.00	0.00	5,600.00	1,180.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
5,700.00	0.00	0.00	5,700.00	1,280.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
5,800.00	0.00	0.00	5,800.00	1,380.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
5,900.00	0.00	0.00	5,900.00	1,480.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
6,000.00	0.00	0.00	6,000.00	1,580.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
6,100.00	0.00	0.00	6,100.00	1,680.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
6,200.00	0.00	0.00	6,200.00	1,780.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
6,300.00	0.00	0.00	6,300.00	1,880.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
6,400.00	0.00	0.00	6,400.00	1,980.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
6,500.00	0.00	0.00	6,500.00	2,080.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
6,600.00	0.00	0.00	6,600.00	2,180.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
6,700.00	0.00	0.00	6,700.00	2,280.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
6,800.00	0.00	0.00	6,800.00	2,380.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
6,900.00	0.00	0.00	6,900.00	2,480.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
7,000.00	0.00	0.00	7,000.00	2,580.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
7,100.00	0.00	0.00	7,100.00	2,680.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
7,200.00	0.00	0.00	7,200.00	2,780.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
7,300.00	0.00	0.00	7,300.00	2,880.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
7,400.00	0.00	0.00	7,400.00	2,980.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
7,500.00	0.00	0.00	7,500.00	3,080.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
7,600.00	0.00	0.00	7,600.00	3,180.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
7,700.00	0.00	0.00	7,700.00	3,280.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
7,800.00	0.00	0.00	7,800.00	3,380.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
7,900.00	0.00	0.00	7,900.00	3,480.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
8,000.00	0.00	0.00	8,000.00	3,580.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company: Mack Energy
Project: Chaves County
Site: Jerry State #2
Well: Jerry State #2
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well Jerry State #2
WELL @ 4420.00ft (Original Well Elev)
WELL @ 4420.00ft (Original Well Elev)
Grid
Minimum Curvature
EDM 2003.16 Single User Db

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	D Leg (°/100ft)	Northing (ft)	Easting (ft)
8,100.00	0.00	0.00	8,100.00	3,680.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
8,200.00	0.00	0.00	8,200.00	3,780.00	0.00	0.00	0.00	0.00	726,054.20	653,142.50
8,280.50	0.00	0.00	8,280.50	3,860.50	0.00	0.00	0.00	0.00	726,054.20	653,142.50
KOP - 8280.50' MD, 0.00° INC, 0.00° AZI, 8280.50' TVD										
8,300.00	2.34	89.74	8,299.99	3,879.99	0.00	0.40	0.40	12.00	726,054.20	653,142.90
8,325.00	5.34	89.74	8,324.94	3,904.94	0.01	2.07	2.07	12.00	726,054.21	653,144.57
8,350.00	8.34	89.74	8,349.75	3,929.75	0.02	5.05	5.05	12.00	726,054.22	653,147.55
8,375.00	11.34	89.74	8,374.38	3,954.38	0.04	9.32	9.32	12.00	726,054.24	653,151.82
8,400.00	14.34	89.74	8,398.76	3,978.76	0.07	14.88	14.88	12.00	726,054.27	653,157.38
8,425.00	17.34	89.74	8,422.80	4,002.80	0.10	21.70	21.70	12.00	726,054.30	653,164.20
8,450.00	20.34	89.74	8,446.46	4,026.46	0.13	29.77	29.77	12.00	726,054.33	653,172.27
8,475.00	23.34	89.74	8,469.67	4,049.67	0.18	39.07	39.07	12.00	726,054.38	653,181.57
8,500.00	26.34	89.74	8,492.35	4,072.35	0.22	49.57	49.57	12.00	726,054.42	653,192.07
8,525.00	29.34	89.74	8,514.45	4,094.45	0.28	61.25	61.25	12.00	726,054.48	653,203.75
8,550.00	32.34	89.74	8,535.92	4,115.92	0.34	74.06	74.06	12.00	726,054.54	653,216.56
8,575.00	35.34	89.74	8,556.68	4,136.68	0.40	87.98	87.98	12.00	726,054.60	653,230.48
8,600.00	38.34	89.74	8,576.68	4,156.68	0.47	102.97	102.97	12.00	726,054.67	653,245.47
8,625.00	41.34	89.74	8,595.88	4,175.88	0.54	118.98	118.98	12.00	726,054.74	653,261.48
8,650.00	44.34	89.74	8,614.21	4,194.21	0.62	135.98	135.98	12.00	726,054.82	653,278.48
8,675.00	47.34	89.74	8,631.62	4,211.62	0.70	153.91	153.91	12.00	726,054.90	653,296.41
8,700.00	50.34	89.74	8,648.07	4,228.07	0.78	172.73	172.73	12.00	726,054.98	653,315.23
8,725.00	53.34	89.74	8,663.52	4,243.52	0.87	192.39	192.39	12.00	726,055.07	653,334.89
8,750.00	56.34	89.74	8,677.91	4,257.91	0.96	212.82	212.82	12.00	726,055.16	653,355.32
8,775.00	59.34	89.74	8,691.22	4,271.22	1.06	233.98	233.99	12.00	726,055.26	653,376.48
8,800.00	62.34	89.74	8,703.40	4,283.40	1.16	255.81	255.81	12.00	726,055.36	653,398.31
8,825.00	65.34	89.74	8,714.42	4,294.42	1.26	278.25	278.25	12.00	726,055.46	653,420.75
8,850.00	68.34	89.74	8,724.25	4,304.25	1.37	301.23	301.23	12.00	726,055.57	653,443.73



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company: Mack Energy
Project: Chaves County
Site: Jerry State #2
Well: Jerry State #2
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well Jerry State #2
WELL @ 4420.00ft (Original Well Elev)
WELL @ 4420.00ft (Original Well Elev)
Grid
Minimum Curvature
EDM 2003.16 Single User Db

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)
8,875.00	71.34	89.74	8,732.87	4,312.87	1.47	324.70	324.70	12.00	726,055.67	653,467.20
8,900.00	74.34	89.74	8,740.24	4,320.24	1.58	348.58	348.58	12.00	726,055.78	653,491.08
8,925.00	77.34	89.74	8,746.36	4,326.36	1.69	372.82	372.82	12.00	726,055.89	653,515.32
8,950.00	80.34	89.74	8,751.19	4,331.19	1.80	397.34	397.35	12.00	726,056.00	653,539.84
8,975.00	83.34	89.74	8,754.74	4,334.74	1.91	422.09	422.09	12.00	726,056.11	653,564.59
9,000.00	86.34	89.74	8,756.99	4,336.99	2.03	446.98	446.99	12.00	726,056.23	653,589.48
9,025.00	89.34	89.74	8,757.93	4,337.93	2.14	471.96	471.96	12.00	726,056.34	653,614.46
9,030.36	89.98	89.74	8,757.96	4,337.96	2.16	477.32	477.33	12.00	726,056.36	653,619.82
EOC @ 9030.36°MD, 8757.96°TVD, 89.98°INC, 89.74°AZI, 477.32°VS										
9,100.00	89.98	89.74	8,757.98	4,337.98	2.48	546.96	546.96	0.00	726,056.68	653,689.46
9,153.04	89.98	89.74	8,758.00	4,338.00	2.72	600.00	600.01	0.00	726,056.92	653,742.50
TGT 1										
9,197.68	89.09	89.74	8,758.36	4,338.36	2.92	644.63	644.64	2.00	726,057.12	653,787.13
9,200.00	89.09	89.74	8,758.40	4,338.40	2.93	646.96	646.96	0.00	726,057.13	653,789.46
9,300.00	89.09	89.74	8,759.98	4,339.98	3.38	746.94	746.95	0.00	726,057.58	653,889.44
9,400.00	89.09	89.74	8,761.57	4,341.57	3.83	846.93	846.94	0.00	726,058.03	653,989.43
9,500.00	89.09	89.74	8,763.16	4,343.16	4.28	946.92	946.92	0.00	726,058.48	654,089.42
9,553.09	89.09	89.74	8,764.00	4,344.00	4.52	1,000.00	1,000.01	0.00	726,058.72	654,142.50
TGT 2										
9,562.10	88.91	89.74	8,764.16	4,344.16	4.56	1,009.00	1,009.01	2.00	726,058.76	654,151.50
9,600.00	88.91	89.74	8,764.88	4,344.88	4.73	1,046.90	1,046.91	0.00	726,058.93	654,189.40
9,700.00	88.91	89.74	8,766.78	4,346.78	5.18	1,146.88	1,146.89	0.00	726,059.38	654,289.38
9,800.00	88.91	89.74	8,768.68	4,348.68	5.63	1,246.86	1,246.87	0.00	726,059.83	654,389.36
9,900.00	88.91	89.74	8,770.58	4,350.58	6.08	1,346.84	1,346.86	0.00	726,060.28	654,489.34
10,000.00	88.91	89.74	8,772.48	4,352.48	6.54	1,446.82	1,446.84	0.00	726,060.74	654,589.32
10,100.00	88.91	89.74	8,774.38	4,354.38	6.99	1,546.80	1,546.82	0.00	726,061.19	654,689.30
10,200.00	88.91	89.74	8,776.28	4,356.28	7.44	1,646.78	1,646.80	0.00	726,061.64	654,789.28



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company: Mack Energy
Project: Chaves County
Site: Jerry State #2
Well: Jerry State #2
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well Jerry State #2
TVD Reference: WELL @ 4420.00ft (Original Well Elev)
MD Reference: WELL @ 4420.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

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)
300.00	88.91	89.74	8,778.18	4,358.18	7.89	1,746.77	1,746.78	0.00	726,062.09	654,889.27
10,400.00	88.91	89.74	8,780.09	4,360.09	8.34	1,846.75	1,846.77	0.00	726,062.54	654,989.25
10,500.00	88.91	89.74	8,781.99	4,361.99	8.79	1,946.73	1,946.75	0.00	726,062.99	655,089.23
10,553.28	88.91	89.74	8,783.00	4,363.00	9.03	2,000.00	2,000.02	0.00	726,063.23	655,142.50
TGT 3										
10,559.07	89.03	89.74	8,783.10	4,363.10	9.06	2,005.78	2,005.80	2.00	726,063.26	655,148.28
10,600.00	89.03	89.74	8,783.80	4,363.80	9.24	2,046.71	2,046.73	0.00	726,063.44	655,189.21
10,700.00	89.03	89.74	8,785.50	4,365.50	9.69	2,146.69	2,146.72	0.00	726,063.89	655,289.19
10,800.00	89.03	89.74	8,787.20	4,367.20	10.14	2,246.68	2,246.70	0.00	726,064.34	655,389.18
10,900.00	89.03	89.74	8,788.90	4,368.90	10.59	2,346.66	2,346.69	0.00	726,064.79	655,489.16
11,000.00	89.03	89.74	8,790.60	4,370.60	11.04	2,446.65	2,446.67	0.00	726,065.24	655,589.15
11,100.00	89.03	89.74	8,792.30	4,372.30	11.50	2,546.63	2,546.66	0.00	726,065.70	655,689.13
11,200.00	89.03	89.74	8,793.99	4,373.99	11.95	2,646.62	2,646.64	0.00	726,066.15	655,789.12
11,300.00	89.03	89.74	8,795.69	4,375.69	12.40	2,746.60	2,746.63	0.00	726,066.60	655,889.10
11,400.00	89.03	89.74	8,797.39	4,377.39	12.85	2,846.59	2,846.62	0.00	726,067.05	655,989.09
11,500.00	89.03	89.74	8,799.09	4,379.09	13.30	2,946.57	2,946.60	0.00	726,067.50	656,089.07
11,553.44	89.03	89.74	8,800.00	4,380.00	13.54	3,000.00	3,000.03	0.00	726,067.74	656,142.50
TGT 4										
11,556.32	88.97	89.74	8,800.05	4,380.05	13.55	3,002.88	3,002.91	2.00	726,067.75	656,145.38
11,600.00	88.97	89.74	8,800.84	4,380.84	13.75	3,046.55	3,046.59	0.00	726,067.95	656,189.05
11,700.00	88.97	89.74	8,802.64	4,382.64	14.20	3,146.54	3,146.57	0.00	726,068.40	656,289.04
11,800.00	88.97	89.74	8,804.44	4,384.44	14.65	3,246.52	3,246.55	0.00	726,068.85	656,389.02
11,900.00	88.97	89.74	8,806.24	4,386.24	15.10	3,346.50	3,346.54	0.00	726,069.30	656,489.00
12,000.00	88.97	89.74	8,808.04	4,388.04	15.55	3,446.49	3,446.52	0.00	726,069.75	656,588.99
12,100.00	88.97	89.74	8,809.84	4,389.84	16.00	3,546.47	3,546.50	0.00	726,070.20	656,688.97
12,200.00	88.97	89.74	8,811.64	4,391.64	16.46	3,646.45	3,646.49	0.00	726,070.66	656,788.95
12,300.00	88.97	89.74	8,813.44	4,393.44	16.91	3,746.43	3,746.47	0.00	726,071.11	656,888.93



Pathfinder Energy Services
Pathfinder X & Y Survey Report

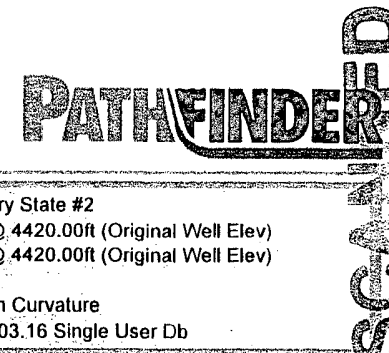


Company:	Mack Energy	Local Co-ordinate Reference:	Well Jerry State #2
Project:	Chaves County	TVD Reference:	WELL @ 4420.00ft (Original Well Elev)
Site:	Jerry State #2	MD Reference:	WELL @ 4420.00ft (Original Well Elev)
Well:	Jerry State #2	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 2003.16 Single User Db

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)	
12,400.00	88.97	89.74	8,815.24	4,395.24	17.36	3,846.42	3,846.46	0.00	726,071.56	656,988.92	
12,500.00	88.97	89.74	8,817.04	4,397.04	17.81	3,946.40	3,946.44	0.00	726,072.01	657,088.90	
12,553.61	88.97	89.74	8,818.00	4,398.00	18.05	4,000.00	4,000.04	0.00	726,072.25	657,142.50	
TGT 5											
12,559.84	89.09	89.74	8,818.11	4,398.11	18.08	4,006.23	4,006.27	2.00	726,072.28	657,148.73	
12,600.00	89.09	89.74	8,818.74	4,398.74	18.26	4,046.38	4,046.43	0.00	726,072.46	657,188.88	
12,700.00	89.09	89.74	8,820.32	4,400.32	18.71	4,146.37	4,146.41	0.00	726,072.91	657,288.87	
12,800.00	89.09	89.74	8,821.91	4,401.91	19.16	4,246.36	4,246.40	0.00	726,073.36	657,388.86	
12,900.00	89.09	89.74	8,823.49	4,403.49	19.61	4,346.34	4,346.39	0.00	726,073.81	657,488.84	
13,000.00	89.09	89.74	8,825.07	4,405.07	20.06	4,446.33	4,446.38	0.00	726,074.26	657,588.83	
13,100.00	89.09	89.74	8,826.65	4,406.65	20.52	4,546.32	4,546.36	0.00	726,074.72	657,688.82	
13,185.09	89.09	89.74	8,828.00	4,408.00	20.90	4,631.39	4,631.44	0.00	726,075.10	657,773.89	
TD @13185.09°MD, 8828.00°TVD, 89.09°INC, 89.74°AZI, 4631.44°VS											
13,185.10	89.09	89.74	8,828.00	4,408.00	20.90	4,631.40	4,631.45	0.00	726,075.10	657,773.90	
PBHL (Jerry #2)											



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company: Mack Energy
Project: Chaves County
Site: Jerry State #2
Well: Jerry State #2
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well Jerry State #2
TVD Reference: WELL @ 4420.00ft (Original Well Elev)
MD Reference: WELL @ 4420.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

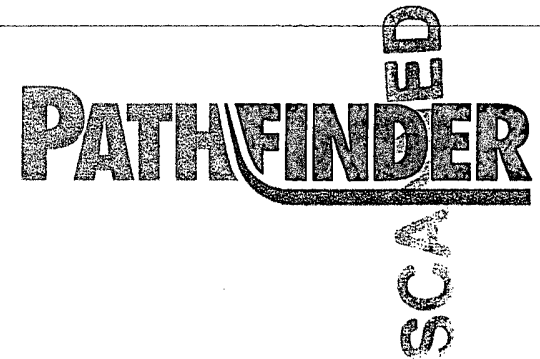
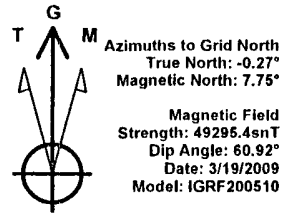
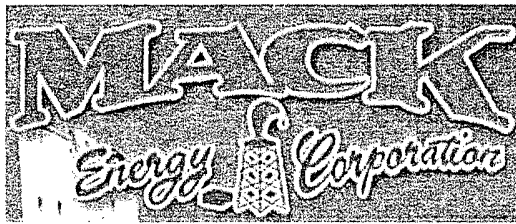
Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
TGT 2 - plan hits target - Point	0.00	0.00	8,764.00	4.52	1,000.00	726,058.720	654,142.500	32° 59' 41.968 N	103° 49' 50.121 W
TGT 4 - plan hits target - Point	0.00	0.00	8,800.00	13.54	3,000.00	726,067.740	656,142.500	32° 59' 41.962 N	103° 49' 26.638 W
PBHL (Jerry #2) - plan hits target - Point	0.00	0.00	8,828.00	20.90	4,631.40	726,075.100	657,773.900	32° 59' 41.956 N	103° 49' 7.483 W
TGT 3 - plan hits target - Point	0.00	0.00	8,783.00	9.03	2,000.00	726,063.230	655,142.500	32° 59' 41.965 N	103° 49' 38.379 W
TGT 1 - plan hits target - Point	0.00	0.00	8,758.00	2.72	600.00	726,056.920	653,742.500	32° 59' 41.969 N	103° 49' 54.817 W
TGT 5 - plan hits target - Point	0.00	0.00	8,818.00	18.05	4,000.00	726,072.250	657,142.500	32° 59' 41.958 N	103° 49' 14.896 W

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
8,280.50	8,280.50	0.00	0.00	KOP - 8280.50'MD, 0.00°INC, 0.00°AZI, 8280.50'TVD
9,030.36	8,757.96	2.16	477.32	EOC @ 9030.36'MD, 8757.96'TVD, 89.98°INC, 89.74°AZI, 477.32'VS
13,185.09	8,828.00	2.72	600.00	TD @13185.09'MD, 8828.00'TVD, 89.09°INC, 89.74°AZI, 4631.44'VS

Checked By: _____ Approved By: _____ Date: _____



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	8280.50	0.00	0.00	8280.50	0.00	0.00	0.00	0.00	0.00	
3	9030.36	89.98	89.74	8757.96	2.16	477.32	12.00	89.74	477.33	
4	9153.04	89.98	89.74	8758.00	2.72	600.00	0.00	0.00	600.01	TGT 1
5	9197.88	89.09	89.74	8758.36	2.92	644.63	2.00	179.87	644.64	
6	9553.09	89.09	89.74	8764.00	4.52	1000.00	0.00	0.00	1000.01	TGT 2
7	9562.10	88.91	89.74	8764.16	4.56	1009.00	2.00	-179.78	1009.01	
8	10553.28	88.91	89.74	8783.00	9.03	2000.00	0.00	0.00	2000.02	TGT 3
9	10559.07	89.03	89.74	8783.10	9.06	2005.78	2.00	0.00	2005.80	
10	11553.44	89.03	89.74	8800.00	13.54	3000.00	0.00	0.00	3000.03	TGT 4
11	11556.32	88.97	89.74	8800.05	13.55	3002.88	2.00	-180.00	3002.91	
12	12553.61	88.97	89.74	8818.00	18.05	4000.00	0.00	0.00	4000.04	TGT 5
13	12559.84	89.09	89.74	8818.11	18.08	4006.23	2.00	-0.10	4006.27	
14	13185.10	89.09	89.74	8828.00	20.90	4631.40	0.00	0.00	4631.45	PBHL (Jerry #2)

WELL DETAILS: Jerry State #2

Ground Elevation: 4420.00
RKB Elevation: WELL @ 4420.00ft (Original Well Elev)
Rig Name: Original Well Elev

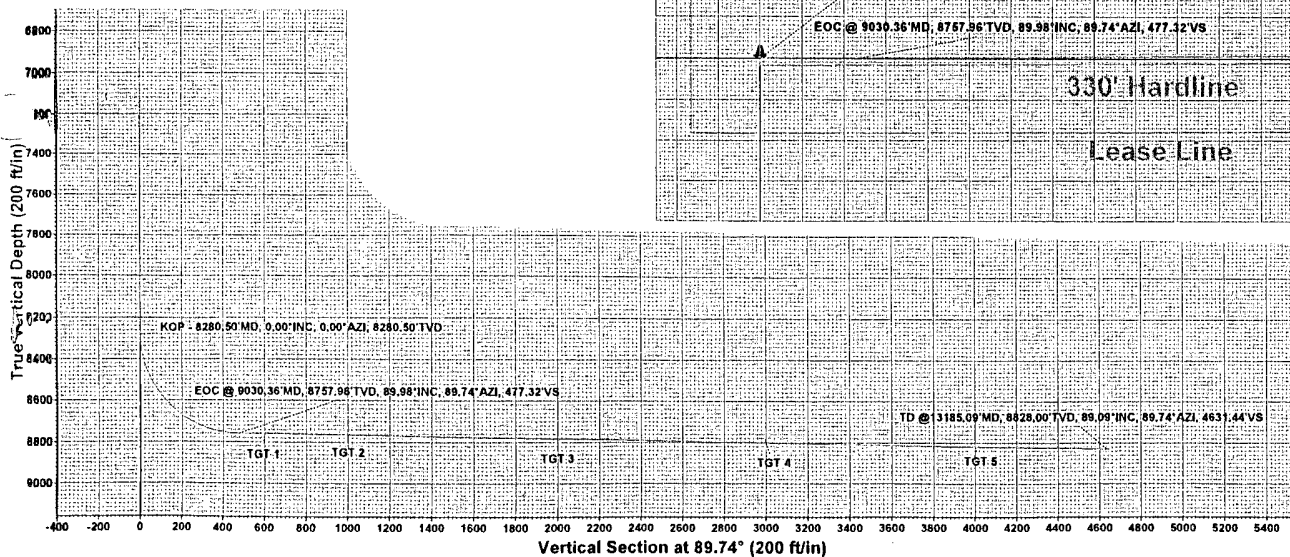
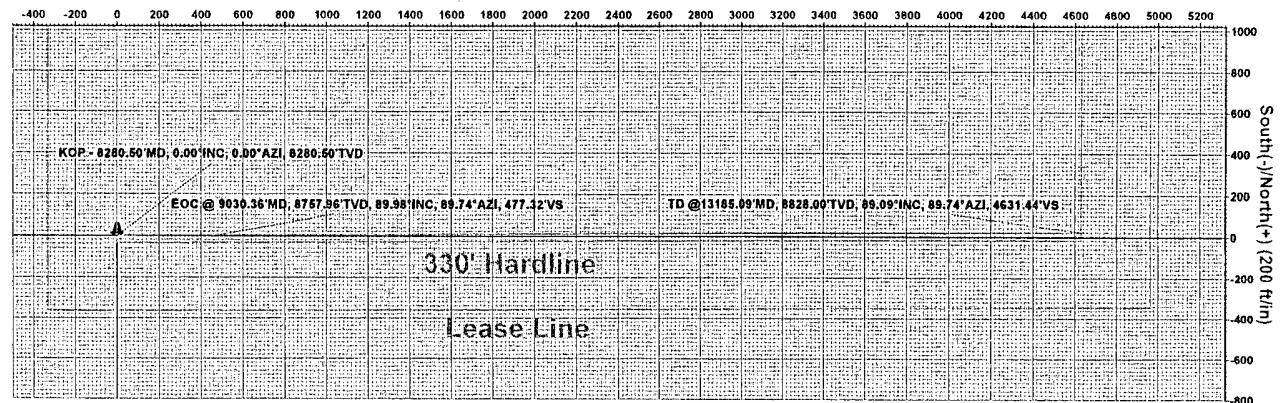
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Spot
0.00	0.00	726054.200	653142.500	32° 59' 41.970 N	103° 50' 1.862 W	

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

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
TGT 1	8758.00	2.72	600.00	Point
TGT 2	8764.00	4.52	1000.00	Point
TGT 3	8783.00	9.03	2000.00	Point
TGT 4	8800.00	13.54	3000.00	Point
TGT 5	8818.00	18.05	4000.00	Point
PBHL (Jerry #2)	8828.00	20.90	4631.40	Point

West(-)/East(+) (200 ft/in)



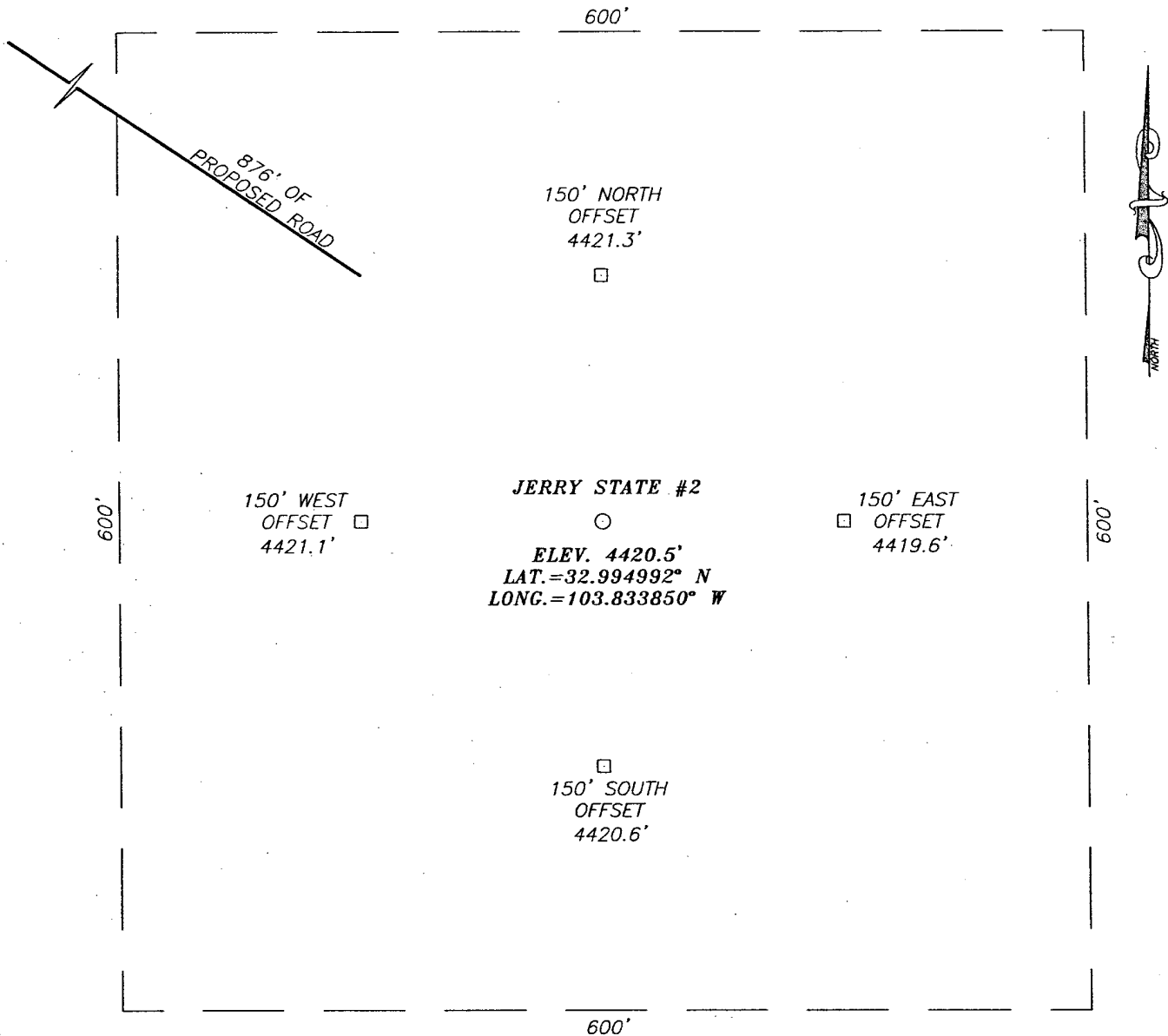
Project: Chaves County
Site: Jerry State #2
Well: Jerry State #2
Wellbore: OH
Plan: Plan #1 (Jerry State #2/OH)

Plan: Plan #1 (Jerry State #2/OH)

Created By: Aaron Pullin Date: 3:21, March 19 2009

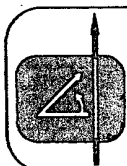
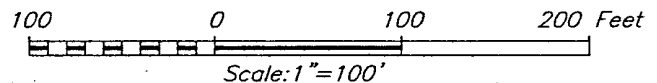
Checked: _____ Date: _____

SECTION 21, TOWNSHIP 15 SOUTH, RANGE 31 EAST, N.M.P.M.,
CHAVES COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF HIGHWAY #249 AND HIGHWAY #172, GO WEST ON HIGHWAY #249 APPROX. 3.0 MILES. TURN LEFT AND GO SOUTH APPROX. 1.3 MILES. TURN LEFT AND FOLLOW MEANDERING ROAD IN AN EASTERLY DIRECTION APPROX. 1.0 MILE TO A PROPOSED ROAD SURVEY. FOLLOW ROAD SURVEY SOUTHEAST APPROX. 0.2 MILES TO THIS LOCATION.



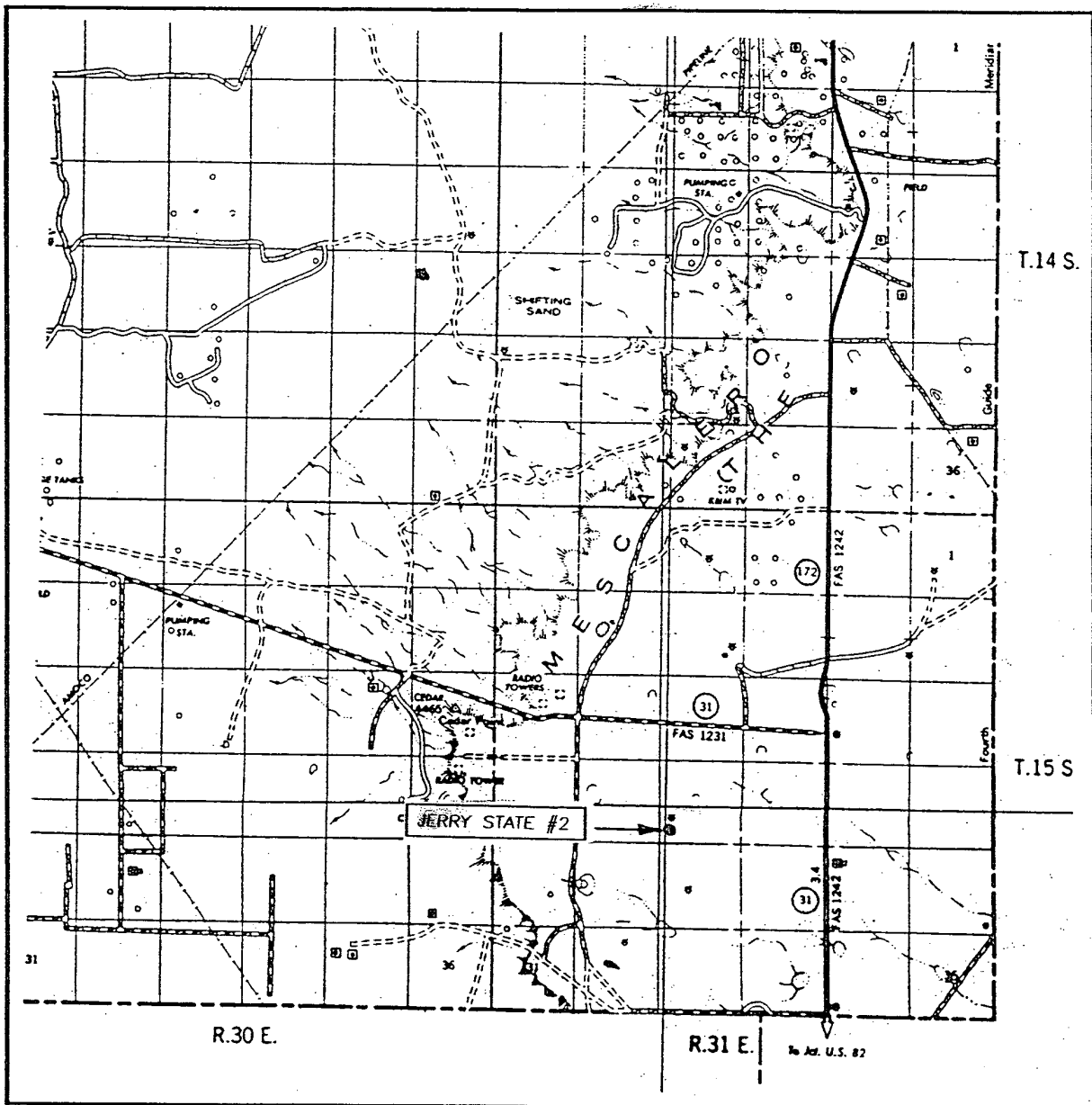
PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(575) 393-3117

MACK ENERGY CORPORATION

JERRY STATE #2 WELL
LOCATED 365 FEET FROM THE SOUTH LINE
AND 330 FEET FROM THE WEST LINE OF SECTION 21,
TOWNSHIP 15 SOUTH, RANGE 31 EAST, N.M.P.M.,
CHAVES COUNTY, NEW MEXICO.

Survey Date: 2/13/09	Sheet 1 of 1 Sheets
W.O. Number: 09.11.0098	Drawn By: J.A. Rev: A/A
Date: 2/24/09	Scale: 1"=100'

VICINITY MAP



SCALE: 1" = 2 MILES

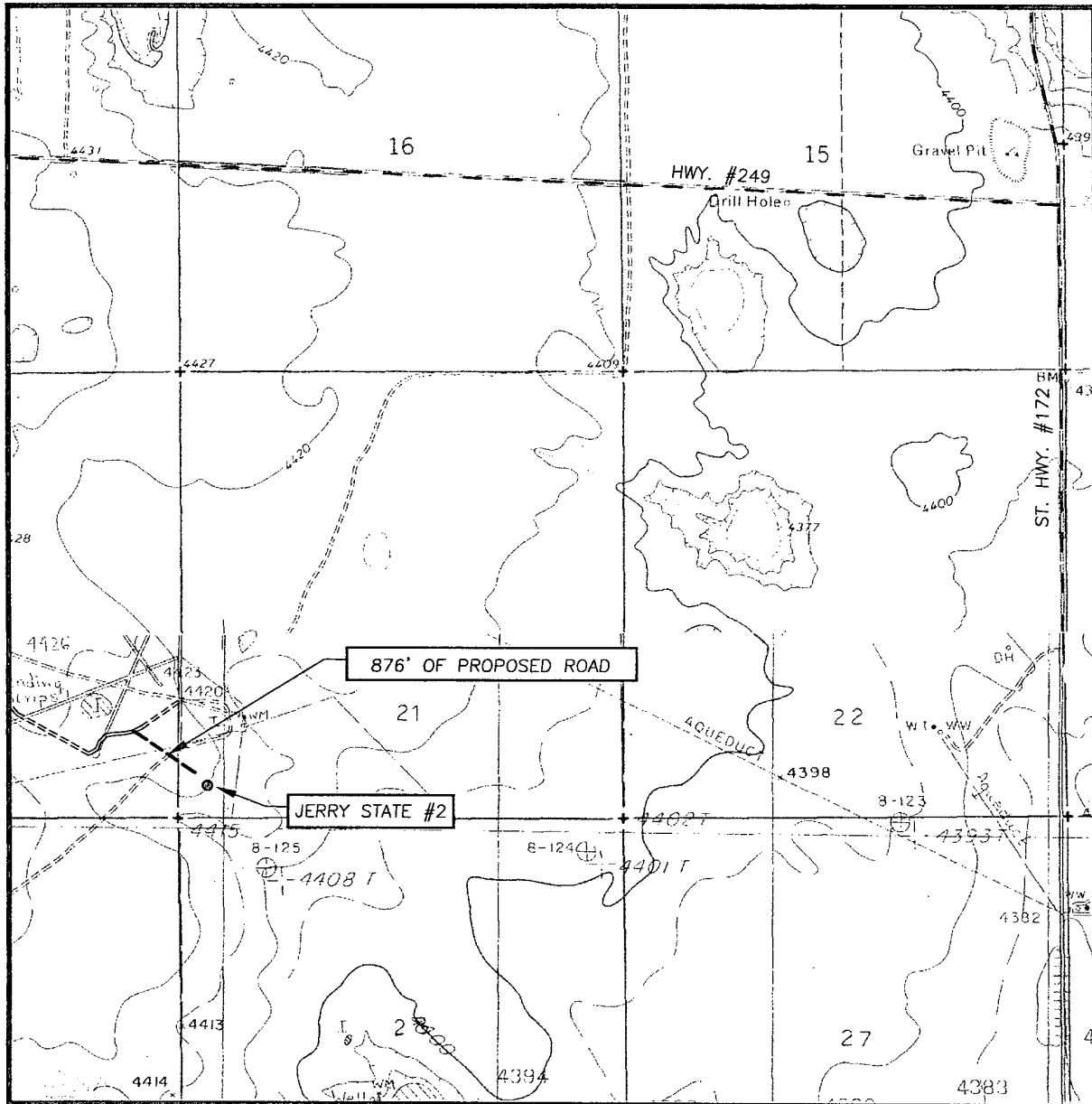
SEC. 21 TWP. 15-S RGE. 31-E
 SURVEY N.M.P.M.
 COUNTY CHAVES STATE NEW MEXICO
 DESCRIPTION 365' FSL & 330' FWL
 ELEVATION 4420'
 OPERATOR MACK ENERGY CORPORATION
 LEASE JERRY STATE



PROVIDING SURVEYING SERVICES
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 412 N. DAL PASO
 HOBBS, N.M. 88240
 (575) 393-3117

SCANNED

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

SEC. 21 TWP. 15-S RGE. 31-E

SURVEY N.M.P.M.

COUNTY CHAVES STATE NEW MEXICO

DESCRIPTION 365' FSL & 330' FWL

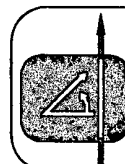
ELEVATION 4420'

OPERATOR MACK ENERGY CORPORATION

LEASE JERRY STATE

U.S.G.S. TOPOGRAPHIC MAP
MALJAMAR NE, N.M.

CONTOUR INTERVAL:
MALJAMAR NE, N.M. - 10'
CEDAR POINT SE, N.M. - 10'
(SUPPLEMENTAL CONTOUR, - 5')



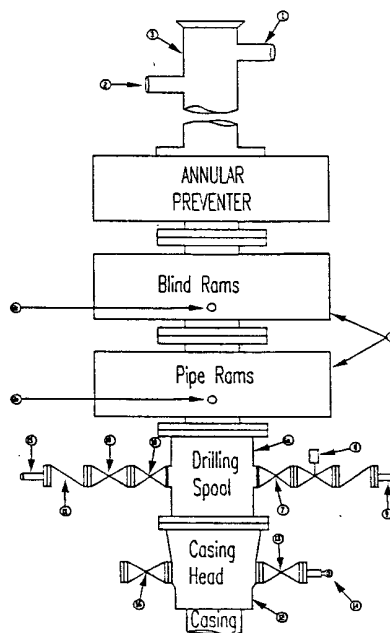
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SCANNED

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

Mack Energy Corporation

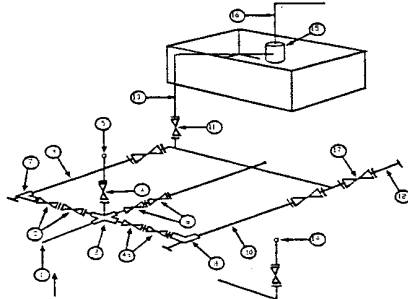
Exhibit #11

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