Results of Directional Survey

API number:	30-025-42129							
OGRID:		Operator:	COG OPERATING LLC					
		Property:	TRES PRIMOS 3 STATE				#	2H
surface	ULSTR:	D	03	T	19S	R	34E	
				190	FNL	870	FWL	
								5418
BH Loc	ULSTR:	M	03	T	19S	R	34E	
15490	MD	10809.3	TVD	468	FSL	530	FWL	
				4963	FNL			
Top Perf/OH	ULSTR:	D	03	T	19S	R	34E	
11013	MD	10768.4	TVD	493	FNL	730	FWL	
Bot Perf/OH	ULSTR:	M	03	T	19S	R	34E	
15335	MD	10808.3	TVD	622	FSL	548	FWL	
				4809	FNL			

	MD	N/S	E/W	VD
	10982.00	-271.50	-139.10	10768.00
TOP PERFS/OH	**11013.00**	-302.50	-140.20	10768.40
	11013.00	-302.50	-140.20	10768.40
	15256.00	-4540.00	-287.80	10807.80
BOT PERFS/OH	**15335.00**	-4618.83	-292.12	10808.30
	15351.00	-4634.80	-293.00	10808.40

NEXT TO LAST	15351.00	-4634.80	-293.00	10808.40
LAST READING	15484.00	-4767.50	-302.90	10809.30
TD	**15490.00**	-4773.49	-303.35	10809.34

Surface Location	190	FN	870	FW
Projected BHL	4963	FN	567	FW
Location of				
Top Perfs/OH	493	FN	730	FW
Bottom Perfs/OH	4809	FN	578	FW

SUMMARY of Subsurface Locations

Surface Location	D-03-19S-34E	190	FN	870	FW	Vert. Depth
Top Perfs/OH	D-03-19S-34E	493	FN	730	FW	10768.40
Bottom Perfs/OH	M-03-19S-34E	4809	FN	578	FW	10808.30
Projected TD	M-03-19S-34E	4963	FN	567	FW	10809.34

FEB 17 2015

Operator: COG Operating
Well/Lease: Tres Primos State 2H
County: Lea

HOBBSOCD

JAN 14 2015

RECEIVED

STATE OF NEW MEXICO
DEVIATION REPORT

Footage	Degree
316	1.20
592	1.30
920	0.70
1252	0.50
1553	0.40
1825	0.20
2298	0.80
2678	1.10
2968	2.60
3247	2.90
3438	1.70
3806	1.00
4186	1.00
4515	1.20
4894	1.10
5083	1.20
5450	1.00
5894	0.40
6489	0.40
7068	0.40
7706	0.40
8027	0.90
8522	1.00
8756	1.50
9231	1.00
9598	0.40
9947	1.40
10223	2.10
10318	5.90

Signed By: Charles Walsh
Charles Walsh, Division Manager
Pioneer Drilling Company

Appeared before me on Nov 14, 2014.

Staci Riley
Notary Public

STACI RILEY
Notary Public, State of Texas
My Commission Expires
March 01, 2016

VES SURVEY INTERNATIONAL

October 31, 2014

Concho Resources, Inc.
One Concho Center
600 W. Illinois Avenue
Midland, Texas 79701

HOBBSOCD

JAN 14 2015

RECEIVED

Attn: Kanicia Castillo

RE: **Tres Primos 3 State No. 002H**

Please find enclosed a copy of the survey from 0.00' to 9810.00' ran on the above referenced well.

Sincerely,
Deb Salge
Deb Salge
Operations

STATE OF TEXAS §
§
COUNTY OF NUECES §

This instrument was acknowledged before me on the 31 day of October A.D., 2014, by Keith Havelka.

Jennifer Ann Byerly
Notary Public, State of Texas

JENNIFER ANN BYERLY
Notary Public, State of Texas
My Commission Expires
August 16, 2017

VES Survey International
P.O. Box 261021 Corpus Christi, TX 78426
T (361) 767-0602 F (361) 767-0612
www.vessurvey.com

Company: COG Operating, LLC (Concho)
Lease/Well: Tres Primos 3 State /No. 002H
Location: Sec 3 T19S R34E
Rig Name: Pioneer 20
State/County: New Mexico/Lea
Latitude: 32.70, Longitude: -103.55
GRID North is 0.42 Degrees East of True North
VS-Azi: 0.00 Degrees

Depth Reference : RKB=17 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS
Filename: ...tate #2h gyro survey-de_01.ut
Minimum Curvature Method
Report Date/Time: 10/31/2014 / 11:48

VES Surey International
West Texas
(432) 563-5444
Surveyor: Chris Bankson
Tres Primos 3 State No. 002H / API 30-025-42129

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section 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	0.00	****
100.00	1.09	21.92	99.99	0.88	0.35	0.88	0.95	21.92	1.09
200.00	1.11	24.89	199.98	2.63	1.11	2.63	2.86	22.92	0.06
300.00	1.28	20.06	299.95	4.56	1.91	4.56	4.95	22.66	0.20
400.00	1.22	18.00	399.93	6.63	2.62	6.63	7.13	21.55	0.08
500.00	1.13	7.94	499.91	8.63	3.09	8.63	9.16	19.68	0.22
600.00	0.99	7.96	599.89	10.47	3.34	10.47	10.99	17.71	0.14
700.00	1.29	7.98	699.87	12.43	3.62	12.43	12.95	16.22	0.29
800.00	0.99	3.91	799.85	14.40	3.83	14.40	14.91	14.90	0.31
900.00	0.85	0.08	899.84	16.01	3.89	16.01	16.47	13.67	0.15
1000.00	0.84	2.67	999.83	17.49	3.93	17.49	17.92	12.66	0.04
1100.00	0.59	346.07	1099.82	18.72	3.84	18.72	19.11	11.59	0.33
1200.00	0.26	341.37	1199.82	19.43	3.64	19.43	19.77	10.62	0.33
1300.00	0.53	340.05	1299.82	20.07	3.41	20.07	20.36	9.65	0.27
1400.00	0.40	267.13	1399.81	20.49	2.91	20.49	20.69	8.07	0.56
1500.00	0.21	265.44	1499.81	20.46	2.37	20.46	20.59	6.61	0.19
1600.00	0.44	261.43	1599.81	20.38	1.81	20.38	20.46	5.07	0.22
1700.00	0.69	262.84	1699.80	20.25	0.84	20.25	20.27	2.36	0.25
1800.00	0.32	211.93	1799.80	19.94	0.09	19.94	19.94	0.27	0.55

VES Survey Date: 10/20/2014

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	0.17	123.61	1899.80	19.62	0.07	19.62	19.62	0.20	0.36
2000.00	0.77	114.48	1999.80	19.26	0.80	19.26	19.28	2.37	0.60
2100.00	0.83	98.54	2099.79	18.88	2.13	18.88	19.00	6.43	0.23
2200.00	0.71	93.78	2199.78	18.73	3.46	18.73	19.05	10.47	0.14
2300.00	0.91	100.91	2299.77	18.54	4.86	18.54	19.16	14.69	0.23
2400.00	0.98	107.31	2399.75	18.13	6.46	18.13	19.25	19.60	0.12
2500.00	1.07	109.51	2499.74	17.57	8.16	17.57	19.37	24.91	0.10
2600.00	1.23	108.25	2599.72	16.92	10.06	16.92	19.68	30.73	0.15
2700.00	1.33	109.37	2699.69	16.20	12.17	16.20	20.26	36.91	0.10
2800.00	1.54	87.81	2799.66	15.87	14.60	15.87	21.56	42.62	0.57
2900.00	2.57	70.53	2899.60	16.67	18.06	16.67	24.57	47.29	1.20
3000.00	2.96	68.66	2999.48	18.36	22.58	18.36	29.10	50.89	0.40
3100.00	2.80	61.90	3099.35	20.45	27.14	20.45	33.98	53.01	0.38
3200.00	2.17	59.70	3199.26	22.55	30.93	22.55	38.28	53.90	0.64
3300.00	2.27	49.84	3299.19	24.78	34.08	24.78	42.14	53.97	0.40
3400.00	2.14	49.23	3399.11	27.28	37.01	27.28	45.98	53.60	0.13
3500.00	1.46	37.07	3499.06	29.52	39.19	29.52	49.07	53.01	0.78
3600.00	1.00	19.55	3599.04	31.36	40.25	31.36	51.02	52.08	0.59
3700.00	1.33	7.54	3699.02	33.33	40.70	33.33	52.60	50.68	0.41
3800.00	1.05	0.34	3799.00	35.40	40.85	35.40	54.06	49.09	0.31
3900.00	0.86	346.11	3898.98	37.05	40.68	37.05	55.02	47.67	0.30
4000.00	1.14	341.07	3998.97	38.72	40.17	38.72	55.80	46.05	0.29
4100.00	1.25	341.95	4098.95	40.69	39.52	40.69	56.72	44.16	0.11
4200.00	1.00	333.27	4198.93	42.51	38.78	42.51	57.54	42.38	0.29
4300.00	1.22	328.76	4298.91	44.21	37.84	44.21	58.19	40.56	0.23
4400.00	1.16	334.18	4398.89	46.03	36.84	46.03	58.96	38.68	0.13
4500.00	1.22	331.82	4498.86	47.88	35.90	47.88	59.84	36.86	0.08
4600.00	1.16	328.06	4598.84	49.67	34.86	49.67	60.69	35.06	0.10
4700.00	1.31	320.59	4698.82	51.42	33.60	51.42	61.42	33.17	0.23
4800.00	1.37	316.61	4798.79	53.17	32.05	53.17	62.08	31.08	0.11
4900.00	0.96	315.39	4898.77	54.64	30.64	54.64	62.64	29.28	0.40
5000.00	1.34	309.98	4998.75	55.99	29.15	55.99	63.12	27.51	0.39
5100.00	1.13	312.08	5098.73	57.40	27.53	57.40	63.66	25.62	0.21
5200.00	1.07	313.93	5198.71	58.71	26.12	58.71	64.26	23.98	0.07
5300.00	1.24	316.12	5298.69	60.14	24.69	60.14	65.01	22.32	0.17
5400.00	1.10	324.97	5398.67	61.72	23.39	61.72	66.00	20.75	0.23
5500.00	0.88	329.18	5498.65	63.16	22.44	63.16	67.03	19.56	0.24
5600.00	0.90	332.87	5598.64	64.52	21.69	64.52	68.07	18.58	0.06
5700.00	0.70	331.19	5698.63	65.76	21.04	65.76	69.04	17.74	0.20

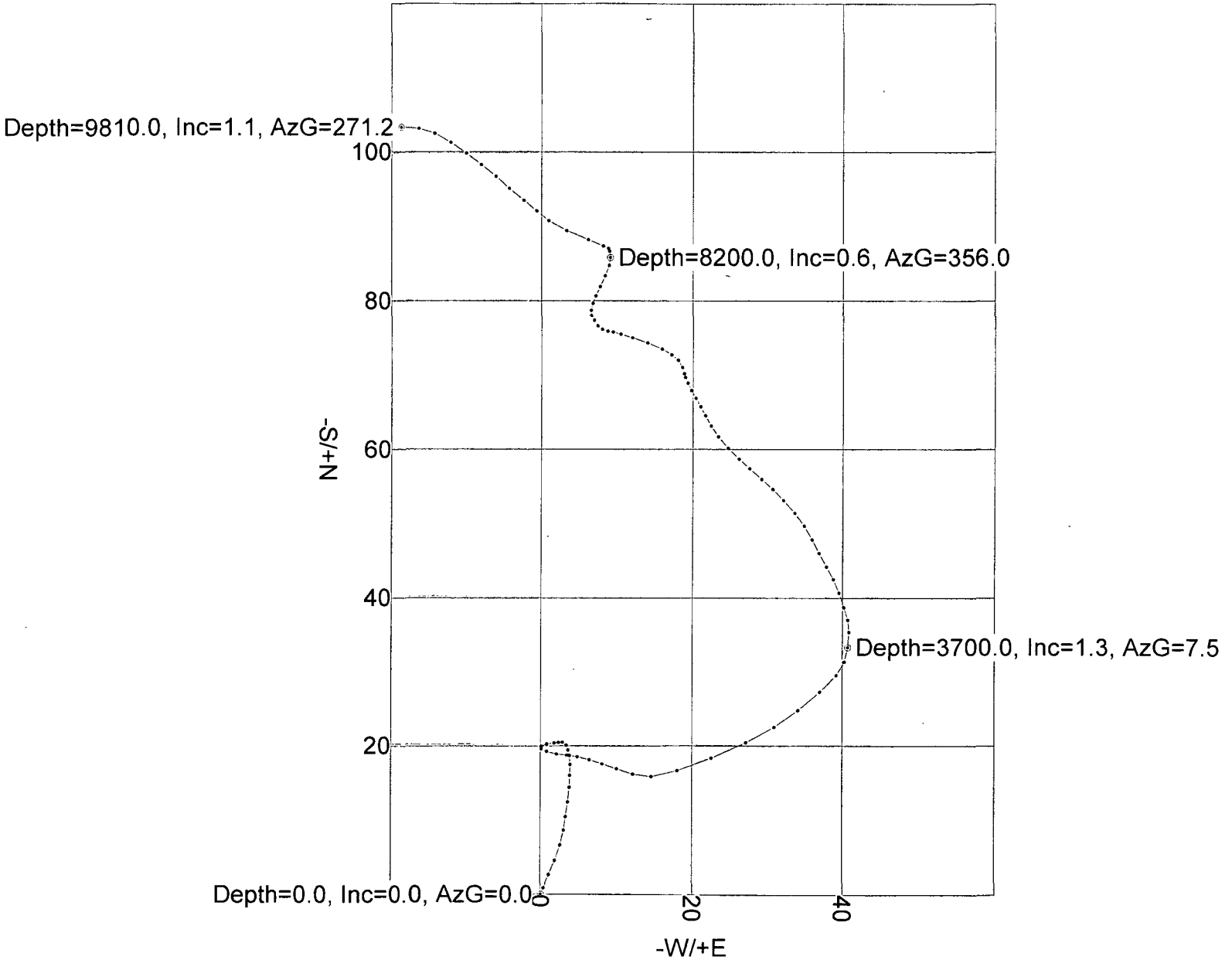
VES Survey Date: 10/20/2014

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5800.00	0.81	328.62	5798.62	66.90	20.37	66.90	69.93	16.94	0.12
5900.00	0.54	332.00	5898.61	67.92	19.78	67.92	70.74	16.24	0.28
6000.00	0.72	336.40	5998.61	68.90	19.31	68.90	71.56	15.66	0.19
6100.00	0.26	338.19	6098.60	69.69	18.98	69.69	72.22	15.23	0.46
6200.00	0.33	346.57	6198.60	70.18	18.83	70.18	72.66	15.02	0.09
6300.00	0.64	340.90	6298.60	70.99	18.58	70.99	73.38	14.66	0.31
6400.00	0.69	321.21	6398.59	71.99	18.02	71.99	74.21	14.05	0.23
6500.00	0.62	302.26	6498.59	72.75	17.18	72.75	74.75	13.29	0.23
6600.00	1.07	299.32	6598.58	73.49	15.91	73.49	75.20	12.22	0.45
6700.00	1.38	288.98	6698.55	74.34	13.96	74.34	75.64	10.64	0.38
6800.00	1.03	288.02	6798.53	75.01	11.97	75.01	75.96	9.07	0.35
6900.00	0.81	288.68	6898.52	75.52	10.44	75.52	76.23	7.87	0.22
7000.00	0.39	277.71	6998.51	75.79	9.43	75.79	76.37	7.10	0.44
7100.00	0.44	280.75	7098.51	75.91	8.72	75.91	76.40	6.56	0.06
7200.00	0.45	296.77	7198.51	76.15	8.00	76.15	76.57	5.99	0.12
7300.00	0.44	320.44	7298.50	76.62	7.41	76.62	76.98	5.52	0.18
7400.00	0.62	334.19	7398.50	77.40	6.93	77.40	77.71	5.12	0.22
7500.00	0.19	332.61	7498.50	78.03	6.62	78.03	78.31	4.85	0.42
7600.00	0.62	7.48	7598.49	78.72	6.61	78.72	79.00	4.80	0.47
7700.00	0.48	17.92	7698.49	79.65	6.81	79.65	79.94	4.89	0.17
7800.00	0.76	23.01	7798.48	80.66	7.20	80.66	80.98	5.10	0.29
7900.00	0.82	25.95	7898.47	81.91	7.77	81.91	82.28	5.42	0.07
8000.00	1.00	22.67	7998.46	83.36	8.42	83.36	83.79	5.77	0.19
8100.00	0.70	17.99	8098.45	84.75	8.94	84.75	85.22	6.02	0.31
8200.00	0.57	355.99	8198.44	85.83	9.10	85.83	86.31	6.05	0.27
8300.00	0.41	346.13	8298.44	86.67	8.98	86.67	87.14	5.91	0.18
8400.00	0.09	295.30	8398.44	87.06	8.82	87.06	87.50	5.78	0.36
8500.00	0.75	294.47	8498.44	87.36	8.14	87.36	87.74	5.33	0.66
8600.00	1.70	293.22	8598.41	88.22	6.18	88.22	88.44	4.01	0.95
8700.00	1.86	293.41	8698.36	89.45	3.32	89.45	89.51	2.13	0.16
8800.00	1.29	306.89	8798.33	90.77	0.93	90.77	90.78	0.59	0.68
8900.00	1.10	311.66	8898.30	92.08	-0.68	92.08	92.08	359.58	0.21
9000.00	1.44	307.45	8998.28	93.48	-2.39	93.48	93.51	358.54	0.35
9100.00	1.44	311.33	9098.25	95.07	-4.33	95.07	95.17	357.39	0.10
9200.00	1.34	313.68	9198.22	96.71	-6.12	96.71	96.91	356.38	0.12
9300.00	1.53	305.33	9298.19	98.29	-8.06	98.29	98.62	355.31	0.29
9400.00	1.35	309.63	9398.16	99.82	-10.06	99.82	100.32	354.25	0.21
9500.00	1.54	301.31	9498.12	101.27	-12.11	101.27	101.99	353.18	0.29
9600.00	1.27	298.20	9598.09	102.49	-14.24	102.49	103.48	352.09	0.29

VES Survey Date: 10/20/2014

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
9700.00	1.31	277.11	9698.07	103.16	-16.35	103.16	104.45	350.99	0.47
9810.00	1.09	271.16	9808.04	103.33	-18.64	103.33	105.00	349.77	0.23

VES Surey International
West Texas
(432) 563-5444
Surveyor: Chris Bankson
Tres Primos 3 State No. 002H / API 30-025-42129



VES Survey Date: 10/20/2014

CONCHO

COG Operating LLC

Lea County, NM
Tres Primos 3 State
#2H

OH

Design: OH

Standard Survey Report

31 October, 2014

TDS
TERRA DIRECTIONAL SERVICES, L.L.C.

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #2H
Project:	Lea County, NM	**TVD Reference:**	KB @ 4010.7usft
Site:	Tres Primos 3 State	**MD Reference:**	KB @ 4010.7usft
Well:	#2H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

Project	Lea County, NM		
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	Tres Primos 3 State				
Site Position:		**Northing:**	617,906.20 usft	**Latitude:**	32° 41' 46.670 N
From:	Map	**Easting:**	739,940.40 usft	**Longitude:**	103° 33' 12.158 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.42 °

Well	#2H					
Well Position	**+N/-S**	0.0 usft	**Northing:**	617,906.20 usft	**Latitude:**	32° 41' 46.670 N
	+E/-W	0.0 usft	**Easting:**	739,940.40 usft	**Longitude:**	103° 33' 12.158 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	0.0 usft	**Ground Level:**	3,993.7 usft

Wellbore	OH				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	9/30/2014	7.20	60.54	48,568

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	184.10		

Survey Program **Date** 10/31/2014

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	9,810.0	GYRO #1 (OH)	Good_gyro	Good Gyro
9,907.0	15,484.0	MWD #1 (OH)	MWD	MWD - Standard

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	1.09	21.92	100.0	0.9	0.4	-0.9	1.09	1.09	0.00
200.0	1.11	24.89	200.0	2.6	1.1	-2.7	0.06	0.02	2.97
300.0	1.28	20.06	300.0	4.6	1.9	-4.7	0.20	0.17	-4.83
400.0	1.22	18.00	399.9	6.6	2.6	-6.8	0.07	-0.06	-2.06
500.0	1.13	7.94	499.9	8.6	3.1	-8.8	0.22	-0.09	-10.06
600.0	0.99	7.96	599.9	10.5	3.3	-10.7	0.14	-0.14	0.02
700.0	1.29	7.98	699.9	12.4	3.6	-12.7	0.30	0.30	0.02
800.0	0.99	3.91	799.9	14.4	3.8	-14.6	0.31	-0.30	-4.07
900.0	0.85	0.08	899.8	16.0	3.9	-16.2	0.15	-0.14	-3.83

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #2H
Project:	Lea County, NM	**TVD Reference:**	KB @ 4010.7usft
Site:	Tres Primos 3 State	**MD Reference:**	KB @ 4010.7usft
Well:	#2H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

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)
1,000.0	0.84	2.67	999.8	17.5	3.9	-17.7	0.04	-0.01	2.59
1,100.0	0.59	346.07	1,099.8	18.7	3.8	-18.9	0.32	-0.25	-16.60
1,200.0	0.26	341.37	1,199.8	19.4	3.6	-19.6	0.33	-0.33	-4.70
1,300.0	0.53	340.05	1,299.8	20.1	3.4	-20.3	0.27	0.27	-1.32
1,400.0	0.40	267.13	1,399.8	20.5	2.9	-20.6	0.56	-0.13	-72.92
1,500.0	0.21	265.44	1,499.8	20.5	2.4	-20.6	0.19	-0.19	-1.69
1,600.0	0.44	261.43	1,599.8	20.4	1.8	-20.5	0.23	0.23	-4.01
1,700.0	0.69	262.84	1,699.8	20.3	0.8	-20.3	0.25	0.25	1.41
1,800.0	0.32	211.93	1,799.8	19.9	0.1	-19.9	0.55	-0.37	-50.91
1,900.0	0.17	123.61	1,899.8	19.6	0.1	-19.6	0.36	-0.15	-88.32
2,000.0	0.77	114.48	1,999.8	19.3	0.8	-19.3	0.60	0.60	-9.13
2,100.0	0.83	98.54	2,099.8	18.9	2.1	-19.0	0.23	0.06	-15.94
2,200.0	0.71	93.78	2,199.8	18.7	3.5	-18.9	0.14	-0.12	-4.76
2,300.0	0.91	100.91	2,299.8	18.5	4.9	-18.8	0.22	0.20	7.13
2,400.0	0.98	107.31	2,399.8	18.1	6.5	-18.5	0.13	0.07	6.40
2,500.0	1.07	109.51	2,499.7	17.6	8.2	-18.1	0.10	0.09	2.20
2,600.0	1.23	108.25	2,599.7	16.9	10.1	-17.6	0.16	0.16	-1.26
2,700.0	1.33	109.37	2,699.7	16.2	12.2	-17.0	0.10	0.10	1.12
2,800.0	1.54	87.81	2,799.7	15.9	14.6	-16.9	0.58	0.21	-21.56
2,900.0	2.57	70.53	2,899.6	16.7	18.1	-17.9	1.19	1.03	-17.28
3,000.0	2.96	68.66	2,999.5	18.4	22.6	-19.9	0.40	0.39	-1.87
3,100.0	2.80	61.90	3,099.4	20.4	27.1	-22.3	0.38	-0.16	-6.76
3,200.0	2.17	59.70	3,199.3	22.5	30.9	-24.7	0.64	-0.63	-2.20
3,300.0	2.27	49.84	3,299.2	24.8	34.1	-27.2	0.39	0.10	-9.86
3,400.0	2.14	49.23	3,399.1	27.3	37.0	-29.9	0.13	-0.13	-0.61
3,500.0	1.46	37.07	3,499.1	29.5	39.2	-32.2	0.78	-0.68	-12.16
3,600.0	1.00	19.55	3,599.0	31.4	40.2	-34.1	0.59	-0.46	-17.52
3,700.0	1.33	7.54	3,699.0	33.3	40.7	-36.1	0.41	0.33	-12.01
3,800.0	1.05	0.34	3,799.0	35.4	40.8	-38.2	0.32	-0.28	-7.20
3,900.0	0.86	346.11	3,899.0	37.0	40.7	-39.8	0.30	-0.19	-14.23
4,000.0	1.14	341.07	3,999.0	38.7	40.2	-41.5	0.29	0.28	-5.04
4,100.0	1.25	341.95	4,098.9	40.7	39.5	-43.4	0.11	0.11	0.88
4,200.0	1.00	333.27	4,198.9	42.5	38.8	-45.2	0.30	-0.25	-8.68
4,300.0	1.22	328.76	4,298.9	44.2	37.8	-46.8	0.24	0.22	-4.51
4,400.0	1.16	334.18	4,398.9	46.0	36.8	-48.5	0.13	-0.06	5.42
4,500.0	1.22	331.82	4,498.9	47.9	35.9	-50.3	0.08	0.06	-2.36
4,600.0	1.16	328.06	4,598.8	49.7	34.9	-52.0	0.10	-0.06	-3.76
4,700.0	1.31	320.59	4,698.8	51.4	33.6	-53.7	0.22	0.15	-7.47
4,800.0	1.37	316.61	4,798.8	53.2	32.1	-55.3	0.11	0.06	-3.98
4,900.0	0.96	315.39	4,898.8	54.6	30.6	-56.7	0.41	-0.41	-1.22
5,000.0	1.34	309.98	4,998.8	56.0	29.2	-57.9	0.39	0.38	-5.41
5,100.0	1.13	312.08	5,098.7	57.4	27.5	-59.2	0.21	-0.21	2.10
5,200.0	1.07	313.93	5,198.7	58.7	26.1	-60.4	0.07	-0.06	1.85

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #2H
Project:	Lea County, NM	**TVD Reference:**	KB @ 4010.7usft
Site:	Tres Primos 3 State	**MD Reference:**	KB @ 4010.7usft
Well:	#2H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

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)
5,300.0	1.24	316.12	5,298.7	60.1	24.7	-61.7	0.18	0.17	2.19
5,400.0	1.10	324.97	5,398.7	61.7	23.4	-63.2	0.23	-0.14	8.85
5,500.0	0.88	329.18	5,498.7	63.1	22.5	-64.6	0.23	-0.22	4.21
5,600.0	0.90	332.87	5,598.6	64.5	21.7	-65.9	0.06	0.02	3.69
5,700.0	0.70	331.19	5,698.6	65.7	21.1	-67.1	0.20	-0.20	-1.68
5,800.0	0.81	328.62	5,798.6	66.9	20.4	-68.1	0.12	0.11	-2.57
5,900.0	0.54	332.00	5,898.6	67.9	19.8	-69.1	0.27	-0.27	3.38
6,000.0	0.72	336.40	5,998.6	68.9	19.3	-70.1	0.19	0.18	4.40
6,100.0	0.26	338.19	6,098.6	69.7	19.0	-70.8	0.46	-0.46	1.79
6,200.0	0.33	346.57	6,198.6	70.1	18.8	-71.3	0.08	0.07	8.38
6,300.0	0.64	340.90	6,298.6	71.0	18.6	-72.1	0.31	0.31	-5.67
6,400.0	0.69	321.21	6,398.6	71.9	18.0	-73.1	0.23	0.05	-19.69
6,500.0	0.62	302.26	6,498.6	72.7	17.2	-73.7	0.23	-0.07	-18.95
6,600.0	1.07	299.32	6,598.6	73.5	15.9	-74.4	0.45	0.45	-2.94
6,700.0	1.38	288.98	6,698.6	74.3	14.0	-75.1	0.38	0.31	-10.34
6,800.0	1.03	288.02	6,798.5	75.0	12.0	-75.6	0.35	-0.35	-0.96
6,900.0	0.81	288.68	6,898.5	75.5	10.5	-76.0	0.22	-0.22	0.66
7,000.0	0.39	277.71	6,998.5	75.7	9.4	-76.2	0.43	-0.42	-10.97
7,100.0	0.44	280.75	7,098.5	75.9	8.7	-76.3	0.05	0.05	3.04
7,200.0	0.45	296.77	7,198.5	76.1	8.0	-76.5	0.12	0.01	16.02
7,300.0	0.44	320.44	7,298.5	76.6	7.4	-76.9	0.18	-0.01	23.67
7,400.0	0.62	334.19	7,398.5	77.4	6.9	-77.7	0.22	0.18	13.75
7,500.0	0.19	332.61	7,498.5	78.0	6.6	-78.3	0.43	-0.43	-1.58
7,600.0	0.62	7.48	7,598.5	78.7	6.6	-79.0	0.48	0.43	34.87
7,700.0	0.48	17.92	7,698.5	79.6	6.8	-79.9	0.17	-0.14	10.44
7,800.0	0.76	23.01	7,798.5	80.6	7.2	-80.9	0.29	0.28	5.09
7,900.0	0.82	25.95	7,898.5	81.9	7.8	-82.2	0.07	0.06	2.94
8,000.0	1.00	22.67	7,998.5	83.3	8.4	-83.7	0.19	0.18	-3.28
8,100.0	0.70	17.99	8,098.5	84.7	8.9	-85.1	0.31	-0.30	-4.68
8,200.0	0.57	355.99	8,198.4	85.8	9.1	-86.2	0.27	-0.13	-22.00
8,300.0	0.41	346.13	8,298.4	86.6	9.0	-87.1	0.18	-0.16	-9.86
8,400.0	0.09	295.30	8,398.4	87.0	8.8	-87.4	0.36	-0.32	-50.83
8,500.0	0.75	294.47	8,498.4	87.3	8.2	-87.7	0.66	0.66	-0.83
8,600.0	1.70	293.22	8,598.4	88.2	6.2	-88.4	0.95	0.95	-1.25
8,700.0	1.86	293.41	8,698.4	89.4	3.3	-89.4	0.16	0.16	0.19
8,800.0	1.29	306.89	8,798.3	90.7	1.0	-90.6	0.68	-0.57	13.48
8,900.0	1.10	311.66	8,898.3	92.0	-0.7	-91.8	0.21	-0.19	4.77
9,000.0	1.44	307.45	8,998.3	93.4	-2.4	-93.0	0.35	0.34	-4.21
9,100.0	1.44	311.33	9,098.2	95.0	-4.3	-94.5	0.10	0.00	3.88
9,200.0	1.34	313.68	9,198.2	96.7	-6.1	-96.0	0.12	-0.10	2.35
9,300.0	1.53	305.33	9,298.2	98.3	-8.0	-97.4	0.28	0.19	-8.35
9,400.0	1.35	309.63	9,398.2	99.8	-10.0	-98.8	0.21	-0.18	4.30
9,500.0	1.54	301.31	9,498.1	101.2	-12.1	-100.1	0.28	0.19	-8.32

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #2H
Project:	Lea County, NM	**TVD Reference:**	KB @ 4010.7usft
Site:	Tres Primos 3 State	**MD Reference:**	KB @ 4010.7usft
Well:	#2H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

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)
9,600.0	1.27	298.20	9,598.1	102.5	-14.2	-101.2	0.28	-0.27	-3.11
9,700.0	1.31	277.11	9,698.1	103.1	-16.3	-101.7	0.47	0.04	-21.09
9,810.0	1.09	271.16	9,808.0	103.3	-18.6	-101.7	0.23	-0.20	-5.41
9,907.0	1.00	251.30	9,905.0	103.0	-20.3	-101.3	0.38	-0.09	-20.47
10,002.0	1.10	269.80	10,000.0	102.8	-22.0	-100.9	0.37	0.11	19.47
10,097.0	1.10	287.70	10,095.0	103.0	-23.8	-101.1	0.36	0.00	18.84
10,129.0	1.50	286.50	10,127.0	103.3	-24.5	-101.2	1.25	1.25	-3.75
10,160.0	1.80	290.70	10,158.0	103.5	-25.4	-101.5	1.04	0.97	13.55
10,191.0	1.80	279.20	10,189.0	103.8	-26.3	-101.7	1.16	0.00	-37.10
10,223.0	2.10	248.00	10,220.9	103.7	-27.3	-101.4	3.40	0.94	-97.50
10,254.0	3.40	230.60	10,251.9	102.9	-28.6	-100.6	4.94	4.19	-56.13
10,286.0	4.40	221.30	10,283.8	101.3	-30.1	-98.9	3.69	3.13	-29.06
10,318.0	5.90	225.40	10,315.7	99.3	-32.1	-96.7	4.82	4.69	12.81
10,349.0	7.40	223.60	10,346.5	96.7	-34.6	-94.0	4.88	4.84	-5.81
10,381.0	8.70	222.50	10,378.2	93.4	-37.7	-90.5	4.09	4.06	-3.44
10,413.0	9.70	222.70	10,409.8	89.7	-41.1	-86.5	3.13	3.13	0.63
10,444.0	12.40	221.80	10,440.2	85.3	-45.1	-81.8	8.73	8.71	-2.90
10,476.0	16.00	218.40	10,471.2	79.2	-50.2	-75.4	11.54	11.25	-10.63
10,508.0	20.10	215.20	10,501.6	71.3	-56.1	-67.1	13.18	12.81	-10.00
10,539.0	24.70	211.80	10,530.3	61.4	-62.6	-56.8	15.41	14.84	-10.97
10,571.0	29.40	208.50	10,558.8	48.8	-69.8	-43.7	15.41	14.69	-10.31
10,602.0	33.50	205.70	10,585.2	34.4	-77.2	-28.8	14.04	13.23	-9.03
10,634.0	37.00	202.50	10,611.3	17.6	-84.7	-11.5	12.36	10.94	-10.00
10,665.0	40.80	200.30	10,635.5	-0.6	-91.8	7.1	13.04	12.26	-7.10
10,697.0	44.60	198.10	10,659.0	-21.1	-98.9	28.1	12.76	11.88	-6.88
10,729.0	48.30	196.10	10,681.0	-43.2	-105.7	50.7	12.42	11.56	-6.25
10,761.0	53.10	194.30	10,701.3	-67.1	-112.2	75.0	15.62	15.00	-5.63
10,792.0	58.30	192.90	10,718.8	-92.0	-118.2	100.2	17.18	16.77	-4.52
10,824.0	64.40	190.90	10,734.1	-119.5	-124.0	128.0	19.83	19.06	-6.25
10,856.0	69.80	189.10	10,746.5	-148.5	-129.1	157.3	17.65	16.88	-5.63
10,887.0	75.30	186.50	10,755.8	-177.8	-133.1	186.8	19.46	17.74	-8.39
10,918.0	80.40	183.90	10,762.4	-207.9	-135.8	217.1	18.38	16.45	-8.39
10,950.0	85.40	182.90	10,766.3	-239.6	-137.7	248.9	15.93	15.63	-3.13
10,982.0	88.40	182.20	10,768.0	-271.5	-139.1	280.8	9.63	9.38	-2.19
11,013.0	90.10	182.00	10,768.4	-302.5	-140.2	311.8	5.52	5.48	-0.65
11,077.0	90.10	181.90	10,768.3	-366.5	-142.4	375.7	0.16	0.00	-0.16
11,172.0	89.90	181.60	10,768.3	-461.4	-145.3	470.6	0.38	-0.21	-0.32
11,267.0	90.00	181.90	10,768.4	-556.4	-148.2	565.6	0.33	0.11	0.32
11,362.0	89.40	181.80	10,768.9	-651.3	-151.3	660.5	0.64	-0.63	-0.11
11,457.0	88.70	181.50	10,770.5	-746.3	-154.0	755.4	0.80	-0.74	-0.32
11,553.0	89.50	181.10	10,772.0	-842.3	-156.2	851.3	0.93	0.83	-0.42
11,642.0	89.90	180.60	10,772.5	-931.2	-157.5	940.1	0.72	0.45	-0.56
11,742.0	90.10	180.30	10,772.5	-1,031.2	-158.3	1,039.9	0.36	0.20	-0.30
11,836.0	90.00	180.00	10,772.4	-1,125.2	-158.6	1,133.7	0.34	-0.11	-0.32

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #2H
Project:	Lea County, NM	**TVD Reference:**	KB @ 4010.7usft
Site:	Tres Primos 3 State	**MD Reference:**	KB @ 4010.7usft
Well:	#2H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

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)
11,930.0	90.10	179.85	10,772.3	-1,219.2	-158.4	1,227.4	0.19	0.11	-0.16
12,025.0	90.30	179.60	10,772.0	-1,314.2	-158.0	1,322.2	0.34	0.21	-0.26
12,121.0	89.90	179.20	10,771.8	-1,410.2	-157.0	1,417.8	0.59	-0.42	-0.42
12,216.0	89.90	178.80	10,772.0	-1,505.2	-155.3	1,512.5	0.42	0.00	-0.42
12,311.0	90.00	178.50	10,772.0	-1,600.2	-153.1	1,607.0	0.33	0.11	-0.32
12,406.0	90.10	178.20	10,772.0	-1,695.1	-150.3	1,701.6	0.33	0.11	-0.32
12,502.0	90.40	179.40	10,771.5	-1,791.1	-148.3	1,797.1	1.29	0.31	1.25
12,597.0	90.80	179.00	10,770.6	-1,886.1	-147.0	1,891.8	0.60	0.42	-0.42
12,692.0	89.50	179.60	10,770.3	-1,981.1	-145.8	1,986.5	1.51	-1.37	0.63
12,787.0	89.50	180.50	10,771.1	-2,076.1	-145.9	2,081.2	0.95	0.00	0.95
12,882.0	89.60	180.50	10,771.9	-2,171.1	-146.8	2,176.0	0.11	0.11	0.00
12,977.0	89.20	180.90	10,772.9	-2,266.1	-147.9	2,270.9	0.60	-0.42	0.42
13,072.0	89.00	180.80	10,774.4	-2,361.1	-149.3	2,365.7	0.24	-0.21	-0.11
13,167.0	89.10	182.20	10,775.9	-2,456.0	-151.8	2,460.6	1.48	0.11	1.47
13,260.0	89.40	181.90	10,777.2	-2,548.9	-155.1	2,553.5	0.46	0.32	-0.32
13,355.0	88.60	182.60	10,778.8	-2,643.8	-158.9	2,648.4	1.12	-0.84	0.74
13,450.0	89.00	183.30	10,780.8	-2,738.7	-163.8	2,743.4	0.85	0.42	0.74
13,546.0	89.20	182.70	10,782.3	-2,834.6	-168.8	2,839.4	0.66	0.21	-0.63
13,641.0	89.10	184.20	10,783.7	-2,929.4	-174.5	2,934.4	1.58	-0.11	1.58
13,736.0	89.20	184.10	10,785.1	-3,024.1	-181.4	3,029.3	0.15	0.11	-0.11
13,830.0	89.20	183.70	10,786.4	-3,117.9	-187.8	3,123.3	0.43	0.00	-0.43
13,926.0	88.90	184.90	10,788.0	-3,213.6	-195.0	3,219.3	1.29	-0.31	1.25
14,021.0	89.00	184.60	10,789.8	-3,308.3	-202.8	3,314.3	0.33	0.11	-0.32
14,115.0	89.10	184.50	10,791.3	-3,401.9	-210.3	3,408.3	0.15	0.11	-0.11
14,210.0	89.00	184.30	10,792.9	-3,496.7	-217.6	3,503.3	0.24	-0.11	-0.21
14,305.0	87.60	184.70	10,795.7	-3,591.3	-225.0	3,598.2	1.53	-1.47	0.42
14,400.0	88.10	185.50	10,799.3	-3,685.9	-233.5	3,693.1	0.99	0.53	0.84
14,495.0	89.50	184.60	10,801.3	-3,780.5	-241.8	3,788.1	1.75	1.47	-0.95
14,590.0	89.60	184.40	10,802.0	-3,875.2	-249.3	3,883.1	0.24	0.11	-0.21
14,685.0	89.60	184.20	10,802.7	-3,969.9	-256.4	3,978.1	0.21	0.00	-0.21
14,780.0	89.50	183.90	10,803.4	-4,064.7	-263.1	4,073.1	0.33	-0.11	-0.32
14,875.0	88.90	183.40	10,804.8	-4,159.5	-269.2	4,168.1	0.82	-0.63	-0.53
15,002.0	89.50	183.40	10,806.5	-4,286.2	-276.7	4,295.0	0.47	0.47	0.00
15,129.0	89.80	182.40	10,807.3	-4,413.1	-283.1	4,422.0	0.82	0.24	-0.79
15,192.0	89.80	182.10	10,807.5	-4,476.0	-285.6	4,485.0	0.48	0.00	-0.48
15,256.0	89.70	181.90	10,807.8	-4,540.0	-287.8	4,548.9	0.35	-0.16	-0.31
15,351.0	89.60	184.30	10,808.4	-4,634.8	-293.0	4,643.9	2.53	-0.11	2.53
15,484.0	89.60	184.30	10,809.3	-4,767.5	-302.9	4,776.9	0.00	0.00	0.00

CONCHO

COG Operating LLC
Project: Lea County, NM
Site: Tres Primos 3 State
Well: #2H
Wellbore: OH
Plan: Plan #2 (#2H/OH)

Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	9810.0	1.09	271.16	9808.0	103.3	-18.6	0.00	0.00	-101.7	
2	10285.1	1.09	271.16	10283.1	103.5	-27.7	0.00	0.00	-101.2	
3	11029.9	89.42	183.58	10760.0	-367.6	-66.1	12.00	-87.59	371.4	
4	15446.4	89.42	183.58	10805.0	-4775.3	-341.9	0.00	0.00	4787.5	PBHL (TP3S #2H/OH)

#2H

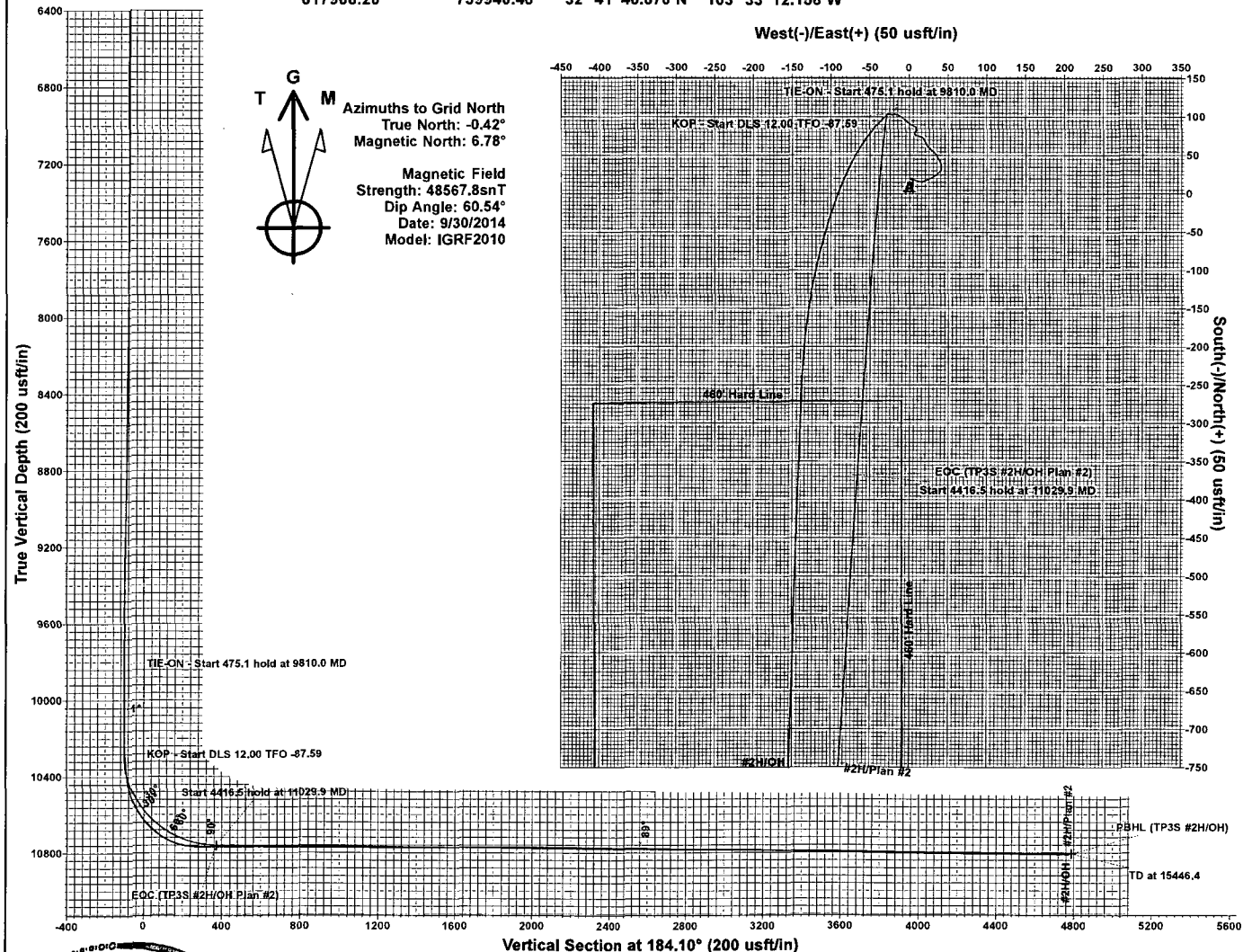
Ground Elevation:: 3993.7
RKB Elevation: KB @ 4010.7usft

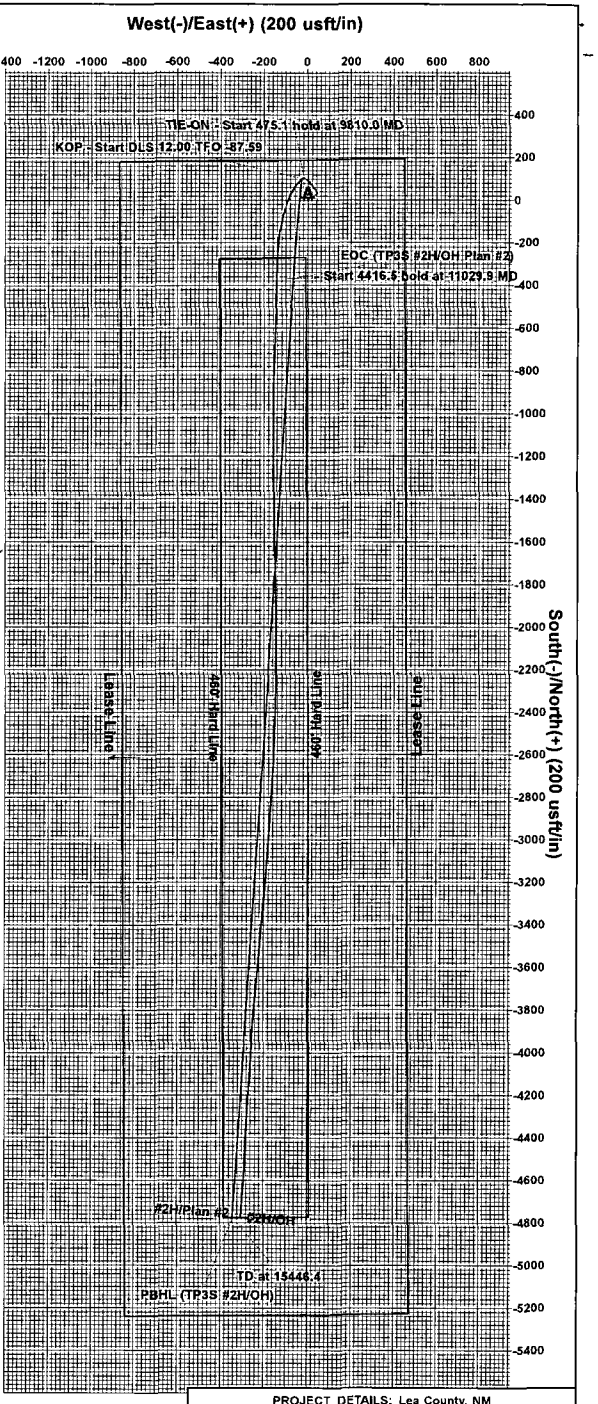
Northing	Easting	Latitude	Longitude
617906.20	739940.40	32° 41' 46.670 N	103° 33' 12.158 W

G T M

Azimuths to Grid North
True North: -0.42°
Magnetic North: 6.78°

Magnetic Field
Strength: 48567.8snT
Dip Angle: 60.54°
Date: 9/30/2014
Model: IGRF2010





PROJECT DETAILS: Lea County, NM

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

Terra Directional Services LLC
322 Spring Hill Drive, Suite A300. Spring, Tx 77386
Phone: 432-425-7532