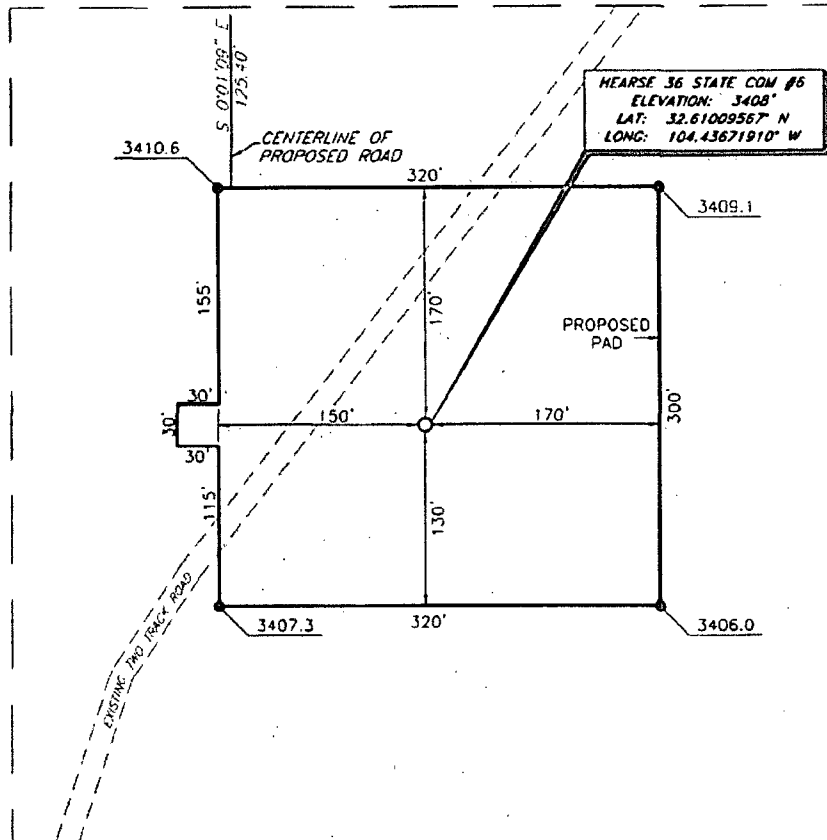


☐ AMENDED REPORT

RECEIVED
JAN 16 2014
NMOCD ARTESIA

COG OPERATING, LLC

Hearse 36 State Com. #6H
(150' FSL & 2310' FEL)
Section 36, T-19-S, R-25-E,
N. M. P. M., Eddy Co., New Mexico



DIRECTIONS TO LOCATION

From the intersection of U. S. Hwy. No. 285 and
County Road No. 23 (Rock Daisy):

Go West on County Road No. 23 approx. 1.9 mile;

Turn Left on a lease road;

Go Southwest approx. 0.9 mile;

Turn left. Go East approx. 0.15 mile;

Location stake is approx. 310 feet South of
the lease road.

SCALE: 1" = 100'
0 50 100
BEARINGS ARE
NAD 27 GRID - NM EAST
DISTANCES ARE
GROUND.

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NO.	REVISION	DATE
JOB NO.: LS130468		
DWG. NO.: 130468PAD		

PROSPERITY CONSULTANTS, LLC

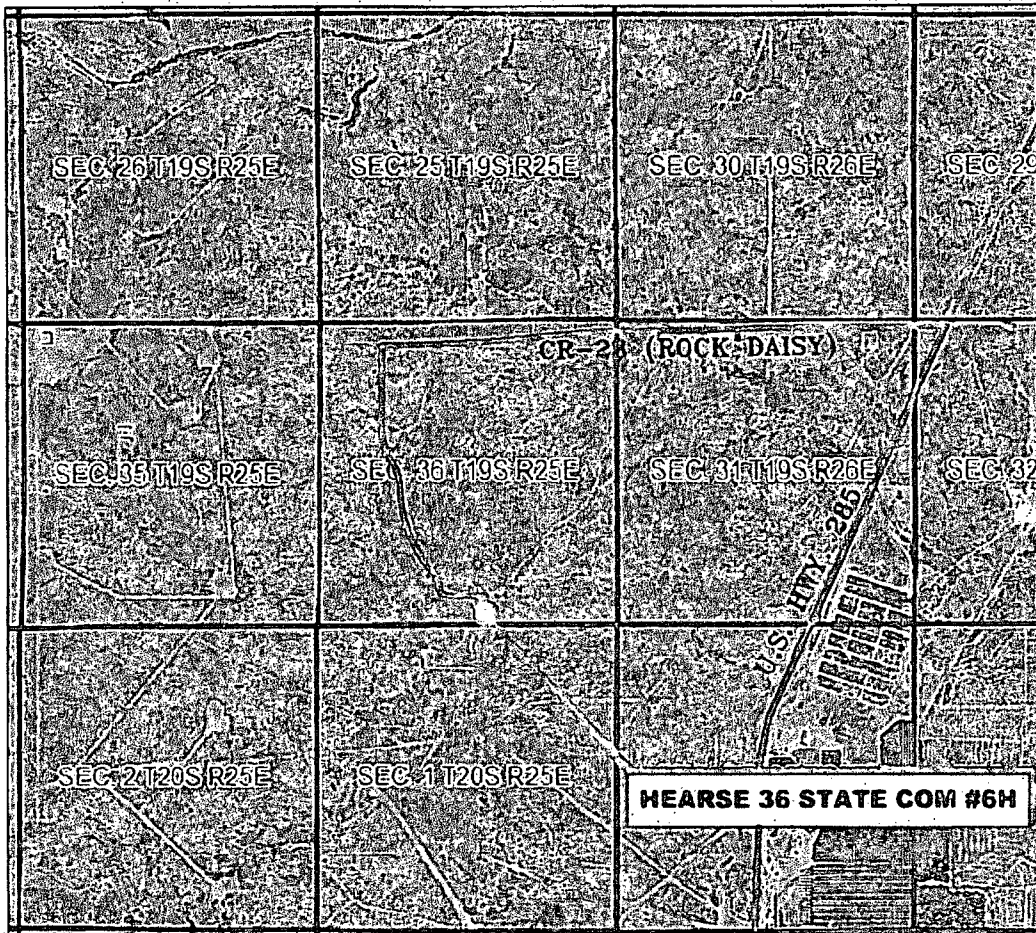


SCALE: 1"=100'
DATE: 11/12/13
SURVEYED BY: GS/SM
DRAWN BY: DR
APPROVED BY: LWB
SHEET : 1 OF 1

3011 S. Co. Rd. 1260, Midland TX 79706 | Firm No.: TX 10193838 NM 4655451 | (432) 561-5780

VICINITY MAP

NOT TO SCALE



SECTION 36, TWP. 19 SOUTH, RGE. 25 EAST,
N. M. P. M., EDDY COUNTY, NEW MEXICO

OPERATOR: COG Operating, LLC
LEASE: Hearse 36 State Com
WELL NO.: 6H

LOCATION: 150' FSL & 2310' FEL
ELEVATION: 3408'

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NO.	REVISION	DATE
JOB NO.:	LS130468	
DWG. NO.:	130468VM	

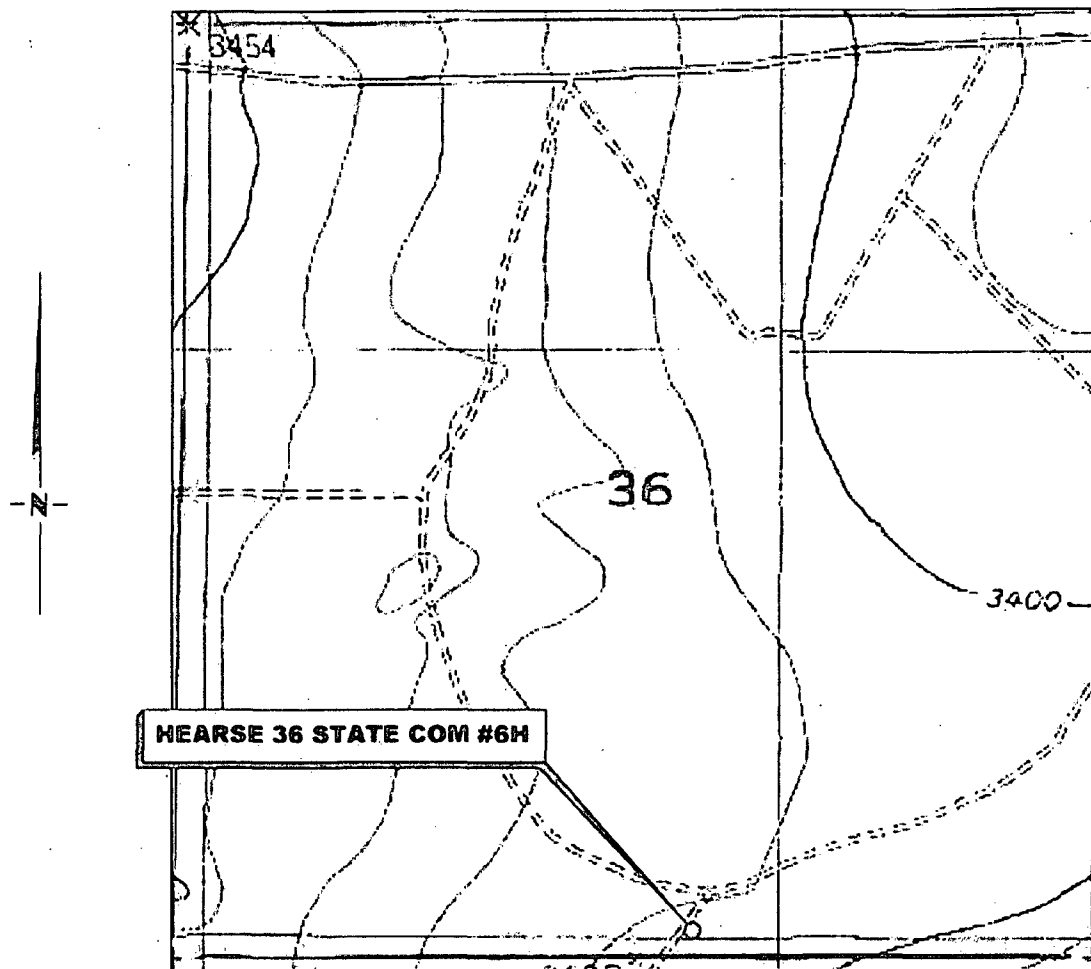
PROSPERITY CONSULTANTS, LLC



SCALE: NOT TO SCALE
DATE: 11/12/13
SURVEYED BY: CB/SM
DRAWN BY: DR
APPROVED BY: LWB
SHEET: 1 OF 1

3011 S. Co. Rd. 1260, Midland, TX 79706 | Firm No. TX 10193838 NM 4655451 | (432) 561-5780

LOCATION VERIFICATION MAP



**SECTION 36, TWP. 19 SOUTH, RGE. 25 EAST,
N. M. P. M., EDDY COUNTY, NEW MEXICO**

OPERATOR: COG Operating, LLC
LEASE: Hearse 36 State Com
WELL NO.: 6H
ELEVATION: 3408'

LOCATION: 150' FSL & 2310' FEL
CONTOUR INTERVAL: 10'
USGS TOPO. SOURCE MAP:
Seven Rivers, NM (1954)

Copyright 2013 - All Rights Reserved

NO.	REVISION	DATE
JOB NO.:	LS130468	
DWG. NO.:	130468LVM	

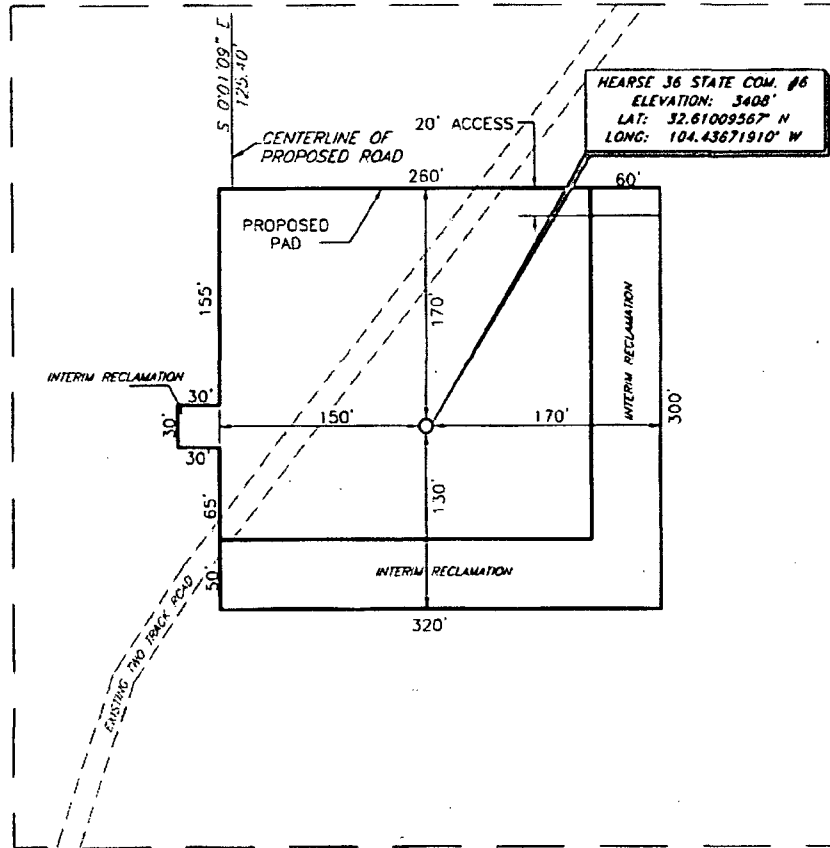
PROSPERITY CONSULTANTS, LLC



3011 S. Co. Rd. 1260, Midland, TX 79706 | Firm No. TX 10193838 NM 4655451 | (432) 561-5780

SCALE: 1"=1000'
DATE: 11/12/13
SURVEYED BY: GB/SM
DRAWN BY: DR
APPROVED BY: LWB
SHEET : 1 OF 1

COG OPERATING, LLC
Interim Reclamation
Hearse 36 State Com. #6H
(150' FSL & 2310' FEL)
Section 36, T-19-S, R-25-E,
N. M. P. M., Eddy Co., New Mexico



DIRECTIONS TO LOCATION

From the intersection of U. S. Hwy. No. 285 and County Road No. 23 (Rock Daisy):

Go West on County Road No. 23 approx. 1.9 mile;

Turn Left on a lease road;

Go Southwest approx. 0.9 mile;

Turn left. Go East approx. 0.15 mile;

Location stake is approx. 310 feet South of the lease road.

SCALE: 1" = 100'
0 50 100

BEARINGS ARE
NAD 27 CRD - NW EAST
DISTANCES ARE
GROUND.

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NO.	REVISION	DATE
JOB NO.: LS130468		
DWG. NO.: 130468REC		

PROSPERITY CONSULTANTS, LLC



SCALE: 1"=100'
DATE: 11/12/13
SURVEYED BY: GB/SM
DRAWN BY: DR
APPROVED BY: LWB
SHEET : 1 OF 1

3011 S Co Rd 1260, Midland TX 79706 | Firm No TX 10193838 NM 4655451 | (432) 561-5780



COG Operating LLC

Eddy County, NM (NAD 27 NME)

Hearse 36 State

#6H

WB1

Plan: Plan #2 01-13-14

Surface: 150' FSL, 2310' FEL, Sec 36, T19S, R25E, Unit O

PP: 330' FSL, 2310' FEL, Sec 36, T19S, R25E, Unit O

BHL: 330' FNL, 2310' FEL, Sec 36, T19S, R25E, Unit B

Standard Planning Report

13 January, 2014



PHOENIX
TECHNOLOGY SERVICES



Phoenix Technology Services

Planning Report



Database:	GCR DB	Local Co-ordinate Reference:	Well #6H
Company:	COG Operating LLC	TVD Reference:	KB @ 3426.00usft
Project:	Eddy County, NM (NAD 27 NME)	MD Reference:	KB @ 3426.00usft
Site:	Hearse 36 State	North Reference:	Grid
Well:	#6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB1		
Design:	Plan #2 01-13-14		

Project:	Eddy County, NM (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:	Hearse 36 State		
Site Position:		Northing:	585,673.60 usft
From:	Map	Easting:	466,182.10 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 36' 36.26340 N
		Longitude:	104° 26' 35.37078 W
		Grid Convergence:	-0.06 °

Well:	#6H		
Well Position	+N-S	6.21 usft	Northing:
	+E-W	1,982.90 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level:
			3,408.00 usft

Wellbore:	WB1		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010_14	01/08/14	7.70
			Dip Angle
			60.33
			Field Strength
			48,496

Design:	Plan #2 01-13-14		
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
			Direction
			(°)
			0.07

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N-S	+E-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(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	
2,699.13	0.00	0.00	2,699.13	0.00	0.00	0.00	0.00	0.00	0.00	
3,517.31	90.00	0.07	3,220.00	520.87	0.62	11.00	11.00	0.00	0.07	
7,782.34	90.00	0.07	3,220.00	4,785.90	5.70	0.00	0.00	0.00	0.00	BHL-Hearse 36 State



Phoenix Technology Services
Planning Report



Database:	GCR DB	Local Co-ordinate Reference:	Well #6H
Company:	COG Operating LLC	TVD Reference:	KB @ 3426.00usft
Project:	Eddy County, NM (NAD 27 NME)	MD Reference:	KB @ 3426.00usft
Site:	Hearse 36 State	North Reference:	Grid
Well:	#6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB1		
Design:	Plan #2 01-13-14		

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,699.13	0.00	0.00	2,699.13	0.00	0.00	0.00	0.00	0.00	0.00
KOP, 11.00°/100' Build									
2,700.00	0.10	0.07	2,700.00	0.00	0.00	0.00	11.00	11.00	0.00
2,800.00	11.10	0.07	2,799.37	9.74	0.01	9.74	11.00	11.00	0.00
2,900.00	22.10	0.07	2,895.06	38.25	0.05	38.25	11.00	11.00	0.00
3,000.00	33.10	0.07	2,983.55	84.51	0.10	84.51	11.00	11.00	0.00
3,100.00	44.10	0.07	3,061.58	146.79	0.17	146.79	11.00	11.00	0.00
3,145.70	49.12	0.07	3,092.97	180.00	0.21	180.00	11.00	11.00	0.00
PP-Hearse 36 State COM #6H									
3,200.00	55.10	0.07	3,126.30	222.83	0.27	222.83	11.00	11.00	0.00
3,300.00	66.10	0.07	3,175.32	309.81	0.37	309.81	11.00	11.00	0.00
3,400.00	77.10	0.07	3,206.85	404.55	0.48	404.55	11.00	11.00	0.00
3,500.00	88.10	0.07	3,219.71	503.56	0.60	503.56	11.00	11.00	0.00
3,517.31	90.00	0.07	3,220.00	520.87	0.62	520.87	11.00	11.00	0.00
LP, Hold 90.00° Inc - TL, 3220' TVD @ 0 VZ, 90° Inc									
3,600.00	90.00	0.07	3,220.00	603.56	0.72	603.56	0.00	0.00	0.00
3,700.00	90.00	0.07	3,220.00	703.56	0.84	703.56	0.00	0.00	0.00
3,800.00	90.00	0.07	3,220.00	803.56	0.96	803.56	0.00	0.00	0.00
3,900.00	90.00	0.07	3,220.00	903.56	1.08	903.56	0.00	0.00	0.00
4,000.00	90.00	0.07	3,220.00	1,003.56	1.20	1,003.56	0.00	0.00	0.00
4,100.00	90.00	0.07	3,220.00	1,103.56	1.31	1,103.56	0.00	0.00	0.00
4,200.00	90.00	0.07	3,220.00	1,203.56	1.43	1,203.56	0.00	0.00	0.00
4,300.00	90.00	0.07	3,220.00	1,303.56	1.55	1,303.56	0.00	0.00	0.00
4,400.00	90.00	0.07	3,220.00	1,403.56	1.67	1,403.56	0.00	0.00	0.00
4,500.00	90.00	0.07	3,220.00	1,503.56	1.79	1,503.56	0.00	0.00	0.00
4,600.00	90.00	0.07	3,220.00	1,603.56	1.91	1,603.56	0.00	0.00	0.00
4,700.00	90.00	0.07	3,220.00	1,703.56	2.03	1,703.56	0.00	0.00	0.00
4,800.00	90.00	0.07	3,220.00	1,803.56	2.15	1,803.56	0.00	0.00	0.00
4,900.00	90.00	0.07	3,220.00	1,903.56	2.27	1,903.56	0.00	0.00	0.00
5,000.00	90.00	0.07	3,220.00	2,003.56	2.39	2,003.56	0.00	0.00	0.00
5,100.00	90.00	0.07	3,220.00	2,103.56	2.51	2,103.56	0.00	0.00	0.00
5,200.00	90.00	0.07	3,220.00	2,203.56	2.62	2,203.56	0.00	0.00	0.00
5,300.00	90.00	0.07	3,220.00	2,303.56	2.74	2,303.56	0.00	0.00	0.00
5,400.00	90.00	0.07	3,220.00	2,403.56	2.86	2,403.56	0.00	0.00	0.00
5,500.00	90.00	0.07	3,220.00	2,503.56	2.98	2,503.56	0.00	0.00	0.00
5,600.00	90.00	0.07	3,220.00	2,603.56	3.10	2,603.56	0.00	0.00	0.00
5,700.00	90.00	0.07	3,220.00	2,703.56	3.22	2,703.56	0.00	0.00	0.00
5,800.00	90.00	0.07	3,220.00	2,803.56	3.34	2,803.56	0.00	0.00	0.00
5,900.00	90.00	0.07	3,220.00	2,903.56	3.46	2,903.56	0.00	0.00	0.00
6,000.00	90.00	0.07	3,220.00	3,003.56	3.58	3,003.56	0.00	0.00	0.00
6,100.00	90.00	0.07	3,220.00	3,103.56	3.70	3,103.56	0.00	0.00	0.00
6,200.00	90.00	0.07	3,220.00	3,203.56	3.82	3,203.56	0.00	0.00	0.00
6,300.00	90.00	0.07	3,220.00	3,303.56	3.93	3,303.56	0.00	0.00	0.00
6,400.00	90.00	0.07	3,220.00	3,403.56	4.05	3,403.56	0.00	0.00	0.00
6,500.00	90.00	0.07	3,220.00	3,503.56	4.17	3,503.56	0.00	0.00	0.00
6,600.00	90.00	0.07	3,220.00	3,603.56	4.29	3,603.56	0.00	0.00	0.00
6,700.00	90.00	0.07	3,220.00	3,703.56	4.41	3,703.56	0.00	0.00	0.00
6,800.00	90.00	0.07	3,220.00	3,803.56	4.53	3,803.56	0.00	0.00	0.00
6,900.00	90.00	0.07	3,220.00	3,903.56	4.65	3,903.56	0.00	0.00	0.00
7,000.00	90.00	0.07	3,220.00	4,003.56	4.77	4,003.56	0.00	0.00	0.00
7,100.00	90.00	0.07	3,220.00	4,103.56	4.89	4,103.56	0.00	0.00	0.00
7,200.00	90.00	0.07	3,220.00	4,203.56	5.01	4,203.56	0.00	0.00	0.00



Phoenix Technology Services

Planning Report



Database:	GCR DB	Local Co-ordinate Reference:	Well #6H
Company:	COG Operating LLC	TVD Reference:	KB @ 3426.00usft
Project:	Eddy County, NM (NAD 27 NME)	MD Reference:	KB @ 3426.00usft
Site:	Hearse 36 State	North Reference:	Grid
Well:	#6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB1		
Design:	Plan #2 01-13-14		

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)
7,300.00	90.00	0.07	3,220.00	4,303.56	5.13	4,303.56	0.00	0.00	0.00
7,400.00	90.00	0.07	3,220.00	4,403.56	5.24	4,403.56	0.00	0.00	0.00
7,500.00	90.00	0.07	3,220.00	4,503.56	5.36	4,503.56	0.00	0.00	0.00
7,600.00	90.00	0.07	3,220.00	4,603.56	5.48	4,603.56	0.00	0.00	0.00
7,700.00	90.00	0.07	3,220.00	4,703.56	5.60	4,703.56	0.00	0.00	0.00
7,782.34	90.00	0.07	3,220.00	4,785.90	5.70	4,785.90	0.00	0.00	0.00

TD at 7782.34 - BHL-Hearse 36 State COM #6H

Design Targets

Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PP-Hearse 36 State COI	- plan hits target center	0.00	360.00	3,092.97	180.00	0.21	585,859.80	468,165.21	32° 36' 38.12574 N	104° 26' 12.18801 W
BHL-Hearse 36 State COI	- plan hits target center	0.00	360.00	3,220.00	4,785.90	5.70	590,465.70	468,170.70	32° 37' 23.70459 N	104° 26' 12.17625 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,517.31	3,220.00	TL, 3220' TVD @ 0 VZ, 90° Inc		0.00	0.00

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
2,699.13	2,699.13	0.00	0.00	KOP, 11.00°/100' Build
3,517.31	3,220.00	520.87	0.62	LP, Hold 90.00° Inc
7,782.34	3,220.00	4,785.90	5.70	TD at 7782.34

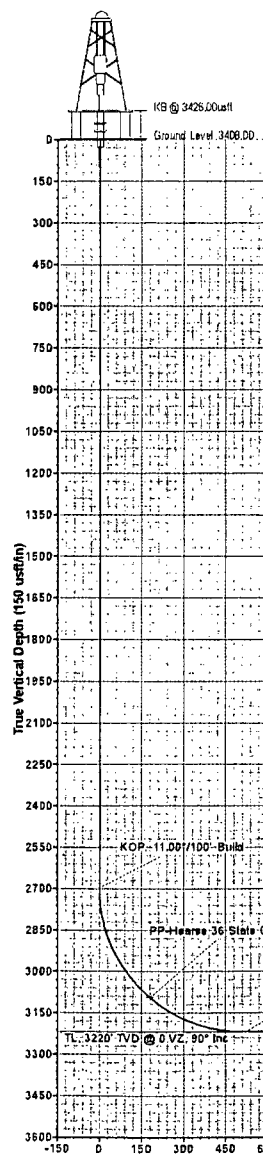


Project: Eddy County, NM (NAD 27 NME)
Site: Hearse 36 State
Well: #6H
Wellbore: WB1
Design: Plan #2 01-13-14



PHOENIX
TECHNOLOGY SERVICES

GT
M
Azimuths to Grid North
True North: 0.00°
Magnetic North: 7.75°
Magnetic Field
Strength: 48496.2nT
Dip Angle: 60.33°
Date: 01/08/2014
Model: IGRF2010_14



WELL DETAILS									
				Ground Level	3408.00	Latitude		Longitude	
				Easting	458165.00		32° 36' 36.34450 N	104° 25' 12.18847 W	
				Northing	585679.80				

SECTION DETAILS									
Sec	Mid	Inc	Azi	TVD	+N/S	-E/W	Deg	T/Face	V/Sect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2699.13	0.00	0.00	2699.13	0.00	0.00	0.00	0.00	0.00
3	3517.31	90.00	0.07	3220.00	520.87	0.52	11.00	0.07	520.87
4	7782.34	90.00	0.07	3220.00	4785.90	5.70	0.00	0.00	4785.90

DESIGN TARGET DETAILS									
Name		TVD	+N/S	-E/W	North	Easting	Latitude	Longitude	Shape
PP-Hearse 36 State COM #6H		3092.97	180.00	0.21	585659.80	468165.21	32° 36' 38.12974 N	104° 25' 12.18801 W	Point
-plan h/o target center									
BHL-Hearse 36 State COM #6H		3220.00	4785.90	5.70	580465.70	468170.70	32° 37' 23.70459 N	104° 25' 12.17625 W	Point
-plan h/o target center									

LEGEND									
Plan #2 01-13-14									

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 #6H, Grid North
Latitude: 32° 36' 35.34450 N
Longitude: 104° 25' 12.18847 W
Grid East: 458165.00
Grid North: 585679.80
Scale Factor: 1.000
Geomagnetic Model: IGRF2010_14
Sample Date: 08-Jan-14
Magnetic Declination: 7.70°
Dip Angle from Horizontal: 60.33°
Magnetic Field Strength: 48496
To convert a Magnetic Direction to a Grid Direction, Add 7.75°
To convert a Magnetic Direction to a True Direction, Add 7.70° East
To convert a True Direction to a Grid Direction, Add 0.05°

FORMATION TOP DETAILS									
TVDPath	MDPath	Formation	DipAngle	DipDir					
3220.00	3517.31	TL, 3220' TVD @ 0 VZ, 90° Inc	0.00	0.00					

