

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

RECEIVED

SEP 17 2013

CONCHO ARTESIA

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015- 41668	² Pool Code 96718	³ Pool Name Loco Hills; Glorieta Yeso
⁴ Property Code <40131>	⁵ Property Name HOUMA PAWNEE STATE COM	
⁷ OGRID No. 229137	⁸ Operator Name COG OPERATING, LLC	⁶ Well Number 2H
⁹ Elevation 3688'		

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot 1 dn	Feet from the	North/South line	Feet from the	East/West line	County
H	16	17-S	30-E		2054	NORTH	247	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot 1 dn	Feet from the	North/South line	Feet from the	East/West line	County
E	16	17-S	30-E		1980	NORTH	330	WEST	EDDY

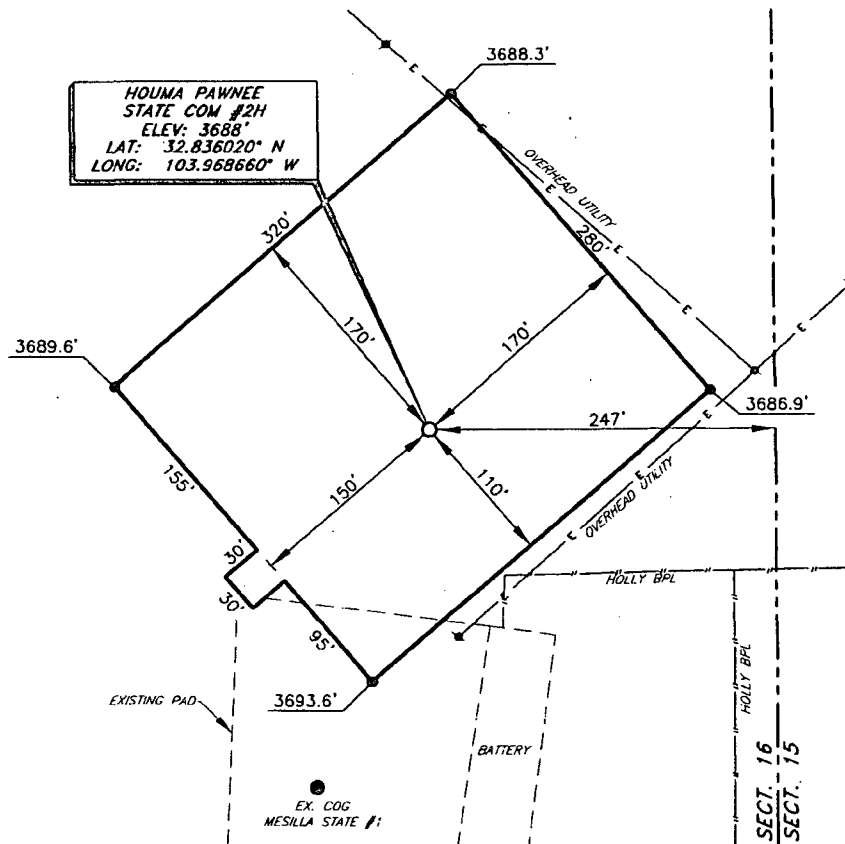
¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

CORNER DATA NAD 27 GRID - NM EAST A: FND BRASS CAP 1916 N 664812.6 - E 606985.4 B: FND BRASS CAP 1916 N 667453.2 - E 606975.6 C: FND BRASS CAP 1916 N 670092.7 - E 606967.2 D: FND BRASS CAP 1916 N 670097.0 - E 609609.0 E: FND BRASS CAP 1916 N 670102.3 - E 612250.5 F: FND BRASS CAP 1916 N 667461.9 - E 612259.6 G: FND BRASS CAP 1916 N 664822.3 - E 612268.5 H: FND BRASS CAP 1916 N 664818.5 - E 609582.4 GEODETIC DATA NAD 27 GRID - NM EAST SURFACE LOCATION N 668048.4 E 612010.6 LAT: 32.836020° N LONG: 103.968660° W BOTTOM LOCATION N 668113.7 E 607303.4 Estimated Completed Interval: 2053 FNL 330 FEL	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unless 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 a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: Date: 9-12-13 Printed Name: Kelly J. Holly E-mail Address: kholly@concho.com
	¹⁸ 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. 3/13/13 Date of Survey Signature and Seal of Professional Surveyor: 19680 Certificate Number

COG OPERATING, LLC

HOUMA PAWNEE COM #2H
(2054' FNL & 247' FEL)
Section 16, T-17-S, R-30-E,
N. M. P. M., Eddy Co., New Mexico



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF U.S. HWY. #82 AND CR-219 (GOAT ROPERS):
GO NORTH ON CR-219 APPROX. 0.8 MILE;
TURN RIGHT ON LEASE ROAD AND GO NORTHEAST APPROX. 0.5 MILE;
TURN LEFT AND GO NORTH APPROX. 0.2 MILE;
TURN RIGHT AND GO EAST APPROX. 0.1 MILE TO THE MESILLA STATE #1;
THE LOCATION IS 270 FEET NORTHEAST OF THE EXISTING WELL.

SCALE: 1" = 100'
0 50 100

BEARINGS ARE
NAD 27 - NM EAST
DISTANCES ARE
GROUND.

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NO.	REVISION	DATE
JOB NO.:	LS130086	
DWG. NO.:	130086PAD	

PROSPERITY CONSULTANTS, LLC



2251 Double Creek Drive, Suite 602, Round Rock, Texas 78664

o (512) 992-2087 f (512) 251-2518

SCALE: 1" = 100'
DATE: 3/13/13
SURVEYED BY: GB
DRAWN BY: AF
APPROVED BY: LWB
SHEET : 1 OF 1

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NO.	REVISION	DATE
JOB NO.: LS130086		
DWG. NO.: 130086VM		

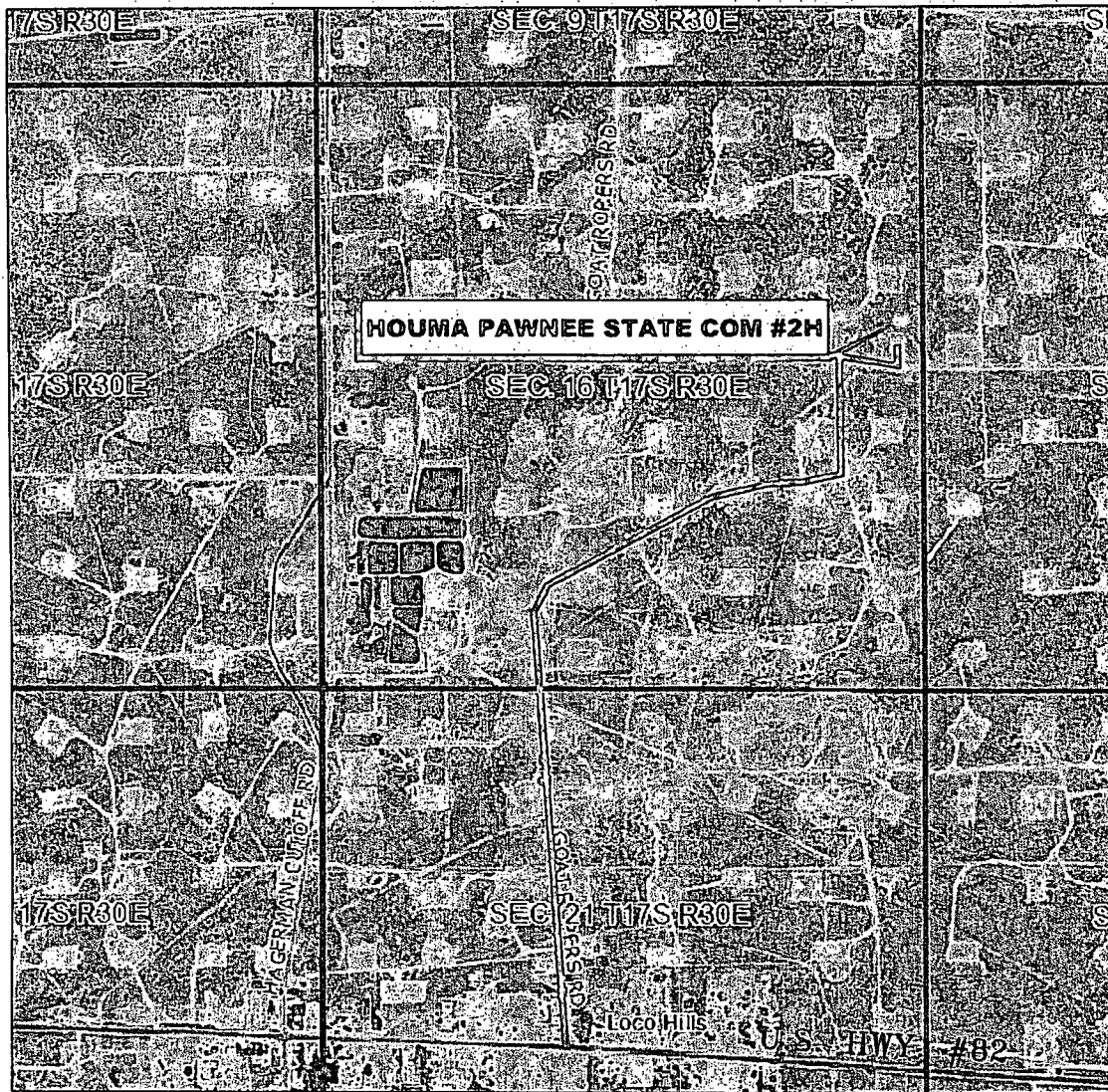
2251 Double Creek Drive, Suite 602, Round Rock, Texas 78664

o (512) 992-2087 f (512) 251-2518

SHEET : 1 OF 1

VICINITY MAP

NOT TO SCALE



SECTION 16, TWP. 17 SOUTH, RGE. 30 EAST,
N. M. P. M., EDDY COUNTY, NEW MEXICO

OPERATOR: COG Operating, LLC
LEASE: HOUMA PAWNEE STATE COM
WELL NO.: 2H

LOCATION: 2054' FNL & 247' FEL
ELEVATION: 3688'

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NO.	REVISION	DATE
JOB NO.:	LS130086	
DWG. NO.:	130086VM	

PROSPERITY CONSULTANTS, LLC



2251 Double Creek Drive, Suite 602, Round Rock, Texas 78664

o (512) 992-2087 f (512) 251-2518

SCALE: 1" = 1000'
DATE: 3/13/13
SURVEYED BY: GB/SM
DRAWN BY: LWB
APPROVED BY: LWB
SHEET : 1 OF 1



COG Operating LLC

Eddy County, New Mexico (NAD 27 NME)

Houma Pawnee State Com

#2H

WB1

Plan: Plan #1 08-28-13

Surface: 2054' FNL, 247' FEL, Sec 16, T17S, R30E, Unit H PPPP

PP: 2053' FNL, 330' FEL, Sec 16, T17S, R30E, Unit H

BHL: 1980' FNL, 330' FWL, Sec 16, T17S, R30E, Unit E

Standard Survey Report

28 August, 2013





Phoenix Technology Services
Survey Report



Company:	COG Operating, LLC	Local Co-ordinate Reference:	Well: #2H
Project:	Eddy County, New Mexico (NAD 27 NME)	TVD Reference:	GL @ 3688.00usft
Site:	Houma, Pawnee State Com	MD Reference:	GL @ 3688.00usft
Well:	#2H	North Reference:	Grid
Wellbore:	WB1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 08-28-13	Database:	GCR-DB

Project	Eddy County, New Mexico (NAD 27 NME)		
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	Houma, Pawnee State Com		
Site Position:		Northing:	668,048.40 usft
From:	Map	Easting:	612,010.60 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 50' 9.67078 N
		Longitude:	103° 58' 7.16198 W
		Grid Convergence:	0.20 °

Well	#2H		
Well Position	+N-S	0.00 usft	Northing:
	+E-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 50' 9.67078 N
		Longitude:	103° 58' 7.16198 W
		Ground Level:	3,688.00 usft

Wellbore	WB1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010_14	08/27/13	7.55
			Dip Angle
			(°)
			Field Strength
			(nT)
			48,719

Design	Plan #1 08-28-13		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			261.66

Survey Tool Program	Date 08/28/13		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
0.00	10,084.81	Plan #1 08-28-13 (WB1)	MWD
			Description
			MWD - Standard

Planned Survey									
Measured	Inclination	Azimuth	Vertical	+N-S	+E-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate
(usft)			(usft)			(usft)	(%/100usft)	(%/100usft)	(%/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,079.21	0.00	0.00	5,079.21	0.00	0.00	0.00	0.00	0.00	0.00
KOP: Start Build: 11:00									
5,100.00	2.29	270.79	5,099.99	0.01	-0.41	0.41	11.00	11.00	0.00
5,200.00	13.29	270.79	5,198.92	0.19	-13.94	13.77	11.00	11.00	0.00
5,300.00	24.29	270.79	5,293.45	0.64	-46.09	45.51	11.00	11.00	0.00
5,377.36	32.80	270.79	5,361.34	1.15	-83.02	81.97	11.00	11.00	0.00
PP: Houma, Pawnee #2H									
5,400.00	35.29	270.79	5,380.10	1.33	-95.69	94.48	11.00	11.00	0.00
5,500.00	46.29	270.79	5,455.70	2.23	-160.91	158.88	11.00	11.00	0.00



Phoenix Technology Services

Survey Report



Company:	COG Operating, LLC	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County, New Mexico (NAD 27 NME)	TVD Reference:	GL @ 3688.00usft
Site:	Houma Pawnee State Com	MD Reference:	GL @ 3688.00usft
Well:	#2H	North Reference:	Grid
Wellbore:	WB1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1-08-28-13	Database:	GCR DB

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,600.00	57.29	270.79	5,517.46	3.32	-239.35	236.34	11.00	11.00	0.00
5,700.00	68.29	270.79	5,563.12	4.55	-328.14	324.00	11.00	11.00	0.00
5,800.00	79.29	270.79	5,591.00	5.88	-424.00	418.66	11.00	11.00	0.00
5,890.30	89.22	270.79	5,600.03	7.13	-513.73	507.26	11.00	11.00	0.00
TL 5609.91 TVD @ 0.0 VZ 91.0° Inc									
5,900.00	90.29	270.79	5,600.07	7.26	-523.43	516.83	11.00	11.00	0.00
5,906.48	91.00	270.79	5,600.00	7.35	-529.91	523.23	11.00	11.00	0.00
LP Start 4178.33 hold at 5906.48 MD									
6,000.00	91.00	270.79	5,598.37	8.65	-623.40	615.55	0.00	0.00	0.00
6,100.00	91.00	270.79	5,596.62	10.03	-723.38	714.27	0.00	0.00	0.00
6,200.00	91.00	270.79	5,594.88	11.42	-823.35	812.98	0.00	0.00	0.00
6,300.00	91.00	270.79	5,593.13	12.81	-923.33	911.70	0.00	0.00	0.00
6,400.00	91.00	270.79	5,591.39	14.20	-1,023.30	1,010.41	0.00	0.00	0.00
6,500.00	91.00	270.79	5,589.64	15.58	-1,123.28	1,109.13	0.00	0.00	0.00
6,600.00	91.00	270.79	5,587.90	16.97	-1,223.25	1,207.84	0.00	0.00	0.00
6,700.00	91.00	270.79	5,586.15	18.36	-1,323.23	1,306.56	0.00	0.00	0.00
6,800.00	91.00	270.79	5,584.41	19.74	-1,423.20	1,405.27	0.00	0.00	0.00
6,900.00	91.00	270.79	5,582.66	21.13	-1,523.18	1,503.99	0.00	0.00	0.00
7,000.00	91.00	270.79	5,580.92	22.52	-1,623.16	1,602.71	0.00	0.00	0.00
7,100.00	91.00	270.79	5,579.17	23.90	-1,723.13	1,701.42	0.00	0.00	0.00
7,200.00	91.00	270.79	5,577.43	25.29	-1,823.11	1,800.14	0.00	0.00	0.00
7,300.00	91.00	270.79	5,575.68	26.68	-1,923.08	1,898.85	0.00	0.00	0.00
7,400.00	91.00	270.79	5,573.94	28.06	-2,023.06	1,997.57	0.00	0.00	0.00
7,500.00	91.00	270.79	5,572.19	29.45	-2,123.03	2,096.28	0.00	0.00	0.00
7,600.00	91.00	270.79	5,570.45	30.84	-2,223.01	2,195.00	0.00	0.00	0.00
7,700.00	91.00	270.79	5,568.70	32.23	-2,322.98	2,293.72	0.00	0.00	0.00
7,800.00	91.00	270.79	5,566.96	33.61	-2,422.96	2,392.43	0.00	0.00	0.00
7,900.00	91.00	270.79	5,565.21	35.00	-2,522.93	2,491.15	0.00	0.00	0.00
8,000.00	91.00	270.79	5,563.47	36.39	-2,622.91	2,589.86	0.00	0.00	0.00
8,100.00	91.00	270.79	5,561.72	37.77	-2,722.88	2,688.58	0.00	0.00	0.00
8,200.00	91.00	270.79	5,559.97	39.16	-2,822.86	2,787.29	0.00	0.00	0.00
8,300.00	91.00	270.79	5,558.23	40.55	-2,922.83	2,886.01	0.00	0.00	0.00
8,400.00	91.00	270.79	5,556.48	41.93	-3,022.81	2,984.72	0.00	0.00	0.00
8,500.00	91.00	270.79	5,554.74	43.32	-3,122.78	3,083.44	0.00	0.00	0.00
8,600.00	91.00	270.79	5,552.99	44.71	-3,222.76	3,182.16	0.00	0.00	0.00
8,700.00	91.00	270.79	5,551.25	46.09	-3,322.73	3,280.87	0.00	0.00	0.00
8,800.00	91.00	270.79	5,549.50	47.48	-3,422.71	3,379.59	0.00	0.00	0.00
8,900.00	91.00	270.79	5,547.76	48.87	-3,522.68	3,478.30	0.00	0.00	0.00
9,000.00	91.00	270.79	5,546.01	50.25	-3,622.66	3,577.02	0.00	0.00	0.00
9,100.00	91.00	270.79	5,544.27	51.64	-3,722.63	3,675.73	0.00	0.00	0.00
9,200.00	91.00	270.79	5,542.52	53.03	-3,822.61	3,774.45	0.00	0.00	0.00
9,300.00	91.00	270.79	5,540.78	54.42	-3,922.58	3,873.17	0.00	0.00	0.00
9,400.00	91.00	270.79	5,539.03	55.80	-4,022.56	3,971.88	0.00	0.00	0.00
9,500.00	91.00	270.79	5,537.29	57.19	-4,122.53	4,070.60	0.00	0.00	0.00



Phoenix Technology Services
Survey Report



Company:	COGI Operating, LLC	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County, New Mexico (NAD 27/NME)	TVD Reference:	GL @ 3688.00usft
Site:	Houma Pawnee State Com	MD Reference:	GL @ 3688.00usft
Well:	#2H	North Reference:	Grid
Wellbore:	WB1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 08-28-13	Database:	GCR:DB

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,600.00	91.00	270.79	5,535.54	58.58	-4,222.51	4,169.31	0.00	0.00	0.00
9,700.00	91.00	270.79	5,533.80	59.96	-4,322.48	4,268.03	0.00	0.00	0.00
9,800.00	91.00	270.79	5,532.05	61.35	-4,422.46	4,366.74	0.00	0.00	0.00
9,900.00	91.00	270.79	5,530.31	62.74	-4,522.43	4,465.46	0.00	0.00	0.00
10,000.00	91.00	270.79	5,528.56	64.12	-4,622.41	4,564.17	0.00	0.00	0.00
10,084.81	91.00	270.79	5,527.08	65.30	-4,707.20	4,647.90	0.00	0.00	0.00
TD at 10084.81 - PBHL-Houma Pawnee #2H									

Design Targets									
Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	
Shape									Latitude Longitude
PP-Houma Pawnee #2H		0.00	0.00	5,361.32	1.15	-83.00	668,049.56	611,927.60	32° 50' 9.68500 N 103° 58' 8.13473 W
- plan hits target center									
- Point									
PBHL-Houma Pawnee #		0.00	0.01	5,527.08	65.30	-4,707.20	668,113.70	607,303.40	32° 50' 10.47431 N 103° 59' 2.33003 W
- plan hits target center									
- Point									

Formations							
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)		
5,890.30	5,600.03	TL, 5609.9' TVD @ 0 VZ, 91.0° Inc		-1.00	269.90		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			Comment
		+N/-S (usft)	+E/-W (usft)		
5079	5079	0	0		KOP Start Build 11.00
5906	5600	7	-530		LP Start 4178.33 hold at 5906.48 MD
10,085	5527	65	-4707		TD at 10084.81

Checked By: _____ Approved By: _____ Date: _____



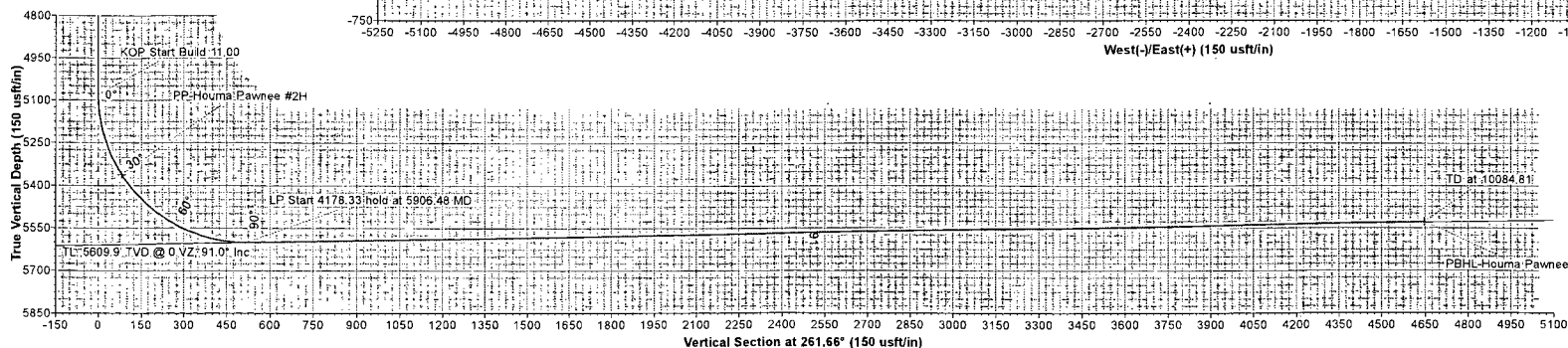
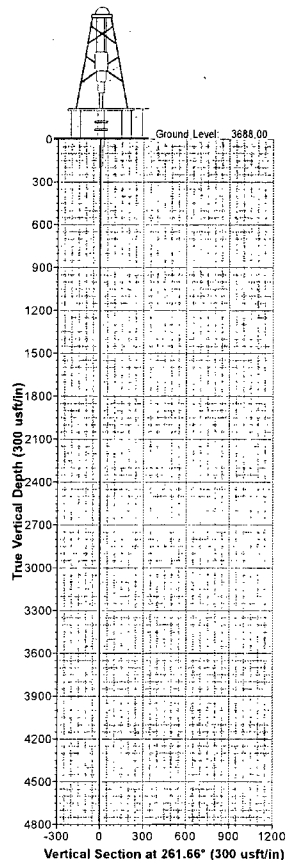
Project: Eddy County, New Mexico (NAD 27 NME)
Site: Houma Pawnee State Com
Well: #2H
Wellbore: WB1
Design: Plan #1 08-28-13



PHOENIX
TECHNOLOGY SERVICES



Azimuths to Grid North
True North: -0.20°
Magnetic North: 7.35°
Magnetic Field
Strength: 48718.7nT
Dip Angle: 60.63°
Date: 08/27/2013
Model: IGRF2010_14



WELL DETAILS												
			Ground Level: 3688.00		Easting		Latitude		Longitude			
+N-S			0.00		0.00		668048.40		612010.60		32° 50' 9.67078 N	103° 58' 7.16198 W

SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSecl	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	5079.21	0.00	0.00	5079.21	0.00	0.00	0.00	0.00	0.00	0.00	KOP Start Build 11.00
3	5906.48	91.00	270.79	5600.00	7.35	-529.91	11.00	270.79	523.23		LP Start 4178.33 hold at 5906.48 MD
4	10084.81	91.00	270.79	5527.08	65.30	-4707.20	0.00	0.00	4847.90	PBHL-Houma Pawnee #2H	TD at 10084.81

DESIGN TARGET DETAILS											
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape			
PP-Houma Pawnee #2H	5361.32	1.15	-83.00	668049.55	611927.60	32° 50' 9.68500 N	103° 58' 8.13473 W	Point			
- plan hits target center											
PBHL-Houma Pawnee #2H	5527.08	65.30	-4707.20	668113.70	607303.40	32° 50' 10.47431 N	103° 59' 2.33003 W	Point			
- plan hits target center											

PROJECT DETAILS: Eddy County, New Mexico (NAD 27 NME)											
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											
SITE DETAILS: Houma Pawnee State Com											
Site Centre Northing: 668048.40											
Easting: 612010.60											
Positional Uncertainty: 0.00											
Convergence: 0.20											
Local North: Grid											
FORMATION TOP DETAILS											
TVDPath	MDPath	Formation	DipAngle				DipDir				
5600.03	5890.30	TL 5609.9° TVD @ 0 VZ: 91.0° Inc	-1.00				269.90				

Map System: US State Plane 1927 (Exact solution)											
Datum: NAD 1927 (NADCON CONUS)											
Ellipsoid: Clarke 1866											
Zone Name: New Mexico East 3001											
Local Origin: Well #2H, Grid North											
Latitude: 32° 50' 9.67078 N											
Longitude: 103° 58' 7.16198 W											
Grid East: 612010.60											
Grid North: 668048.40											
Scale Factor: 1.000											
Geomagnetic Model: IGRF2010_14											
Sample Date: 27-Aug-13											
Magnetic Declination: 7.55°											
Dip Angle from Horizontal: 60.63°											
Magnetic Field Strength: 48719											
To convert a Magnetic Direction to a Grid Direction, Add 7.35°											
To convert a Magnetic Direction to a True Direction, Add 7.55° East											
To convert a True Direction to a Grid Direction, Subtract 0.20°											
LEGEND											
Plan #1 08-28-13											

