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

HOBBS OCD

Form 3160 -3 SEP 23 2011
(April 2004)

RECEIVED

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No NMNM-124658	
6 If Indian, Allotee or Tribe Name	
7 If Unit or CA Agreement, Name and No.	
8, Lease Name and Well No Milky Way State Com #1H (38844)	
9 API Well No. 30-005-29193	
10 Field and Pool, or Exploratory Vest Ranch, Upper Penn (96452)	
11 Sec , T R M. or Blk and Survey or Area Sec. 21 T14S R30E	
12. County or Parish Chaves	13. State NM

1a Typeofwork- ☒ DRILL ☐ REENTER

1b Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone

2 Name of Operator
Mack Energy Corporation (13837)

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

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

4 Location of Well *(Report location clearly and inaccorounce with any State requirements*)*
At surface 660 FSL & 330 FEL Unit P
At proposed prod zone 660 FSL & 355 FWL Unit M

14 Distance in miles and direction from nearest town or post office*
10 miles northwest of Loco Hills, NM

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drlg unit line, if any) 230	16 No of acres in lease 1,880	17 Spacing Unit dedicated to this well 160
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 1320	19. Proposed Depth MD 12,902' TVD 8,506'	20 BLM/BIA Bond No on file NMB000286
21 Elevations (Show whether DF, KDB, RT, GL, etc) 3900' GR	22 Approximate date work will start* 06/19/2011	23. Estimated duration 35 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 Jerry W. Sherrell	Name *(Printed/Typed)* Jerry W. Sherrell	Date 5-19-2011
Title Production Clerk		
Approved by *(Signature)* /S/ Angel Mayes	Name *(Printed/Typed)* Angel Mayes	Date 9/20/11
Title Assistant Field Manager, Lands And Minerals	Office ROSWELL FIELD OFFICE	

Application approval does not warrant or certify that the applicant holds lega brequitable 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 Tide 43 U S C Section 1212, make it a crime for any person knowirilly and willfully to make to any department or agency ofthe United States any false, fictitious or fraudulent statements or representations as to any matter within its juris iction

(Instruchons on page 2)

DECLARED WATER BASIN

CEMENT BEHIND THE 9 5/8" CASING MUST BE CIRCULATED

WITNESS

KZ 09/28/11

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS ATTACHED

SEP 29 2011

Attached to Form 3160-3
Mack Energy Corporation
Milky Way State Com #1
SL 660 FSL & 330 FEL, Unit P, Sec. 21 T14S R30E
BH 660 FSL & 355 FWL, Unit M, Sec. 21 14S R30E
Chaves County, NM

DRILLING PROGRAM

1. Geologic Name of Surface Formation

Quaternary

2. Estimated Tops of Important Geologic Markers:

Rustler: 490'	Tubb: 5580'
Top Salt: 530'	Abo: 6360'
Base Salt: 1210'	Wolfcamp: 7500'
Yates: 1350'	Penn: 8600'
Seven Rivers: 1600'	
Queen: 2125'	
San Andres: 2750'	
Glorieta: 4265'	

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

Water Sand	150'	Fresh Water
San Andres	2750'	Oil/Gas
Glorieta	4265'	Oil/Gas
Tubb	5580'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 9 5/8" casing to 500' and circulating cement back to surface will protect the surface fresh water sand. Section and zones above producing interval will be protected by setting 7" casing to 8400' and circulating cement back to surface. A 4 ½" production casing liner will be set from 7850 to 12902', held in place with a liner hanger and peak completion packer system.

4. Casing Program:

Hole Size	Interval	OD Casing	Wt, Grade, Jt, cond, collapse/burst/tension
12 ¼"	0-500'	9 5/8"	36#, J-55, ST&C, New, 8.092949/6.896552/7.04
8 3/4"	0-8400'	7"	26#, HCP-110,Buttress, New,1 860119/14.74686/14 9309
6 1/8"	7850-12,902'	4 ½"	11 6# HCP-110,Buttress,New,1 38638/3.081018/3 253453

5. Cement Program:

9 5/8" Surface Casing:, Lead 400sx Class C 65/35 excess 100%, yield 1.79, Tail 200sx Class C + 1% CaCl, excess 100%, yield 1.34.

7" Intermediate Casing: Lead 775sx, Class H Cement, 2.75% bwoc R-3 +5 lbs/sack LCM-1 + 0.005 gps FP-6L +4% bwoc Sodium Metasilicate + 102.4% Fresh Water, excess 35%, yield 2.15, Tail 200sx 50:50 Poz (fly ash) Class H Cement+2% bwow Sodium Chloride + 3lbs/sack LCM-1 + 1% bwoc FL-62+ 0.1% bwoc ASA-301 + 0.1% bwoc Sodium Metasilicate + 0.3% bwoc FL-52 + 48.3% Fresh Water, excess -45%, yield 1.19.
4 ½" Production Casing: Set with isolation packers.

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 9 5/8" BOP will be nipped up on the 9 5/8" surface casing and tested by a 3rd party to 2000 psi 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 and cut brine mud system. The applicable depths and properties of this system are as follows:

DEPTH	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-500'	Fresh Water	8.5	28	N.C.
500-8400'	Brine	10	30	N.C.
8400'-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:

A. Kelly cock will be kept in the drill string at all times.
B. 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:

A. The electric logging program will consist of GR-Dual Laterolog, Spectral Density, Dual Spaced Neutron, CSNG Log from T.D. to 7" casing shoe.
B. Drill Stem test is not anticipated.

10. Surface Ownership:

The well site and lease is located entirely on state surface. We have notified the surface owner of the impending operations and a Surface Use Agreement has been reached. According to BLM the leasee is Bogel Limited Company, P.O. Box 460, Dexter, NM 88230 (575) 365-2996.

11. 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.

12. 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)

Attached to Form 3160-3
Mack Energy Corporation
Milky Way State Com #1
SL 660 FSL & 330 FEL, Unit P, Sec. 21 T14S R30E
BH 660 FSL & 355 FWL, Unit M, Sec. 21 14S R30E
Chaves County, NM

Attachment to Exhibit #10
NOTES REGARDING THE BLOWOUT PREVENTERS
Milky Way State Com #1
Chaves County, New Mexico

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

13 3/8 inch- 3 MWP

11 Inch - 3 MWP

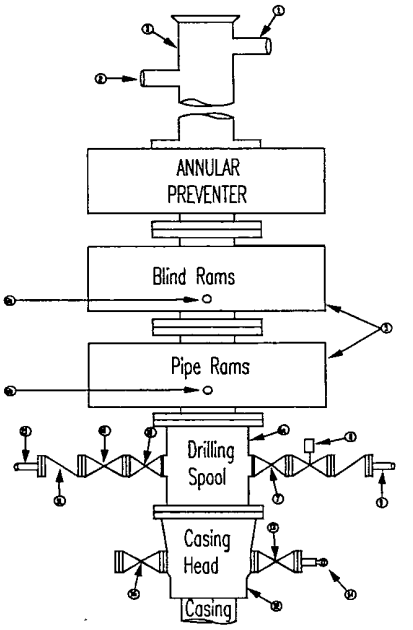
EXHIBIT #10

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 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.

10.

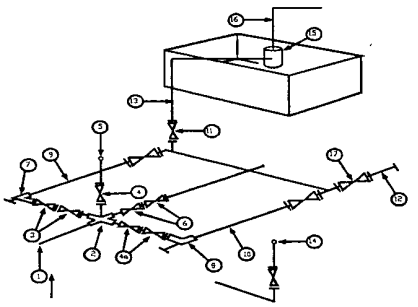
ME

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
MIMIMUM 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

Mimimum 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.

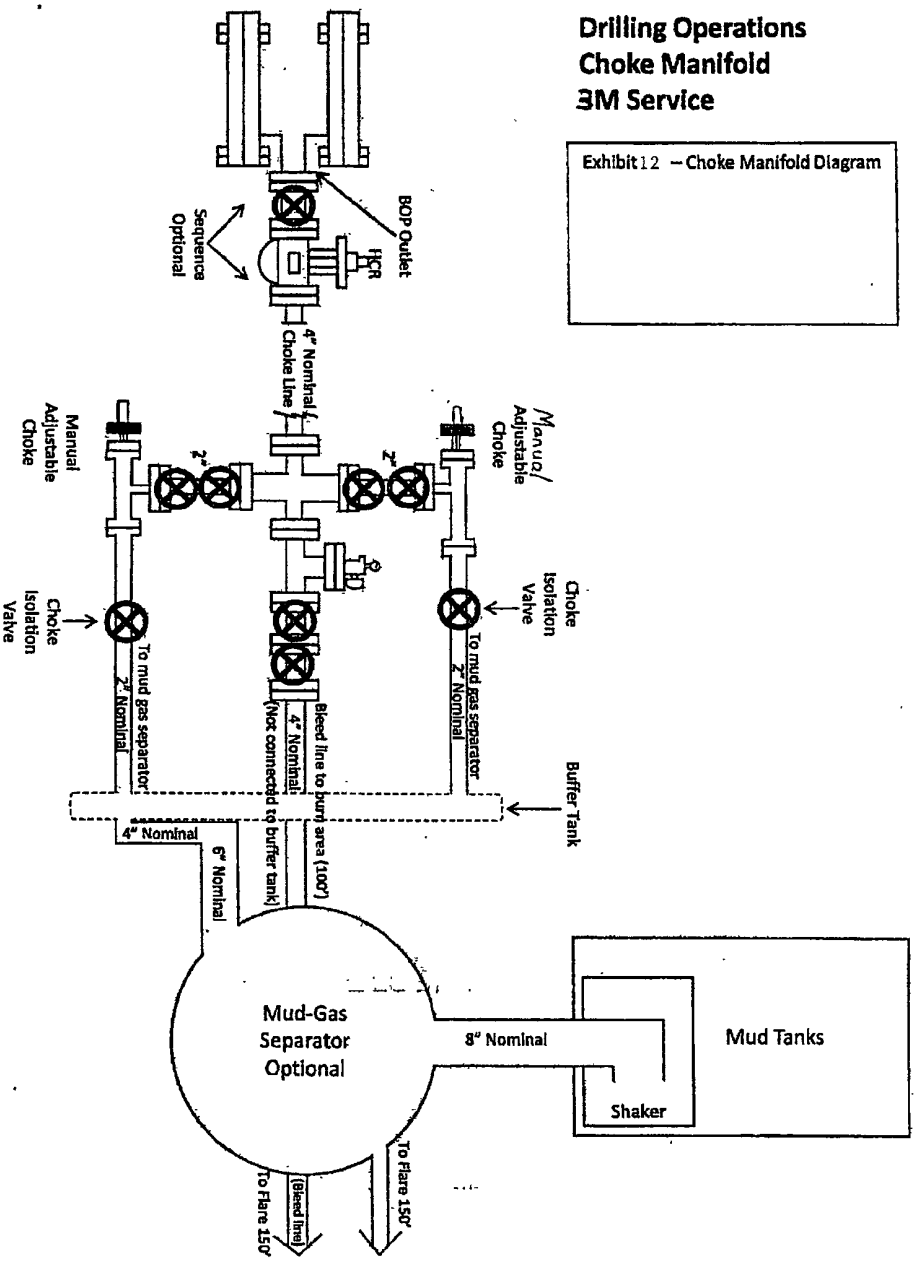
EQUIPMENT SPECIFICATIONS AND INSTALLATION INSTRUCTION

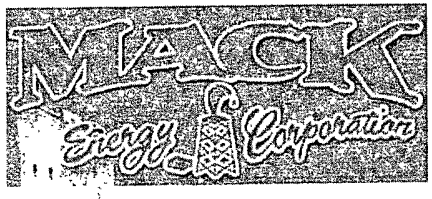
1. All connections in choke manifold shall be welded, studded, flanged or Cameron clamp of comparable rating.
2 All flanges shall be API 6B or 6BX and ring gaskets shall be API RX or BX. Use only BX for 10 MWP
3. All lines shall be securely anchored.
4. Chokes shall be equipped with tungsten carbide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

Mack Energy Corporation

MANIFOLD SCHEMATIC

Exhibit #12





Mack Energy

Chaves County
Milky Way State Com
#1
OH

Plan: Plan 1

Pathfinder X&Y Report

04 May, 2011

PATHFINDER
A Schlumberger Company

Pathfinder

Pathfinder X&Y Report

PATHFINDER
A Schlumberger Company

Company:	Mack Energy	Local Co-ordinate Reference:	Well #1
Project:	Chaves County	TVD Reference:	KB=18' @ 3918.00usft (Original Well Elev)
Site:	Milky Way State Com	MD Reference:	KB=18' @ 3918.00usft (Original Well Elev)
Well:	#1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1	Database:	EDM 5000.1 Single User Db

Project Chaves County

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

Site Milky Way State Com

Site Position:		Northing:	757,950.900 usft	Latitude:	33° 4' 58.745 N
From:	Map	Easting:	625,979.200 usft	Longitude:	103° 55' 19.329 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0 22 °

Well #1

Well Position	+N/-S	0.00 usft	Northing:	757,950.900 usft	Latitude:	33° 4' 58.745 N
	+E/-W	0.00 usft	Easting:	625,979.200 usft	Longitude:	103° 55' 19.329 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,900.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	5/3/2011	7.82	60.94	49,137

Design Plan 1

Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0 00	269.84

Survey Tool Program Date 5/3/2011

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	12,902.42	Plan 1 (OH)	MWD	MWD - Standard

Company:	Mack Energy	Local Co-ordinate Reference:	Well #1
Project:	Chaves County	TVD Reference:	KB=18' @ 3918.00usft (Original Well Elev)
Site:	Milky Way State Com	MD Reference:	KB=18' @ 3918.00usft (Original Well Elev)
Well:	#1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1	Database:	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
0.00	0.00	0.00	0.00	-3,918.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
100.00	0.00	0.00	100.00	-3,818.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
200.00	0.00	0.00	200.00	-3,718.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
300.00	0.00	0.00	300.00	-3,618.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
400.00	0.00	0.00	400.00	-3,518.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
500.00	0.00	0.00	500.00	-3,418.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
600.00	0.00	0.00	600.00	-3,318.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
700.00	0.00	0.00	700.00	-3,218.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
800.00	0.00	0.00	800.00	-3,118.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
900.00	0.00	0.00	900.00	-3,018.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
1,000.00	0.00	0.00	1,000.00	-2,918.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
1,100.00	0.00	0.00	1,100.00	-2,818.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
1,200.00	0.00	0.00	1,200.00	-2,718.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
1,300.00	0.00	0.00	1,300.00	-2,618.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
1,400.00	0.00	0.00	1,400.00	-2,518.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
1,500.00	0.00	0.00	1,500.00	-2,418.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
1,600.00	0.00	0.00	1,600.00	-2,318.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
1,700.00	0.00	0.00	1,700.00	-2,218.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
1,800.00	0.00	0.00	1,800.00	-2,118.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
1,900.00	0.00	0.00	1,900.00	-2,018.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
2,000.00	0.00	0.00	2,000.00	-1,918.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
2,100.00	0.00	0.00	2,100.00	-1,818.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
2,200.00	0.00	0.00	2,200.00	-1,718.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
2,300.00	0.00	0.00	2,300.00	-1,618.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
2,400.00	0.00	0.00	2,400.00	-1,518.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
2,500.00	0.00	0.00	2,500.00	-1,418.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
2,600.00	0.00	0.00	2,600.00	-1,318.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20

Company:	Mack Energy	Local Co-ordinate Reference:	Well #1
Project:	Chaves County	TVD Reference:	KB=18' @ 3918.00usft (Original Well Elev)
Site:	Milky Way State Com	MD Reference:	KB=18' @ 3918.00usft (Original Well Elev)
Well:	#1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1	Database:	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
2,700.00	0.00	0.00	2,700.00	-1,218.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
2,800.00	0.00	0.00	2,800.00	-1,118.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
2,900.00	0.00	0.00	2,900.00	-1,018.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
3,000.00	0.00	0.00	3,000.00	-918.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
3,100.00	0.00	0.00	3,100.00	-818.00	0.00	0 00	0.00	0.00	757,950.90	625,979.20
3,200 00	0.00	0.00	3,200.00	-718.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
3,300.00	0.00	0.00	3,300.00	-618.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
3,400.00	0.00	0.00	3,400.00	-518.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
3,500.00	0.00	0.00	3,500.00	-418.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
3,600 00	0.00	0.00	3,600.00	-318.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
3,700.00	0.00	0.00	3,700.00	-218.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
3,800.00	0.00	0.00	3,800.00	-118.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
3,900.00	0.00	0.00	3,900.00	-18.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
4,000 00	0.00	0.00	4,000.00	82.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
4,100.00	0.00	0.00	4,100.00	182.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
4,200.00	0.00	0.00	4,200.00	282.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
4,300.00	0.00	0.00	4,300.00	382.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
4,400.00	0.00	0.00	4,400.00	482.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
4,500.00	0.00	0.00	4,500.00	582.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
4,600.00	0.00	0.00	4,600.00	682.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
4,700.00	0.00	0.00	4,700.00	782.00	0.00	0.00	0.00	0 00	757,950.90	625,979.20
4,800.00	0.00	0.00	4,800.00	882.00	0.00	0.00	0 00	0.00	757,950.90	625,979.20
4,900.00	0.00	0.00	4,900.00	982.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
5,000 00	0.00	0.00	5,000.00	1,082.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
5,100.00	0.00	0.00	5,100.00	1,182.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
5,200 00	0.00	0.00	5,200.00	1,282.00	0.00	0.00	0.00	0.00	757,950.90	625,979 20
5,300.00	0.00	0.00	5,300.00	1,382.00	0 00	0.00	0.00	0.00	757,950.90	625,979.20

Company:	Mack Energy	Local Co-ordinate Reference:	Well #1
Project:	Chaves County	TVD Reference:	KB=18' @ 3918.00usft (Original Well Elev)
Site:	Milky Way State Com	MD Reference:	KB=18' @ 3918.00usft (Original Well Elev)
Well:	#1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1	Database:	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
5,400.00	0.00	0.00	5,400.00	1,482.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
5,500.00	0 00	0.00	5,500.00	1,582.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
5,600.00	0.00	0.00	5,600.00	1,682.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
5,700 00	0.00	0.00	5,700.00	1,782.00	0.00	0.00	0.00	0 00	757,950.90	625,979.20
5,800.00	0.00	0.00	5,800.00	1,882.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
5,900.00	0.00	0.00	5,900.00	1,982.00	0.00	0 00	0.00	0.00	757,950.90	625,979 20
6,000.00	0.00	0.00	6,000.00	2,082.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
6,100.00	0.00	0.00	6,100 00	2,182.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
6,200.00	0.00	0.00	6,200.00	2,282.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
6,300.00	0.00	0.00	6,300.00	2,382.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
6,400.00	0.00	0.00	6,400.00	2,482.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
6,500.00	0.00	0.00	6,500.00	2,582.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
6,600 00	0.00	0.00	6,600.00	2,682.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
6,700.00	0.00	0.00	6,700.00	2,782.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
6,800.00	0.00	0.00	6,800.00	2,882.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
6,900.00	0.00	0.00	6,900.00	2,982.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
7,000.00	0.00	0.00	7,000.00	3,082.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
7,100.00	0.00	0.00	7,100.00	3,182.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
7,200.00	0.00	0.00	7,200.00	3,282.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
7,300.00	0.00	0.00	7,300.00	3,382.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
7,400.00	0.00	0.00	7,400.00	3,482.00	0.00	0 00	0.00	0.00	757,950.90	625,979.20
7,500 00	0 00	0.00	7,500.00	3,582.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
7,600.00	0.00	0.00	7,600.00	3,682.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
7,700.00	0.00	0.00	7,700.00	3,782.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
7,800.00	0.00	0.00	7,800.00	3,882.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
7,900 00	0 00	0.00	7,900.00	3,982.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
8,000.00	0.00	0.00	8,000.00	4,082.00	0.00	0 00	0.00	0 00	757,950.90	625,979.20

Company:	Mack Energy	Local Co-ordinate Reference:	Well #1
Project:	Chaves County	TVD Reference:	KB=18' @ 3918.00usft (Original Well Elev)
Site:	Milky Way State Com	MD Reference:	KB=18' @ 3918.00usft (Original Well Elev)
Well:	#1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1	Database:	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
8,029.00	0.00	0.00	8,029.00	4,111.00	0.00	0.00	0.00	0.00	757,950.90	625,979.20
8,050.00	2.52	269.84	8,049.99	4,131.99	0.00	-0.46	0.46	12.00	757,950.90	625,978.74
8,075.00	5.52	269.84	8,074.93	4,156.93	-0.01	-2.21	2.21	12.00	757,950.89	625,976.99
8,100.00	8.52	269.84	8,099.74	4,181.74	-0.01	-5.27	5.27	12.00	757,950.89	625,973.93
8,125.00	11.52	269.84	8,124.35	4,206.35	-0.03	-9.62	9.62	12.00	757,950.87	625,969.58
8,150.00	14.52	269.84	8,148.71	4,230.71	-0.04	-15.25	15.25	12.00	757,950.86	625,963.95
8,175.00	17.52	269.84	8,172.74	4,254.74	-0.06	-22.15	22.15	12.00	757,950.84	625,957.05
8,200.00	20.52	269.84	8,196.37	4,278.37	-0.08	-30.30	30.30	12.00	757,950.82	625,948.90
8,225.00	23.52	269.84	8,219.54	4,301.54	-0.11	-39.67	39.67	12.00	757,950.79	625,939.53
8,250.00	26.52	269.84	8,242.19	4,324.19	-0.14	-50.24	50.24	12.00	757,950.76	625,928.96
8,275.00	29.52	269.84	8,264.26	4,346.26	-0.17	-61.98	61.98	12.00	757,950.73	625,917.22
8,300.00	32.52	269.84	8,285.68	4,367.68	-0.21	-74.86	74.86	12.00	757,950.69	625,904.34
8,325.00	35.52	269.84	8,306.40	4,388.40	-0.24	-88.85	88.85	12.00	757,950.66	625,890.35
8,350.00	38.52	269.84	8,326.36	4,408.36	-0.28	-103.90	103.90	12.00	757,950.62	625,875.30
8,375.00	41.52	269.84	8,345.50	4,427.50	-0.33	-119.97	119.98	12.00	757,950.57	625,859.23
8,400.00	44.52	269.84	8,363.78	4,445.78	-0.38	-137.03	137.03	12.00	757,950.52	625,842.17
8,425.00	47.52	269.84	8,381.14	4,463.14	-0.42	-155.02	155.02	12.00	757,950.48	625,824.18
8,450.00	50.52	269.84	8,397.53	4,479.53	-0.48	-173.89	173.89	12.00	757,950.42	625,805.31
8,475.00	53.52	269.84	8,412.91	4,494.91	-0.53	-193.59	193.59	12.00	757,950.37	625,785.61
8,500.00	56.52	269.84	8,427.24	4,509.24	-0.59	-214.07	214.07	12.00	757,950.31	625,765.13
8,525.00	59.52	269.84	8,440.48	4,522.48	-0.64	-235.28	235.28	12.00	757,950.26	625,743.92
8,550.00	62.52	269.84	8,452.59	4,534.59	-0.70	-257.14	257.14	12.00	757,950.20	625,722.06
8,575.00	65.52	269.84	8,463.54	4,545.54	-0.77	-279.61	279.62	12.00	757,950.13	625,699.59
8,600.00	68.52	269.84	8,473.30	4,555.30	-0.83	-302.63	302.63	12.00	757,950.07	625,676.57
8,625.00	71.52	269.84	8,481.84	4,563.84	-0.89	-326.12	326.12	12.00	757,950.01	625,653.08
8,650.00	74.52	269.84	8,489.14	4,571.14	-0.96	-350.03	350.03	12.00	757,949.94	625,629.17
8,675.00	77.52	269.84	8,495.18	4,577.18	-1.03	-374.28	374.29	12.00	757,949.87	625,604.92

Company:	Mack Energy	**Local Co-ordinate Reference:**	Well #1
Project:	Chaves County	**TVD Reference:**	KB=18' @ 3918.00usft (Original Well Elev)
Site:	Milky Way State Com	**MD Reference:**	KB=18' @ 3918.00usft (Original Well Elev)
Well:	#1	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 1	**Database:**	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
8,700.00	80.52	269.84	8,499.94	4,581.94	-1.09	-398.82	398.82	12.00	757,949.81	625,580.38
8,725.00	83.52	269.84	8,503.41	4,585.41	-1.16	-423.58	423.58	12.00	757,949.74	625,555.62
8,750.00	86.52	269.84	8,505.58	4,587.58	-1.23	-448.48	448.48	12.00	757,949.67	625,530.72
8,775.00	89.52	269.84	8,506.45	4,588.45	-1.30	-473.46	473.46	12.00	757,949.60	625,505.74
8,797.74	92.25	269.84	8,506.10	4,588.10	-1.36	-496.20	496.20	12.00	757,949.54	625,483.00
8,800.00	92.25	269.84	8,506.01	4,588.01	-1.37	-498.46	498.46	0.00	757,949.53	625,480.74
8,900.00	92.25	269.84	8,502.08	4,584.08	-1.64	-598.38	598.38	0.00	757,949.26	625,380.82
9,000.00	92.25	269.84	8,498.16	4,580.16	-1.91	-698.30	698.30	0.00	757,948.99	625,280.90
9,100.00	92.25	269.84	8,494.23	4,576.23	-2.19	-798.22	798.23	0.00	757,948.71	625,180.98
9,200.00	92.25	269.84	8,490.31	4,572.31	-2.46	-898.15	898.15	0.00	757,948.44	625,081.05
9,300.00	92.25	269.84	8,486.38	4,568.38	-2.74	-998.07	998.07	0.00	757,948.16	624,981.13
9,400.00	92.25	269.84	8,482.46	4,564.46	-3.01	-1,097.99	1,098.00	0.00	757,947.89	624,881.21
9,500.00	92.25	269.84	8,478.54	4,560.54	-3.28	-1,197.91	1,197.92	0.00	757,947.62	624,781.29
9,600.00	92.25	269.84	8,474.61	4,556.61	-3.56	-1,297.84	1,297.84	0.00	757,947.34	624,681.36
9,700.00	92.25	269.84	8,470.69	4,552.69	-3.83	-1,397.76	1,397.76	0.00	757,947.07	624,581.44
9,800.00	92.25	269.84	8,466.76	4,548.76	-4.10	-1,497.68	1,497.69	0.00	757,946.80	624,481.52
9,900.00	92.25	269.84	8,462.84	4,544.84	-4.38	-1,597.60	1,597.61	0.00	757,946.52	624,381.60
10,000.00	92.25	269.84	8,458.91	4,540.91	-4.65	-1,697.53	1,697.53	0.00	757,946.25	624,281.67
10,100.00	92.25	269.84	8,454.99	4,536.99	-4.93	-1,797.45	1,797.46	0.00	757,945.97	624,181.75
10,200.00	92.25	269.84	8,451.06	4,533.06	-5.20	-1,897.37	1,897.38	0.00	757,945.70	624,081.83
10,300.00	92.25	269.84	8,447.14	4,529.14	-5.47	-1,997.30	1,997.30	0.00	757,945.43	623,981.90
10,400.00	92.25	269.84	8,443.21	4,525.21	-5.75	-2,097.22	2,097.23	0.00	757,945.15	623,881.98
10,500.00	92.25	269.84	8,439.29	4,521.29	-6.02	-2,197.14	2,197.15	0.00	757,944.88	623,782.06
10,600.00	92.25	269.84	8,435.36	4,517.36	-6.30	-2,297.06	2,297.07	0.00	757,944.60	623,682.14
10,700.00	92.25	269.84	8,431.44	4,513.44	-6.57	-2,396.99	2,396.99	0.00	757,944.33	623,582.21
10,800.00	92.25	269.84	8,427.51	4,509.51	-6.84	-2,496.91	2,496.92	0.00	757,944.06	623,482.29
10,900.00	92.25	269.84	8,423.59	4,505.59	-7.12	-2,596.83	2,596.84	0.00	757,943.78	623,382.37

Company:	Mack Energy	Local Co-ordinate Reference:	Well #1
Project:	Chaves County	TVD Reference:	KB=18' @ 3918.00usft (Original Well Elev)
Site:	Milky Way State Com	MD Reference:	KB=18' @ 3918.00usft (Original Well Elev)
Well:	#1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan 1	Database:	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
11,000.00	92.25	269.84	8,419.66	4,501.66	-7.39	-2,696.75	2,696.76	0.00	757,943.51	623,282.45
11,100.00	92.25	269.84	8,415.74	4,497.74	-7.66	-2,796.68	2,796.69	0.00	757,943.24	623,182.52
11,200.00	92.25	269.84	8,411.82	4,493.82	-7.94	-2,896.60	2,896.61	0.00	757,942.96	623,082.60
11,300.00	92.25	269.84	8,407.89	4,489.89	-8.21	-2,996.52	2,996.53	0.00	757,942.69	622,982.68
11,400.00	92.25	269.84	8,403.97	4,485.97	-8.49	-3,096.44	3,096.46	0.00	757,942.41	622,882.76
11,500.00	92.25	269.84	8,400.04	4,482.04	-8.76	-3,196.37	3,196.38	0.00	757,942.14	622,782.83
11,600.00	92.25	269.84	8,396.12	4,478.12	-9.03	-3,296.29	3,296.30	0.00	757,941.87	622,682.91
11,700.00	92.25	269.84	8,392.19	4,474.19	-9.31	-3,396.21	3,396.22	0.00	757,941.59	622,582.99
11,800.00	92.25	269.84	8,388.27	4,470.27	-9.58	-3,496.13	3,496.15	0.00	757,941.32	622,483.07
11,900.00	92.25	269.84	8,384.34	4,466.34	-9.85	-3,596.06	3,596.07	0.00	757,941.05	622,383.14
12,000.00	92.25	269.84	8,380.42	4,462.42	-10.13	-3,695.98	3,695.99	0.00	757,940.77	622,283.22
12,100.00	92.25	269.84	8,376.49	4,458.49	-10.40	-3,795.90	3,795.92	0.00	757,940.50	622,183.30
12,200.00	92.25	269.84	8,372.57	4,454.57	-10.68	-3,895.82	3,895.84	0.00	757,940.22	622,083.38
12,300.00	92.25	269.84	8,368.64	4,450.64	-10.95	-3,995.75	3,995.76	0 00	757,939.95	621,983.45
12,400.00	92.25	269.84	8,364.72	4,446.72	-11.22	-4,095.67	4,095.68	0.00	757,939.68	621,883.53
12,500.00	92.25	269.84	8,360.79	4,442.79	-11.50	-4,195.59	4,195 61	0.00	757,939.40	621,783.61
12,600.00	92.25	269.84	8,356.87	4,438.87	-11.77	-4,295.51	4,295.53	0.00	757,939.13	621,683.69
12,700.00	92.25	269.84	8,352.94	4,434.94	-12.05	-4,395.44	4,395.45	0.00	757,938.85	621,583.76
12,800.00	92.25	269.84	8,349.02	4,431.02	-12.32	-4,495.36	4,495.38	0.00	757,938.58	621,483.84
12,902.42	92.25	269.84	8,345.00	4,427.00	-12.60	-4,597.70	4,597.72	0.00	757,938.30	621,381.50

Checked By: _____ Approved By: _____ Date: _____

MACK Energy Corporation

Azimuths to Grid North
True North: -0.23°
Magnetic North: 7.59°

Magnetic Field
Strength: 49137.3snT
Dip Angle: 60.94°
Date: 5/3/2011
Model: IGRF200510

PATHFINDER
A Schlumberger Company

WELL DETAILS #1

Ground Elevation: 3900.00
RKB Elevation: KB=18' @ 3918.00usft (Original Well Elev)
Rig Name: Original Well Elev

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	757950.900	625979.200	33° 4' 58.745 N	103° 55' 19.329 W	

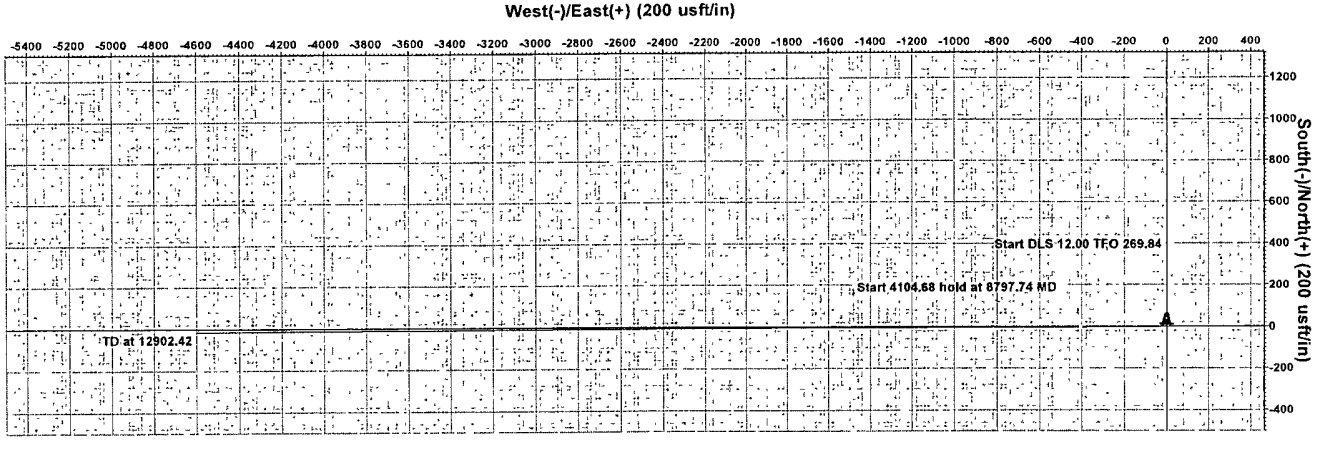
PROJECT DETAILS: Chaves County
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

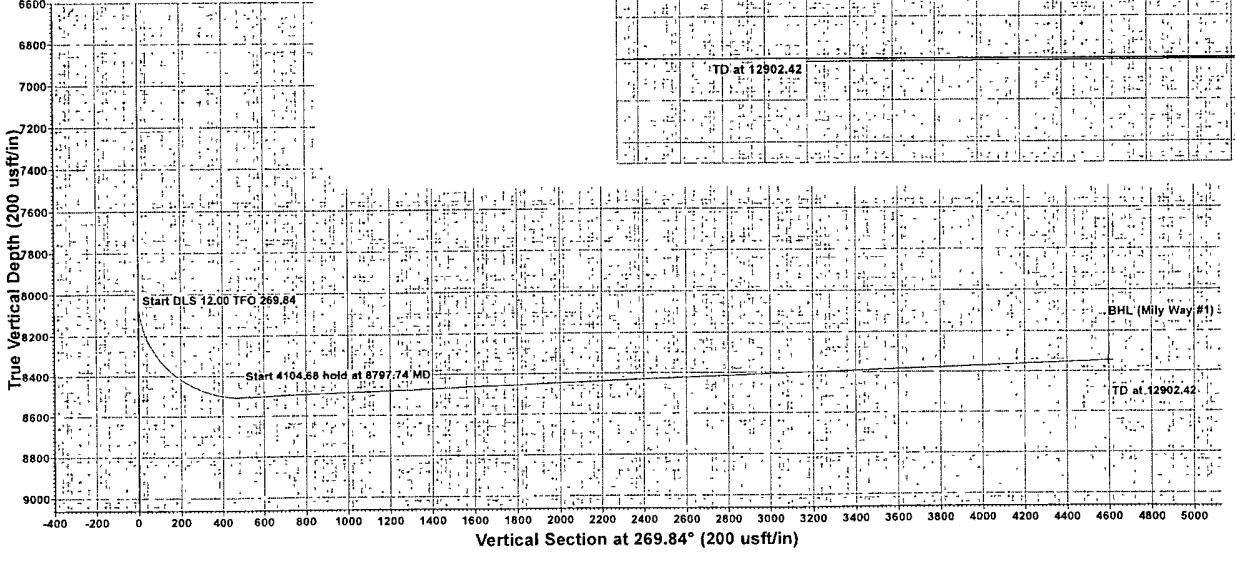
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	8029.00	0.00	0.00	8029.00	0.00	0.00	0.00	0.00	0.00	
3	8797.74	92.25	269.84	8506.10	-1.36	-496.20	12.00	269.84	496.20	
4	12902.42	92.25	269.84	8345.00	-12.60	-4597.70	0.00	0.00	4597.72	BHL (Mily Way #1)

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
BHL (Mily Way #1)	8345.00	-12.60	-4597.70	Point





Project: Chaves County
Site: Milky Way State Com
Well: #1
Wellbore: OH
Plan: Plan 1 (#1/OH)

Plan: Plan 1 (#1/OH)	
Created By: Nate Bingham	Date: 14:33, May 04 2011
Checked _____	Date _____