Results of Directional Survey

API number:	30-025-40778			
OGRID:		Operator:	COG OPERATING LLC	
		Property:	PRICKLY PEAR 6 FEDERAL	# 4H

surface	ULSTR:	D	06	T	20S	R	35E
				270	FNL	1130	FWL
BH Loc	ULSTR:	M	06	T	20S	R	35E
15540	MD	11105.7	TVD	268	FSL	770	FWL
				5012	FNL		
Top Perf/OH	ULSTR:	D	06	T	20S	R	35E
11246	MD	11058.6	TVD	727	FNL	994	FWL
Bot Perf/OH	ULSTR:	M	06	T	20S	R	35E
15210	MD	11111.1	TVD	598	FNL	777	FWL
				4682	FNL		

	MD	N/S	E/W	VD
	11214	-427.00	-132.60	11049.4
TOP PERFS/OH	**11246**	-457.40	-136.30	11058.60
	11246	-457.40	-136.30	11058.60
	15142	-4344.40	-350.80	11111.20
BOT PERFS/OH	**15210**	-4412.40	-353.33	11111.13
	15236	-4438.40	-354.30	11111.10

NEXT TO LAST	15493	-4695.30	-359.60	11107.90
LAST READING	15540	-4742.20	-360.10	11105.70
TD	**15540**	-4742.20	-360.10	11105.70

Surface Location	270	FN	1130	FW
Projected BHL	5012	FN	770	FW
Location of				
Top Perfs/OH	727	FN	994	FW
Bottom Perfs/OH	4682	FN	777	FW

SUMMARY of Subsurface Locations

Surface Location	D-06-20S-35E	270	FN	1130	FW	Vert. Depth
Top Perfs/OH	D-06-20S-35E	727	FN	994	FW	11058.60
Bottom Perfs/OH	M-06-20S-35E	4682	FN	777	FW	11111.13
Projected TD	M-06-20S-35E	5012	FN	770	FW	11105.70

McVAY DRILLING COMPANY
P.O. Box 2450
Hobbs, New Mexico 88241
(575) 397-3311
FAX: 39-DRILL

COG OPERATING, LL
RECEIVED
NOV 12 2012
ARTESIA WEST

Well Name and Num: Prickly Pear 6 Fed. 4H
Location: Sec. 6, T20S, R35E
Operator: COG
Drilling Contractor: McVay Drilling Company

The undersigned certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

Degrees @	Depth	Degrees @	Depth	Degrees @	Depth	Degrees @	Depth
0.01	492	0.30	7706	90.22	13541		
0.01	964	1.20	8140	90.66	13636		
0.03	1456	1.80	8623	89.25	13758		
0.90	1601	1.58	10230	89.60	13853		
0.80	1886	1.06	10611				
0.79	2018	1.76	10992				
1.58	2524	1.49	11203				
3.61	3253	3.17	10513				
3.61	3442	9.67	10576				
2.90	3538	26.46	10828				
0.70	4185	67.88	11182				
0.03	4661	75.45	11246				
0.40	5134	88.20	11369				
1.10	5606	91.10	11527				
0.50	6009	91.10	11623				
1.80	6502	88.80	12178				
0.80	7231	88.60	12641				

HOBBS OCD

JAN 29 2013

RECEIVED

SUR: D-06-20s-35e, 270/N & 1130/W
BHL: M-06-20s-35e, 5012/N & 770/W
API # 30-025-40778

By: Hunter Craig

Subscribed and sworn to before me this 9th day of November, 2012

Tina Flemens
Notary Public, Lea County, New Mexico

OFFICIAL SEAL
TINA FLEMENS
Notary Public
State of New Mexico
My Comm. Expires 6-16-13

VAUGHN ENERGY SERVICES

A GYRO TECHNOLOGIES INC. COMPANY

PO Box 261021
Corpus Christi, Texas 78426
(361) 767-0602 • (800) 606-GYRO • Fax (361) 767-0612

November 5, 2012

HOBBS OCD

JAN 29 2013

RECEIVED

COG Operating LLC (Concho)
One Concho Center
600 W. Illinois Avenue
Midland, Texas 79701

Attn: Kanica Castillo

SUR: D-06-20s-35e, 270/N & 1130/W
BHL: M-06-20s-35e, 5012/N & 770/W
API # 30-025-40778

RE: **Prickly Pear 6 Federal No. 004H**

Please find enclosed a copy of the survey from 0.00' to 11280.00' ran on the above referenced well.

If I can be of any further service please do not hesitate to call me at 800-606-4976.

Sincerely,

Keith Havelka
Operations

Company: COG Operating LLC (Concho)
Lease/Well: Prickly Pear 6 Federal / No. 004H

Rig Name: McVay 7
State/County: New Mexico / Lea
Latitude: 32.65, Longitude: -103.45
GRID North is 0.48 Degrees East of True North
VS-Azi: 0.00 Degrees

HOBBS OCD

JAN 29 2013

RECEIVED

RKB : 17'

DRILLOG HA GYRO SURVEY CALCULATIONS
Filename: ... pear 6 fed 4h gyro survey.ut
Minimum Curvature Method
Report Date/Time: 11/5/2012 / 08:38

Vaughn Energy Services
Gardendale, Texas
432-563-5444
Surveyor: Chris Tallant
Prickly Pear 6 Federal No. 004H / API 30-025-40778

SUR: D-06-20s-35e, 270/N & 1130/W
BHL: M-06-20s-35e, 5012/N & 770/W
API # 30-025-40778

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.08	97.63	100.00	-0.01	0.07	0.07	97.63	0.08
200.00	0.08	283.71	200.00	0.00	0.08	0.08	92.54	0.16
300.00	0.08	3.24	300.00	0.08	0.02	0.08	13.18	0.10
400.00	0.08	82.77	400.00	0.16	0.09	0.18	30.07	0.10
500.00	0.07	8.02	500.00	0.22	0.17	0.28	36.60	0.09
600.00	0.06	293.26	600.00	0.30	0.13	0.33	22.68	0.08
700.00	0.06	228.67	700.00	0.29	0.04	0.29	8.13	0.06
800.00	0.06	164.08	800.00	0.21	0.02	0.21	4.65	0.06
900.00	0.12	207.35	900.00	0.07	-0.02	0.07	344.92	0.09
1000.00	0.19	250.61	1000.00	-0.08	-0.22	0.24	250.17	0.13
1100.00	0.22	257.30	1100.00	-0.18	-0.57	0.59	252.60	0.04
1200.00	0.25	263.98	1200.00	-0.24	-0.98	1.01	256.00	0.04
1300.00	0.18	283.69	1300.00	-0.23	-1.35	1.37	260.30	0.11
1400.00	0.10	303.39	1400.00	-0.15	-1.57	1.58	264.67	0.09
1500.00	0.33	279.56	1500.00	-0.05	-1.92	1.93	268.48	0.24
1600.00	0.56	255.72	1599.99	-0.12	-2.68	2.68	267.36	0.29
1700.00	0.70	245.30	1699.99	-0.50	-3.71	3.74	262.33	0.18
1800.00	0.84	234.89	1799.98	-1.18	-4.86	5.00	256.41	0.20

VES Survey Date: 10/26/2012

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	0.84	218.75	1899.97	-2.17	-5.92	6.30	249.90	0.24
2000.00	0.83	202.61	1999.96	-3.41	-6.66	7.48	242.90	0.23
2100.00	0.82	196.73	2099.95	-4.76	-7.14	8.58	236.30	0.09
2200.00	0.81	190.86	2199.94	-6.14	-7.48	9.68	230.62	0.08
2300.00	0.97	195.68	2299.92	-7.65	-7.84	10.96	225.70	0.18
2400.00	1.14	200.50	2399.91	-9.40	-8.42	12.62	221.85	0.19
2500.00	1.39	197.49	2499.88	-11.49	-9.13	14.68	218.48	0.26
2600.00	1.64	194.47	2599.85	-14.04	-9.86	17.16	215.07	0.26
2700.00	1.88	197.57	2699.80	-17.00	-10.71	20.09	212.22	0.26
2800.00	2.12	200.66	2799.74	-20.30	-11.86	23.51	210.30	0.26
2900.00	2.43	194.01	2899.66	-24.09	-13.03	27.39	208.41	0.40
3000.00	2.74	187.35	2999.56	-28.52	-13.85	31.70	205.90	0.43
3100.00	2.99	181.07	3099.43	-33.49	-14.20	36.38	202.98	0.40
3200.00	3.23	174.79	3199.29	-38.90	-14.00	41.34	199.79	0.42
3300.00	3.41	173.82	3299.12	-44.67	-13.42	46.64	196.72	0.19
3400.00	3.59	172.84	3398.93	-50.73	-12.71	52.30	194.06	0.19
3500.00	3.18	170.47	3498.76	-56.58	-11.86	57.80	191.84	0.43
3600.00	2.78	168.11	3598.62	-61.68	-10.90	62.64	190.02	0.42
3700.00	2.45	170.37	3698.52	-66.16	-10.04	66.92	188.63	0.34
3800.00	2.13	172.63	3798.44	-70.12	-9.45	70.75	187.67	0.34
3900.00	1.91	180.82	3898.38	-73.62	-9.23	74.20	187.15	0.36
4000.00	1.69	189.01	3998.33	-76.75	-9.49	77.33	187.05	0.34
4100.00	1.24	200.25	4098.29	-79.23	-10.10	79.87	187.26	0.53
4200.00	0.80	211.49	4198.28	-80.83	-10.83	81.56	187.63	0.49
4300.00	0.64	215.94	4298.27	-81.88	-11.52	82.69	188.01	0.16
4400.00	0.49	220.38	4398.26	-82.66	-12.13	83.54	188.35	0.16
4500.00	0.39	209.91	4498.26	-83.27	-12.57	84.21	188.58	0.13
4600.00	0.29	199.43	4598.26	-83.80	-12.82	84.77	188.70	0.12
4700.00	0.22	193.23	4698.26	-84.22	-12.95	85.21	188.74	0.07
4800.00	0.15	187.02	4798.26	-84.53	-13.01	85.53	188.75	0.07
4900.00	0.11	250.38	4898.26	-84.69	-13.11	85.70	188.80	0.14
5000.00	0.07	313.75	4998.26	-84.68	-13.25	85.71	188.89	0.10
5100.00	0.19	324.43	5098.26	-84.50	-13.39	85.56	189.00	0.12
5200.00	0.32	335.12	5198.26	-84.11	-13.60	85.21	189.19	0.13
5300.00	0.32	343.81	5298.26	-83.60	-13.80	84.73	189.37	0.05
5400.00	0.32	352.50	5398.25	-83.06	-13.91	84.22	189.51	0.05
5500.00	0.54	1.83	5498.25	-82.31	-13.93	83.48	189.61	0.24
5600.00	0.77	11.16	5598.24	-81.18	-13.78	82.34	189.64	0.25
5700.00	0.64	358.95	5698.24	-79.96	-13.67	81.12	189.70	0.20

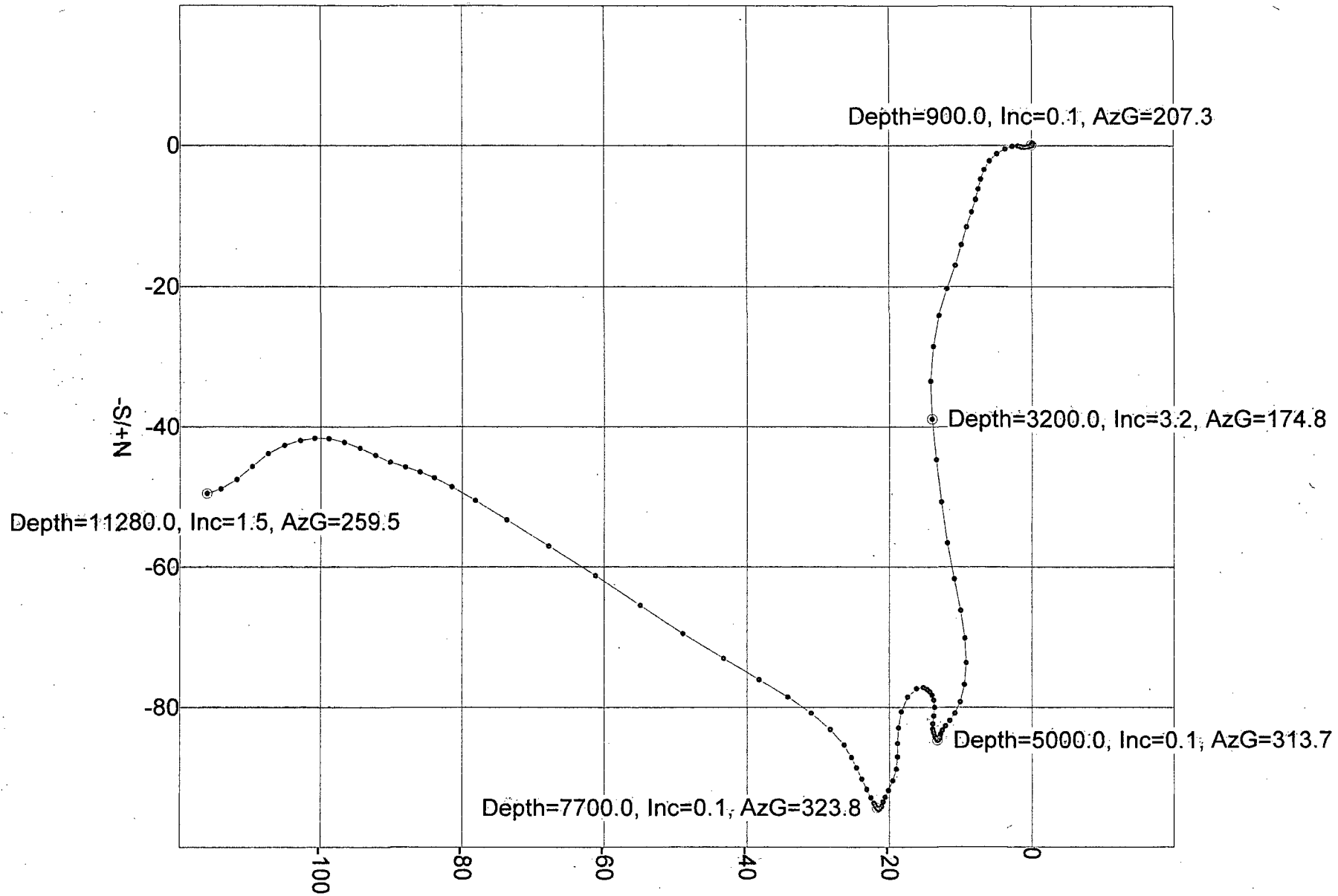
VES Survey Date: 10/26/2012

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5800.00	0.51	346.75	5798.23	-78.97	-13.78	80.16	189.90	0.18
5900.00	0.39	332.84	5898.23	-78.24	-14.03	79.48	190.17	0.16
6000.00	0.26	318.93	5998.23	-77.76	-14.34	79.07	190.45	0.15
6100.00	0.31	304.20	6098.23	-77.44	-14.71	78.82	190.76	0.09
6200.00	0.36	289.47	6198.22	-77.18	-15.23	78.67	191.16	0.10
6300.00	0.82	249.48	6298.22	-77.33	-16.19	79.01	191.83	0.59
6400.00	1.29	209.49	6398.20	-78.56	-17.42	80.47	192.50	0.84
6500.00	1.32	196.84	6498.18	-80.64	-18.30	82.69	192.79	0.29
6600.00	1.36	184.18	6598.15	-82.93	-18.72	85.01	192.72	0.30
6700.00	1.19	181.67	6698.13	-85.14	-18.84	87.20	192.48	0.18
6800.00	1.01	179.16	6798.11	-87.06	-18.86	89.08	192.22	0.18
6900.00	1.01	190.89	6898.09	-88.81	-19.01	90.82	192.08	0.21
7000.00	1.01	202.63	6998.08	-90.49	-19.52	92.57	192.17	0.21
7100.00	0.73	204.70	7098.06	-91.88	-20.12	94.06	192.35	0.28
7200.00	0.46	206.77	7198.06	-92.82	-20.57	95.07	192.49	0.28
7300.00	0.42	200.69	7298.06	-93.52	-20.88	95.82	192.58	0.06
7400.00	0.38	194.61	7398.05	-94.19	-21.09	96.52	192.62	0.06
7500.00	0.24	256.13	7498.05	-94.56	-21.38	96.95	192.74	0.34
7600.00	0.09	317.66	7598.05	-94.56	-21.63	97.00	192.88	0.21
7700.00	0.14	323.82	7698.05	-94.40	-21.75	96.88	192.97	0.05
7800.00	0.19	329.99	7798.05	-94.17	-21.90	96.68	193.09	0.05
7900.00	0.41	330.88	7898.05	-93.71	-22.16	96.29	193.30	0.23
8000.00	0.64	331.77	7998.05	-92.90	-22.60	95.61	193.67	0.23
8100.00	0.85	333.93	8098.04	-91.75	-23.19	94.63	194.18	0.21
8200.00	1.05	336.09	8198.02	-90.24	-23.88	93.35	194.82	0.21
8300.00	0.99	335.11	8298.01	-88.62	-24.62	91.98	195.52	0.07
8400.00	0.92	334.13	8397.99	-87.12	-25.33	90.73	196.21	0.07
8500.00	1.43	324.32	8497.97	-85.38	-26.41	89.37	197.19	0.55
8600.00	1.94	314.51	8597.93	-83.18	-28.35	87.87	198.82	0.59
8700.00	2.17	308.24	8697.86	-80.81	-31.05	86.57	201.02	0.32
8800.00	2.39	301.98	8797.79	-78.54	-34.31	85.70	203.60	0.33
8900.00	3.03	301.59	8897.67	-76.05	-38.33	85.16	206.75	0.63
9000.00	3.66	301.21	8997.50	-73.01	-43.30	84.89	210.67	0.63
9100.00	3.97	302.93	9097.28	-69.48	-48.94	84.98	215.16	0.33
9200.00	4.29	304.64	9197.02	-65.47	-54.92	85.46	219.99	0.34
9300.00	4.41	303.32	9296.73	-61.23	-61.21	86.58	224.99	0.16
9400.00	4.54	301.99	9396.43	-57.02	-67.79	88.58	229.93	0.16
9500.00	3.51	301.99	9496.18	-53.30	-73.74	90.99	234.14	1.03
9600.00	2.49	301.99	9596.04	-50.53	-78.18	93.09	237.13	1.03

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
9700.00	1.88	298.81	9695.97	-48.59	-81.46	94.85	239.19	0.62
9800.00	1.27	295.64	9795.93	-47.31	-83.90	96.32	240.58	0.61
9900.00	1.25	290.95	9895.91	-46.44	-85.92	97.67	241.61	0.11
10000.00	1.22	286.26	9995.88	-45.76	-87.96	99.15	242.52	0.10
10100.00	1.32	291.44	10095.86	-45.04	-90.05	100.69	243.43	0.15
10200.00	1.42	296.62	10195.83	-44.06	-92.23	102.22	244.47	0.16
10300.00	1.39	292.78	10295.80	-43.04	-94.46	103.80	245.50	0.10
10400.00	1.35	288.94	10395.77	-42.19	-96.69	105.49	246.43	0.10
10500.00	1.23	277.15	10495.75	-41.67	-98.87	107.29	247.15	0.29
10600.00	1.10	265.36	10595.73	-41.61	-100.89	109.13	247.58	0.27
10700.00	1.27	257.43	10695.70	-41.93	-102.93	111.14	247.83	0.23
10800.00	1.44	249.49	10795.68	-42.61	-105.18	113.49	247.95	0.25
10900.00	1.59	237.49	10895.64	-43.80	-107.53	116.11	247.84	0.35
11000.00	1.75	225.49	10995.60	-45.62	-109.80	118.90	247.44	0.38
11100.00	1.60	234.62	11095.56	-47.50	-112.03	121.68	247.02	0.31
11200.00	1.45	243.74	11195.52	-48.87	-114.31	124.32	246.85	0.28
11280.00	1.50	259.51	11275.49	-49.51	-116.25	126.35	246.93	0.51

VES Survey Date: 10/26/2012

Vaughn Energy Services
Gardendale, Texas
432-563-5444
Surveyor: Chris Tallant
Prickly Pear 6 Federal No. 004H / API 30-025-40778



VES Survey Date: 10/26/2012

SUR: D-06-20s-35e, 270/N & 1130/W
BHL: M-06-20s-35e, 5012/N & 770/W
API # 30-025-40778

PATHFINDER®
A Schlumberger Company

HOBBS OCD

JAN 29 2013

RECEIVED

COG Operating LLC

Lea County(NAD27)
Prickly Pear 6 Fed
#4H
OH

Design: OH

Pathfinder X&Y Report

06 November, 2012

CONCHO

PATHFINDER
A Schlumberger Company

Pathfinder

Pathfinder X&Y Report

CONCHO

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #4H
Project:	Lea County(NAD27)	TVD Reference:	KB = 17' @ 3714.0usft (Original Well Elev)
Site:	Prickly Pear 6 Fed	MD Reference:	KB = 17' @ 3714.0usft (Original Well Elev)
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project Lea County(NAD27)

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 Prickly Pear 6 Fed

Site Position:		Northing:	586,160.200 usft	Latitude:	32.608701
From:	Map	Easting:	756,305.140 usft	Longitude:	-103.500995
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.45 °

Well #4H

Well Position	+N/-S	0.0 usft	Northing:	586,160.200 usft	Latitude:	32.608701
	+E/-W	0.0 usft	Easting:	756,305.140 usft	Longitude:	-103.500995
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,697.0 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	7/12/2012	7.44	60.55	48,785

Design OH

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	185.24

PATHFINDER
A Schlumberger Company

Pathfinder

Pathfinder X&Y Report

CONCHO

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #4H
Project:	Lea County(NAD27)	TVD Reference:	KB = 17' @ 3714.0usft (Original Well Elev)
Site:	Prickly Pear 6 Fed	MD Reference:	KB = 17' @ 3714.0usft (Original Well Elev)
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey Program	Date 11/6/2012		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	10,500.0	Gyro #1 (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s
10,513.0	15,540.0	MWD #1 (OH)	MWD	MWD - Standard

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)
0.0	0.00	0.00	0.0	-3,714.0	0.0	0.0	0.0	0.00	586,160.20	756,305.14
100.0	0.08	97.63	100.0	-3,614.0	0.0	0.1	0.0	0.08	586,160.19	756,305.21
200.0	0.08	283.71	200.0	-3,514.0	0.0	0.1	0.0	0.16	586,160.20	756,305.21
300.0	0.08	3.24	300.0	-3,414.0	0.1	0.0	-0.1	0.10	586,160.28	756,305.15
400.0	0.08	82.77	400.0	-3,314.0	0.2	0.1	-0.2	0.10	586,160.36	756,305.22
500.0	0.07	8.02	500.0	-3,214.0	0.2	0.2	-0.2	0.09	586,160.43	756,305.30
600.0	0.06	293.26	600.0	-3,114.0	0.3	0.1	-0.3	0.08	586,160.51	756,305.26
700.0	0.06	228.67	700.0	-3,014.0	0.3	0.0	-0.3	0.06	586,160.50	756,305.17
800.0	0.06	164.08	800.0	-2,914.0	0.2	0.0	-0.2	0.06	586,160.41	756,305.15
900.0	0.12	207.35	900.0	-2,814.0	0.1	0.0	-0.1	0.09	586,160.27	756,305.11
1,000.0	0.19	250.61	1,000.0	-2,714.0	-0.1	-0.2	0.1	0.13	586,160.12	756,304.91
1,100.0	0.22	257.30	1,100.0	-2,614.0	-0.2	-0.6	0.2	0.04	586,160.03	756,304.56
1,200.0	0.25	263.98	1,200.0	-2,514.0	-0.2	-1.0	0.3	0.04	586,159.96	756,304.16
1,300.0	0.18	283.69	1,300.0	-2,414.0	-0.2	-1.4	0.3	0.10	586,159.97	756,303.79
1,400.0	0.10	303.39	1,400.0	-2,314.0	-0.1	-1.6	0.3	0.09	586,160.06	756,303.56
1,500.0	0.33	279.56	1,500.0	-2,214.0	0.0	-1.9	0.2	0.24	586,160.16	756,303.21
1,600.0	0.56	255.72	1,600.0	-2,114.0	-0.1	-2.7	0.4	0.29	586,160.08	756,302.45
1,700.0	0.70	245.30	1,700.0	-2,014.0	-0.5	-3.7	0.8	0.18	586,159.71	756,301.42
1,800.0	0.84	234.89	1,800.0	-1,914.0	-1.2	-4.9	1.6	0.20	586,159.03	756,300.27
1,900.0	0.84	218.75	1,900.0	-1,814.0	-2.2	-5.9	2.7	0.24	586,158.04	756,299.21
2,000.0	0.83	202.61	2,000.0	-1,714.0	-3.4	-6.7	4.0	0.23	586,156.80	756,298.47

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #4H
Project:	Lea County(NAD27)	**TVD Reference:**	KB = 17 @ 3714.0usft (Original Well Elev)
Site:	Prickly Pear 6 Fed	**MD Reference:**	KB = 17 @ 3714.0usft (Original Well Elev)
Well:	#4H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

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)
2,100.0	0.82	196.73	2,099.9	-1,614.1	-4.8	-7.2	5.4	0.09	586,155.44	756,297.99
2,200.0	0.81	190.86	2,199.9	-1,514.1	-6.1	-7.5	6.8	0.08	586,154.06	756,297.65
2,300.0	0.97	195.68	2,299.9	-1,414.1	-7.6	-7.9	8.3	0.18	586,152.55	756,297.29
2,400.0	1.14	200.50	2,399.9	-1,314.1	-9.4	-8.4	10.1	0.19	586,150.81	756,296.71
2,500.0	1.39	197.49	2,499.9	-1,214.1	-11.5	-9.1	12.3	0.26	586,148.72	756,296.00
2,600.0	1.64	194.47	2,599.8	-1,114.2	-14.0	-9.9	14.9	0.26	586,146.18	756,295.27
2,700.0	1.88	197.57	2,699.8	-1,014.2	-17.0	-10.7	17.9	0.26	586,143.23	756,294.42
2,800.0	2.12	200.66	2,799.7	-914.3	-20.3	-11.9	21.3	0.26	586,139.93	756,293.27
2,900.0	2.43	194.01	2,899.7	-814.3	-24.1	-13.0	25.1	0.41	586,136.15	756,292.11
3,000.0	2.74	187.35	2,999.6	-714.4	-28.5	-13.9	29.6	0.43	586,131.72	756,291.29
3,100.0	2.99	181.07	3,099.4	-614.6	-33.5	-14.2	34.6	0.40	586,126.74	756,290.93
3,200.0	3.23	174.79	3,199.3	-514.7	-38.9	-14.0	40.0	0.42	586,121.33	756,291.14
3,300.0	3.41	173.82	3,299.1	-414.9	-44.6	-13.4	45.7	0.19	586,115.56	756,291.72
3,400.0	3.59	172.84	3,398.9	-315.1	-50.7	-12.7	51.6	0.19	586,109.50	756,292.43
3,500.0	3.18	170.47	3,498.8	-215.2	-56.5	-11.9	57.4	0.43	586,103.66	756,293.28
3,600.0	2.78	168.11	3,598.6	-115.4	-61.6	-10.9	62.4	0.42	586,098.55	756,294.24
3,700.0	2.45	170.37	3,698.5	-15.5	-66.1	-10.0	66.8	0.35	586,094.07	756,295.09
3,800.0	2.13	172.63	3,798.4	84.4	-70.1	-9.5	70.6	0.33	586,090.12	756,295.69
3,900.0	1.91	180.82	3,898.4	184.4	-73.6	-9.2	74.1	0.36	586,086.61	756,295.90
4,000.0	1.69	189.01	3,998.3	284.3	-76.7	-9.5	77.3	0.34	586,083.49	756,295.65
4,100.0	1.24	200.25	4,098.3	384.3	-79.2	-10.1	79.8	0.53	586,081.02	756,295.04
4,200.0	0.80	211.49	4,198.3	484.3	-80.8	-10.8	81.4	0.48	586,079.41	756,294.30
4,300.0	0.64	215.94	4,298.3	584.3	-81.8	-11.5	82.6	0.17	586,078.36	756,293.61
4,400.0	0.49	220.38	4,398.3	684.3	-82.6	-12.1	83.4	0.16	586,077.58	756,293.01
4,500.0	0.39	209.91	4,498.3	784.3	-83.2	-12.6	84.0	0.13	586,076.96	756,292.56
4,600.0	0.29	199.43	4,598.3	884.3	-83.8	-12.8	84.6	0.12	586,076.43	756,292.31
4,700.0	0.22	193.23	4,698.3	984.3	-84.2	-13.0	85.0	0.08	586,076.00	756,292.18

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #4H
Project:	Lea County(NAD27)	**TVD Reference:**	KB = 17 @ 3714.0usft (Original Well Elev)
Site:	Prickly Pear 6 Fed	**MD Reference:**	KB = 17 @ 3714.0usft (Original Well Elev)
Well:	#4H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

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)
4,800.0	0.15	187.02	4,798.3	1,084.3	-84.5	-13.0	85.4	0.07	586,075.68	756,292.12
4,900.0	0.11	250.38	4,898.3	1,184.3	-84.7	-13.1	85.5	0.14	586,075.52	756,292.01
5,000.0	0.07	313.75	4,998.3	1,284.3	-84.7	-13.3	85.5	0.10	586,075.53	756,291.88
5,100.0	0.19	324.43	5,098.3	1,384.3	-84.5	-13.4	85.4	0.12	586,075.71	756,291.74
5,200.0	0.32	335.12	5,198.3	1,484.3	-84.1	-13.6	85.0	0.14	586,076.10	756,291.52
5,300.0	0.32	343.81	5,298.3	1,584.3	-83.6	-13.8	84.5	0.05	586,076.62	756,291.33
5,400.0	0.32	352.50	5,398.3	1,684.3	-83.0	-13.9	84.0	0.05	586,077.16	756,291.21
5,500.0	0.54	1.83	5,498.3	1,784.3	-82.3	-13.9	83.2	0.23	586,077.91	756,291.19
5,600.0	0.77	11.16	5,598.2	1,884.2	-81.2	-13.8	82.1	0.25	586,079.04	756,291.34
5,700.0	0.64	358.95	5,698.2	1,984.2	-79.9	-13.7	80.9	0.20	586,080.26	756,291.46
5,800.0	0.51	346.75	5,798.2	2,084.2	-78.9	-13.8	79.9	0.18	586,081.25	756,291.34
5,900.0	0.39	332.84	5,898.2	2,184.2	-78.2	-14.1	79.2	0.16	586,081.99	756,291.09
6,000.0	0.26	318.93	5,998.2	2,284.2	-77.7	-14.4	78.7	0.15	586,082.46	756,290.78
6,100.0	0.31	304.20	6,098.2	2,384.2	-77.4	-14.7	78.4	0.09	586,082.78	756,290.41
6,200.0	0.36	289.47	6,198.2	2,484.2	-77.2	-15.3	78.2	0.10	586,083.04	756,289.89
6,300.0	0.82	249.48	6,298.2	2,584.2	-77.3	-16.2	78.5	0.59	586,082.89	756,288.92
6,400.0	1.29	209.49	6,398.2	2,684.2	-78.5	-17.4	79.8	0.85	586,081.66	756,287.70
6,500.0	1.32	196.84	6,498.2	2,784.2	-80.6	-18.3	82.0	0.29	586,079.58	756,286.81
6,600.0	1.36	184.18	6,598.2	2,884.2	-82.9	-18.7	84.3	0.30	586,077.30	756,286.39
6,700.0	1.19	181.67	6,698.1	2,984.1	-85.1	-18.9	86.5	0.18	586,075.07	756,286.27
6,800.0	1.01	179.16	6,798.1	3,084.1	-87.0	-18.9	88.4	0.19	586,073.16	756,286.26
6,900.0	1.01	190.89	6,898.1	3,184.1	-88.8	-19.0	90.2	0.21	586,071.41	756,286.10
7,000.0	1.01	202.63	6,998.1	3,284.1	-90.5	-19.5	91.9	0.21	586,069.73	756,285.60
7,100.0	0.73	204.70	7,098.1	3,384.1	-91.9	-20.1	93.3	0.28	586,068.34	756,284.99
7,200.0	0.46	206.77	7,198.1	3,484.1	-92.8	-20.6	94.3	0.27	586,067.40	756,284.55
7,300.0	0.42	200.69	7,298.1	3,584.1	-93.5	-20.9	95.0	0.06	586,066.70	756,284.23
7,400.0	0.38	194.61	7,398.1	3,684.1	-94.2	-21.1	95.7	0.06	586,066.04	756,284.02

PATHFINDER
A Schlumberger Company

Pathfinder

Pathfinder X&Y Report

CONCHO

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #4H
Project:	Lea County(NAD27)	TVD Reference:	KB = 17' @ 3714.0usft (Original Well Elev)
Site:	Prickly Pear 6 Fed	MD Reference:	KB = 17' @ 3714.0usft (Original Well Elev)
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

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)
7,500.0	0.24	256.13	7,498.1	3,784.1	-94.5	-21.4	96.1	0.34	586,065.66	756,283.73
7,600.0	0.09	317.66	7,598.1	3,884.1	-94.5	-21.7	96.1	0.21	586,065.67	756,283.48
7,700.0	0.14	323.82	7,698.1	3,984.1	-94.4	-21.8	96.0	0.05	586,065.83	756,283.35
7,800.0	0.19	329.99	7,798.1	4,084.1	-94.1	-21.9	95.7	0.05	586,066.07	756,283.20
7,900.0	0.41	330.88	7,898.1	4,184.1	-93.7	-22.2	95.3	0.22	586,066.53	756,282.94
8,000.0	0.64	331.77	7,998.0	4,284.0	-92.9	-22.6	94.5	0.23	586,067.33	756,282.50
8,100.0	0.85	333.93	8,098.0	4,384.0	-91.7	-23.2	93.4	0.21	586,068.49	756,281.91
8,200.0	1.05	336.09	8,198.0	4,484.0	-90.2	-23.9	92.0	0.20	586,069.99	756,281.22
8,300.0	0.99	335.11	8,298.0	4,584.0	-88.6	-24.7	90.5	0.06	586,071.61	756,280.48
8,400.0	0.92	334.13	8,398.0	4,684.0	-87.1	-25.4	89.0	0.07	586,073.12	756,279.77
8,500.0	1.43	324.32	8,498.0	4,784.0	-85.3	-26.5	87.4	0.55	586,074.86	756,278.69
8,600.0	1.94	314.51	8,597.9	4,883.9	-83.1	-28.4	85.4	0.58	586,077.06	756,276.75
8,700.0	2.17	308.24	8,697.9	4,983.9	-80.8	-31.1	83.3	0.32	586,079.42	756,274.06
8,800.0	2.39	301.98	8,797.8	5,083.8	-78.5	-34.3	81.3	0.33	586,081.69	756,270.80
8,900.0	3.03	301.59	8,897.7	5,183.7	-76.0	-38.4	79.2	0.64	586,084.18	756,266.78
9,000.0	3.66	301.21	8,997.5	5,283.5	-73.0	-43.3	76.6	0.63	586,087.22	756,261.80
9,100.0	3.97	302.93	9,097.3	5,383.3	-69.4	-49.0	73.6	0.33	586,090.75	756,256.17
9,200.0	4.29	304.64	9,197.0	5,483.0	-65.4	-55.0	70.2	0.34	586,094.76	756,250.18
9,300.0	4.41	303.32	9,296.7	5,582.7	-61.2	-61.2	66.5	0.16	586,099.00	756,243.89
9,400.0	4.54	301.99	9,396.4	5,682.4	-57.0	-67.8	62.9	0.17	586,103.21	756,237.33
9,500.0	3.51	301.99	9,496.2	5,782.2	-53.3	-73.8	59.8	1.03	586,106.93	756,231.37
9,600.0	2.49	301.99	9,596.0	5,882.0	-50.5	-78.2	57.4	1.02	586,109.70	756,226.93
9,700.0	1.88	298.81	9,696.0	5,982.0	-48.6	-81.5	55.8	0.62	586,111.64	756,223.65
9,800.0	1.27	295.64	9,795.9	6,081.9	-47.3	-83.9	54.8	0.62	586,112.91	756,221.22
9,900.0	1.25	290.95	9,895.9	6,181.9	-46.4	-85.9	54.1	0.11	586,113.78	756,219.20
10,000.0	1.22	286.26	9,995.9	6,281.9	-45.7	-88.0	53.6	0.11	586,114.47	756,217.16
10,100.0	1.32	291.44	10,095.9	6,381.9	-45.0	-90.1	53.0	0.15	586,115.19	756,215.07

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #4H
Project:	Lea County(NAD27)	**TVD Reference:**	KB = 17' @ 3714.0usft (Original Well Elev)
Site:	Prickly Pear 6 Fed	**MD Reference:**	KB = 17' @ 3714.0usft (Original Well Elev)
Well:	#4H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

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)
10,200.0	1.42	296.62	10,195.8	6,481.8	-44.0	-92.3	52.3	0.16	586,116.16	756,212.89
10,300.0	1.39	292.78	10,295.8	6,581.8	-43.0	-94.5	51.5	0.10	586,117.19	756,210.66
10,400.0	1.35	288.94	10,395.8	6,681.8	-42.2	-96.7	50.8	0.10	586,118.04	756,208.43
10,500.0	1.23	277.15	10,495.7	6,781.7	-41.6	-98.9	50.5	0.29	586,118.56	756,206.25
10,513.0	3.17	201.57	10,508.7	6,794.7	-42.0	-99.2	50.8	23.86	586,118.24	756,205.98
KOP - 10513.0 MD, 10508.7 TVD, -42.0 N, -99.2 E										
10,544.0	5.80	173.19	10,539.6	6,825.6	-44.3	-99.3	53.2	10.86	586,115.89	756,205.85
10,576.0	9.67	173.23	10,571.3	6,857.3	-48.6	-98.8	57.4	12.09	586,111.61	756,206.36
10,606.0	13.01	183.25	10,600.8	6,886.8	-54.5	-98.7	63.2	12.89	586,105.74	756,206.46
10,638.0	17.41	189.57	10,631.6	6,917.6	-62.8	-99.7	71.6	14.67	586,097.41	756,205.46
10,669.0	21.72	189.47	10,660.8	6,946.8	-73.0	-101.4	82.0	13.90	586,087.18	756,203.75
10,701.0	25.15	183.20	10,690.2	6,976.2	-85.7	-102.7	94.7	13.24	586,074.54	756,202.39
10,732.0	26.91	179.62	10,718.1	7,004.1	-99.3	-103.1	108.2	7.61	586,060.95	756,202.07
10,764.0	27.87	180.43	10,746.5	7,032.5	-114.0	-103.1	122.9	3.22	586,046.23	756,202.06
10,796.0	26.82	181.31	10,774.9	7,060.9	-128.7	-103.3	137.6	3.52	586,031.53	756,201.84
10,828.0	26.56	182.28	10,803.5	7,089.5	-143.0	-103.7	151.9	1.59	586,017.17	756,201.39
10,861.0	30.16	183.70	10,832.5	7,118.5	-158.7	-104.6	167.6	11.10	586,001.52	756,200.56
10,893.0	35.09	185.55	10,859.5	7,145.5	-175.9	-106.0	184.8	15.72	585,984.33	756,199.15
10,925.0	39.66	186.70	10,884.9	7,170.9	-195.2	-108.1	204.2	14.45	585,965.02	756,197.07
10,957.0	43.53	187.46	10,908.8	7,194.8	-216.3	-110.7	225.5	12.20	585,943.94	756,194.45
10,989.0	45.55	187.09	10,931.6	7,217.6	-238.5	-113.5	247.9	6.36	585,921.68	756,191.61
11,021.0	48.72	186.02	10,953.4	7,239.4	-261.8	-116.2	271.3	10.20	585,898.38	756,188.94
11,053.0	53.29	184.63	10,973.5	7,259.5	-286.6	-118.5	296.2	14.67	585,873.63	756,186.64
11,085.0	56.45	183.54	10,991.9	7,277.9	-312.7	-120.4	322.4	10.26	585,847.52	756,184.78
11,117.0	59.00	184.23	11,009.0	7,295.0	-339.7	-122.2	349.4	8.17	585,820.53	756,182.94
11,149.0	63.14	186.67	11,024.5	7,310.5	-367.5	-124.9	377.4	14.56	585,792.66	756,180.27
11,182.0	67.88	187.71	11,038.2	7,324.2	-397.3	-128.6	407.4	14.65	585,762.88	756,176.51

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #4H
Project:	Lea County(NAD27)	TVD Reference:	KB = 17' @ 3714.0usft (Original Well Elev)
Site:	Prickly Pear 6 Fed	MD Reference:	KB = 17' @ 3714.0usft (Original Well Elev)
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

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)
11,214.0	71.14	187.70	11,049.4	7,335.4	-427.0	-132.6	437.4	10.19	585,733.18	756,172.49
11,246.0	75.45	186.07	11,058.6	7,344.6	-457.4	-136.3	468.0	14.32	585,702.76	756,168.82
11,273.0	79.14	184.68	11,064.5	7,350.5	-483.7	-138.8	494.3	14.56	585,676.54	756,166.36
11,305.0	83.54	183.63	11,069.3	7,355.3	-515.2	-141.1	525.9	14.13	585,645.00	756,164.07
11,337.0	87.32	184.85	11,071.9	7,357.9	-547.0	-143.4	557.8	12.41	585,613.19	756,161.71
11,369.0	88.20	185.56	11,073.1	7,359.1	-578.9	-146.3	589.8	3.53	585,581.35	756,158.81
LP - 11369.0 MD, 11073.1 TVD, -578.9 N, -146.3 E										
11,432.0	89.25	185.48	11,074.5	7,360.5	-641.5	-152.4	652.8	1.67	585,518.66	756,152.75
11,527.0	91.10	185.30	11,074.2	7,360.2	-736.1	-161.3	747.8	1.96	585,424.08	756,143.83
11,623.0	91.19	184.68	11,072.3	7,358.3	-831.7	-169.7	843.8	0.65	585,328.46	756,135.48
11,716.0	91.36	184.33	11,070.2	7,356.2	-924.4	-177.0	936.7	0.42	585,235.77	756,128.18
11,808.0	89.52	183.63	11,069.5	7,355.5	-1,016.2	-183.3	1,028.7	2.14	585,144.00	756,121.79
11,900.0	89.52	183.28	11,070.3	7,356.3	-1,108.0	-188.9	1,120.6	0.38	585,052.17	756,116.25
11,993.0	89.78	183.01	11,070.9	7,356.9	-1,200.9	-194.0	1,213.6	0.40	584,959.32	756,111.14
12,085.0	89.96	182.66	11,071.1	7,357.1	-1,292.8	-198.5	1,305.5	0.43	584,867.43	756,106.59
12,178.0	88.81	181.26	11,072.1	7,358.1	-1,385.7	-201.7	1,398.3	1.95	584,774.49	756,103.41
12,271.0	89.16	180.73	11,073.7	7,359.7	-1,478.7	-203.3	1,491.1	0.68	584,681.52	756,101.80
12,363.0	88.99	180.03	11,075.2	7,361.2	-1,570.7	-204.0	1,582.7	0.78	584,589.54	756,101.19
12,456.0	88.64	179.85	11,077.1	7,363.1	-1,663.6	-203.9	1,675.3	0.42	584,496.56	756,101.29
12,548.0	87.93	181.61	11,079.9	7,365.9	-1,755.6	-205.0	1,767.0	2.06	584,404.61	756,100.11
12,641.0	88.64	181.52	11,082.7	7,368.7	-1,848.5	-207.6	1,859.7	0.77	584,311.69	756,097.58
12,733.0	87.41	182.93	11,085.8	7,371.8	-1,940.4	-211.1	1,951.6	2.03	584,219.81	756,094.01
12,826.0	87.41	182.22	11,090.0	7,376.0	-2,033.2	-215.3	2,044.4	0.76	584,127.00	756,089.83
12,918.0	88.90	183.45	11,093.0	7,379.0	-2,125.0	-219.9	2,136.2	2.10	584,035.17	756,085.28
13,011.0	89.87	183.28	11,094.0	7,380.0	-2,217.9	-225.3	2,229.2	1.06	583,942.34	756,079.83
13,103.0	90.13	182.75	11,094.0	7,380.0	-2,309.7	-230.2	2,321.1	0.64	583,850.46	756,074.99
13,196.0	89.78	184.07	11,094.1	7,380.1	-2,402.6	-235.7	2,414.1	1.47	583,757.63	756,069.46

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #4H
Project:	Lea County(NAD27)	**TVD Reference:**	KB = 17' @ 3714.0usft (Original Well Elev)
Site:	Prickly Pear 6 Fed	**MD Reference:**	KB = 17' @ 3714.0usft (Original Well Elev)
Well:	#4H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

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)
13,288.0	89.34	183.54	11,094.8	7,380.8	-2,494.4	-241.8	2,506.0	0.75	583,665.84	756,063.35
13,381.0	89.69	185.21	11,095.6	7,381.6	-2,587.1	-248.9	2,599.0	1.83	583,573.11	756,056.26
13,474.0	90.04	184.95	11,095.8	7,381.8	-2,679.7	-257.1	2,692.0	0.47	583,480.48	756,048.02
13,567.0	89.87	184.07	11,095.9	7,381.9	-2,772.4	-264.4	2,785.0	0.96	583,387.77	756,040.71
13,659.0	89.87	183.37	11,096.1	7,382.1	-2,864.2	-270.4	2,877.0	0.76	583,295.96	756,034.74
13,751.0	90.04	182.75	11,096.1	7,382.1	-2,956.1	-275.3	2,968.9	0.70	583,204.09	756,029.83
13,844.0	89.08	183.54	11,096.9	7,382.9	-3,049.0	-280.4	3,061.8	1.34	583,111.24	756,024.73
13,936.0	88.90	183.01	11,098.5	7,384.5	-3,140.8	-285.7	3,153.8	0.61	583,019.40	756,019.47
14,029.0	86.88	180.82	11,101.9	7,387.9	-3,233.7	-288.8	3,246.5	3.20	582,926.53	756,016.37
14,121.0	87.32	181.96	11,106.6	7,392.6	-3,325.5	-291.0	3,338.2	1.33	582,834.68	756,014.14
14,213.0	87.58	184.60	11,110.7	7,396.7	-3,417.3	-296.3	3,430.0	2.88	582,742.93	756,008.88
14,307.0	89.08	184.95	11,113.4	7,399.4	-3,510.9	-304.1	3,524.0	1.64	582,649.30	756,001.06
14,401.0	89.16	184.51	11,114.8	7,400.8	-3,604.6	-311.8	3,618.0	0.48	582,555.63	755,993.31
14,494.0	89.52	184.07	11,115.9	7,401.9	-3,697.3	-318.8	3,711.0	0.61	582,462.89	755,986.35
14,587.0	90.84	183.81	11,115.6	7,401.6	-3,790.1	-325.2	3,803.9	1.45	582,370.12	755,979.96
14,679.0	90.84	183.19	11,114.3	7,400.3	-3,881.9	-330.8	3,895.9	0.67	582,278.30	755,974.34
14,772.0	91.01	182.05	11,112.8	7,398.8	-3,974.8	-335.0	3,988.8	1.24	582,185.41	755,970.09
14,864.0	90.57	182.05	11,111.5	7,397.5	-4,066.7	-338.3	4,080.6	0.48	582,093.48	755,966.80
14,957.0	89.34	182.57	11,111.6	7,397.6	-4,159.6	-342.1	4,173.5	1.44	582,000.55	755,963.06
15,048.0	90.48	182.93	11,111.7	7,397.7	-4,250.5	-346.5	4,264.4	1.31	581,909.66	755,958.69
15,142.0	90.13	182.40	11,111.2	7,397.2	-4,344.4	-350.8	4,358.3	0.68	581,815.76	755,954.32
15,236.0	90.04	181.87	11,111.1	7,397.1	-4,438.4	-354.3	4,452.2	0.57	581,721.83	755,950.82
15,329.0	89.69	181.17	11,111.3	7,397.3	-4,531.3	-356.8	4,545.0	0.84	581,628.86	755,948.35
15,422.0	91.45	180.99	11,110.4	7,396.4	-4,624.3	-358.5	4,637.7	1.90	581,535.89	755,946.60
15,493.0	92.59	180.64	11,107.9	7,393.9	-4,695.3	-359.6	4,708.5	1.68	581,464.94	755,945.59
15,540.0	92.59	180.64	11,105.7	7,391.7	-4,742.2	-360.1	4,755.3	0.00	581,417.99	755,945.06

PROJECTED BHL - 15540.0 MD, 11105.7 TVD, -4742.2 N, -360.1 E - PBHL (PP 6 Fed)

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #4H
Project:	Lea County(NAD27)	**TVD Reference:**	KB = 17. @ 3714.0usft (Original Well Elev)
Site:	Prickly Pear 6 Fed	**MD Reference:**	KB = 17. @ 3714.0usft (Original Well Elev)
Well:	#4H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
10,513.0	10,508.7	-42.0	-99.2	KOP - 10513.0 'MD, 10508.7 'TVD, -42.0 'N, -99.2 'E
11,369.0	11,073.1	-578.9	-146.3	LP - 11369.0 'MD, 11073.1 'TVD, -578.9 'N, -146.3 'E
15,540.0	11,105.7	-4,742.2	-360.1	PROJECTED BHL - 15540.0 'MD, 11105.7 'TVD, -4742.2 'N, -360.1 'E

Checked By: _____ Approved By: _____ Date: _____

CONCHO

Project: Lea County(NAD27)
Site: Prickly Pear 6 Fed
Well: #4H
Wellbore: OH
Plan: Post Gyro Plan #4 (#4H/OH)

Azimuths to Grid North
True North: -0.45°
Magnetic North: 6.99°

Magnetic Field
Strength: 48785.5snT
Dip Angle: 60.55°
Date: 7/12/2012
Model: IGRF200510

PATHFINDER
A Schlumberger Company

PROJECT DETAILS: Lea County(NAD27)
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

WELL DETAILS: #4H

Ground Elevation:: 3697.0
RKB Elevation: KB = 17' @ 3714.0usft (Original Well Elev)
Rig Name: Original Well Elev

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	586160.200	756305.140	32.668701	-103.500995	

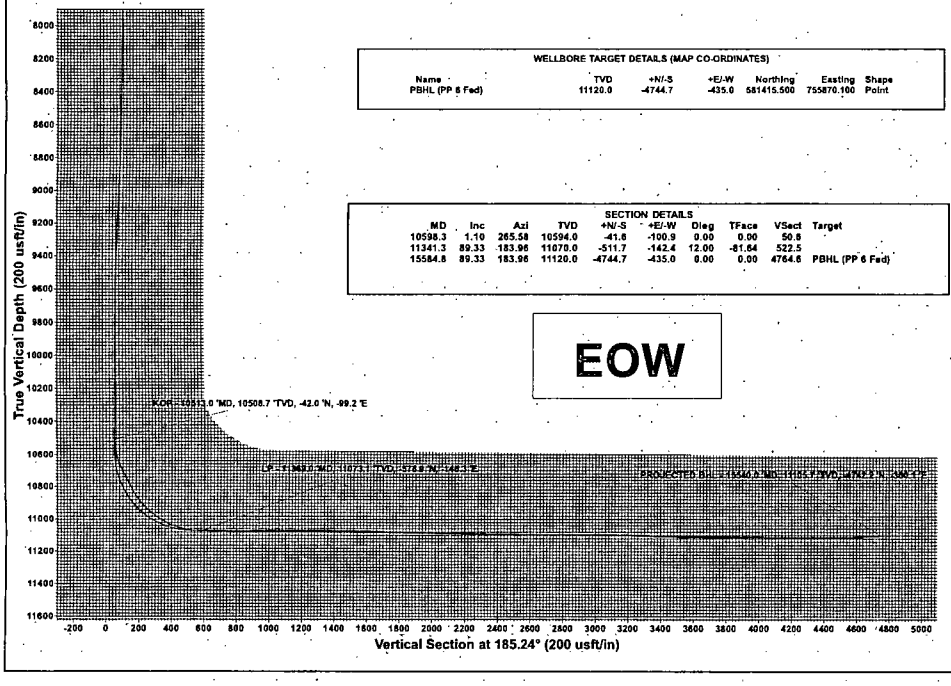
WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

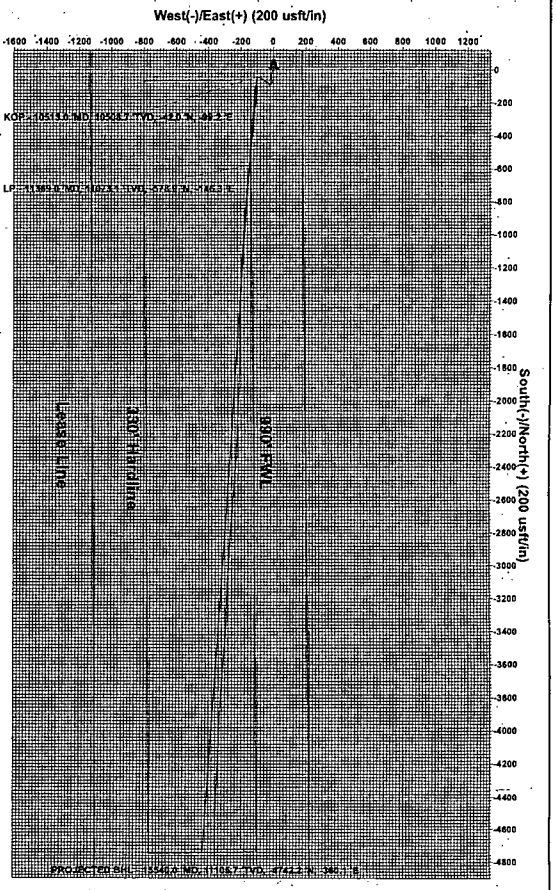
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL (PP 6 Fed)	11120.0	-4744.7	-435.0	581415.500	755870.100	Point

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
10598.3	1.10	265.58	10594.0	-41.6	-100.9	0.00	0.00	50.8	
11341.3	89.33	183.96	11070.0	-511.7	-142.4	12.00	-81.64	522.5	
15584.8	89.33	183.96	11120.0	-4744.7	-435.0	0.00	0.00	4764.6	PBHL (PP 6 Fed)

EOW





Plan: Post Gyro Plan #4 (#4H/OH)
Created By: Sam Stiffe Date: 8:35, November 06 2012
Checked: _____ Date: _____

CONCHO Operating LLC
Lea County(NAD27)
Prickly Pear 6 Fed
#4H
Original Well Elev
Post Gyro Plan #4