



A GYRO TECHNOLOGIES, INC. COMPANY

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

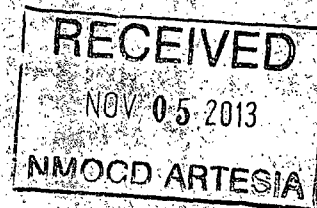
October 4, 2013

30-015-41246

BOPCO LP
P.O. Box 2760
Midland, TX 79702

Attn: Drilling Department

RE: Poker Lake Unit 428H



Please find enclosed a copy of the survey from 3830.00' to 6908.00' 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: BOPCO
Lease/Well: Poker Lake Unit /428H

Rig Name: McVay #5
State/County: New Mexico /Eddy
Latitude: 32.18, Longitude: -103.87
GRID North is 0.25 Degrees East of True North
VS-Azi: 314.37 Degrees



30-015-41246

Depth Reference : RKB 19 Feet

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro_run01-01-de_01.ut

Minimum Curvature Method

Report Date/Time: 10/4/2013 / 11:01

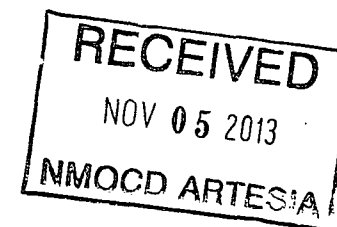
Vaughn Energy Services

West, Texas

432-563-5444

Surveyor: Chris Bankson

Poker Lake Unit 428H / API 30-015-41246

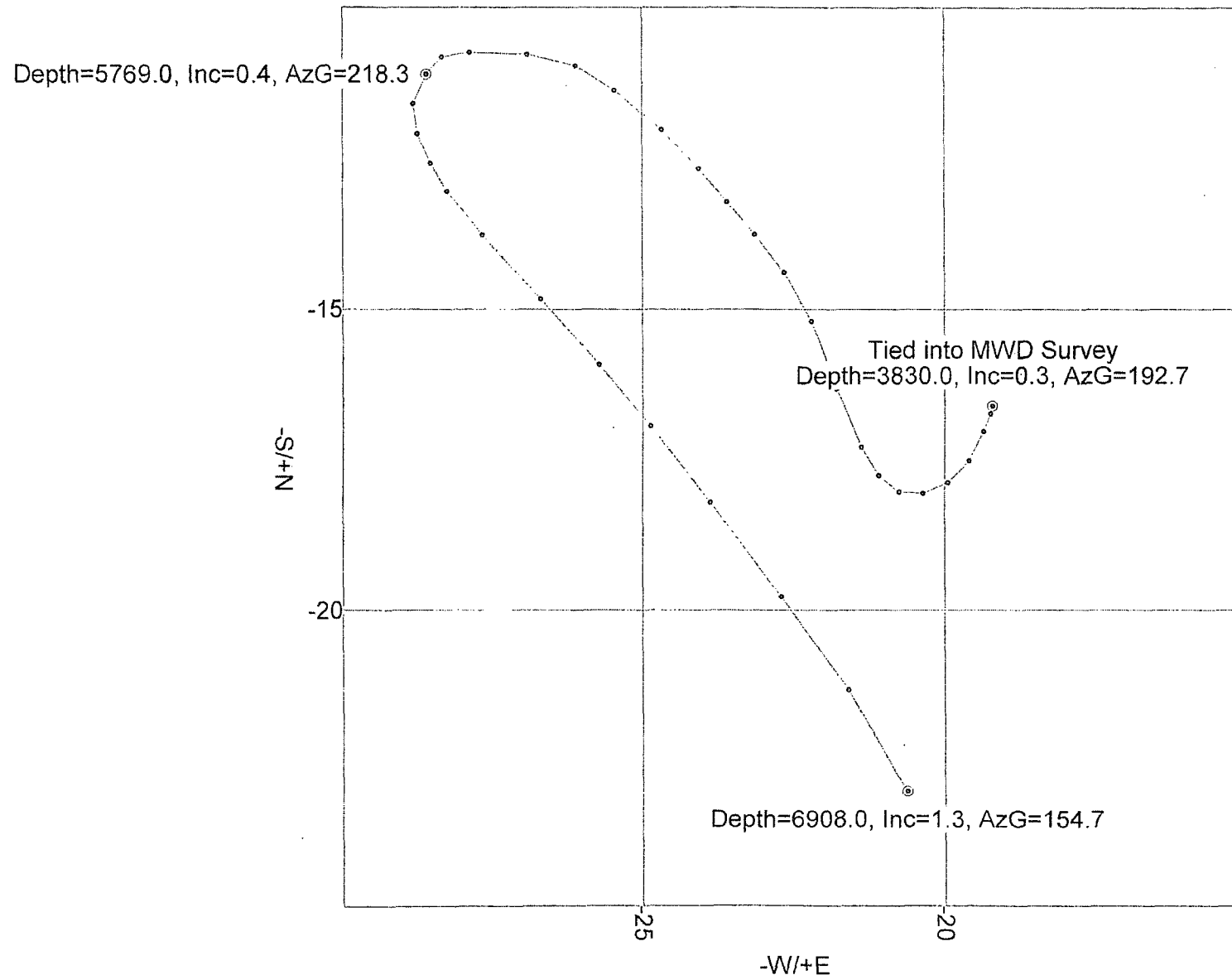
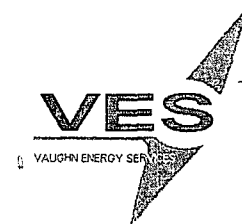


Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
Tied into MWD Survey									
3830.00	0.35	192.65	3828.06	-16.61	-19.20	2.11	25.39	229.14	****
3870.56	0.03	197.61	3868.62	-16.74	-19.23	2.04	25.50	228.96	0.79
3965.48	0.36	202.18	3963.54	-17.04	-19.35	1.92	25.78	228.63	0.34
4060.40	0.31	210.23	4058.46	-17.53	-19.59	1.74	26.29	228.17	0.07
4155.32	0.32	240.19	4153.38	-17.88	-19.95	1.76	26.79	228.13	0.17
4250.24	0.22	254.00	4248.30	-18.07	-20.36	1.92	27.22	228.41	0.13
4345.16	0.28	289.68	4343.21	-18.04	-20.75	2.22	27.49	228.99	0.17
4440.08	0.28	326.06	4438.13	-17.77	-21.09	2.65	27.58	229.88	0.18
4535.00	0.40	331.21	4533.05	-17.29	-21.38	3.19	27.50	231.03	0.13
4629.92	0.86	340.11	4627.97	-16.33	-21.78	4.15	27.22	233.14	0.50
4724.84	0.58	338.58	4722.88	-15.21	-22.20	5.24	26.91	235.59	0.30
4819.76	0.56	323.49	4817.79	-14.38	-22.65	6.13	26.83	237.58	0.16
4914.68	0.41	320.52	4912.71	-13.75	-23.14	6.92	26.92	239.28	0.16
5009.60	0.44	319.07	5007.63	-13.22	-23.59	7.62	27.04	240.74	0.03
5104.52	0.43	319.56	5102.54	-12.67	-24.06	8.34	27.20	242.22	0.01
5199.44	0.64	314.20	5197.46	-12.03	-24.67	9.22	27.45	244.00	0.22

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
5294.36	0.60	304.27	5292.37	-11.38	-25.46	10.24	27.89	245.91	0.12
5389.28	0.32	297.80	5387.29	-10.98	-26.11	10.99	28.33	247.19	0.30
5484.20	0.69	276.39	5482.21	-10.79	-26.91	11.69	28.99	248.15	0.43
5579.12	0.48	265.79	5577.12	-10.76	-27.87	12.40	29.88	248.90	0.24
5674.04	0.10	237.24	5672.04	-10.83	-28.34	12.68	30.34	249.08	0.42
5768.96	0.36	218.28	5766.96	-11.12	-28.60	12.67	30.69	248.76	0.28
5863.88	0.30	187.49	5861.88	-11.60	-28.82	12.49	31.07	248.08	0.20
5958.80	0.32	158.12	5956.80	-12.10	-28.75	12.10	31.19	247.18	0.17
6053.72	0.32	154.65	6051.72	-12.58	-28.54	11.60	31.19	246.21	0.02
6148.64	0.34	143.25	6146.63	-13.05	-28.26	11.08	31.13	245.22	0.07
6243.56	0.78	138.91	6241.55	-13.76	-27.66	10.15	30.90	243.55	0.47
6338.48	0.95	137.27	6336.46	-14.83	-26.70	8.72	30.54	240.95	0.18
6433.40	0.81	139.56	6431.37	-15.92	-25.73	7.26	30.26	238.25	0.15
6528.32	0.80	140.62	6526.28	-16.95	-24.87	5.93	30.10	235.73	0.02
6623.24	1.15	142.95	6621.18	-18.22	-23.88	4.33	30.04	232.66	0.37
6718.16	1.19	143.15	6716.08	-19.77	-22.71	2.41	30.11	228.96	0.04
6813.08	1.12	145.65	6810.99	-21.33	-21.59	0.52	30.35	225.35	0.09
6908.00	1.26	154.73	6905.88	-23.04	-20.62	-1.37	30.92	221.83	0.25



Vaughn Energy Services
West, Texas
432-563-5444
Surveyor: Chris Bankson
Poker Lake Unit 428H / API 30-015-41246



VES Survey Date: 08/06/2013



Weatherford

Evaluation, Drilling & Intervention
10000 West County Rd. 116
P.O. Box 61028
Midland, TX USA 79711
Tel. (432) 561-8892 Fax (432) 561-8895

BOPCO, LP
PO Box 2760
Midland, TX 79702

Date: August 21, 2013

Attention: Brian Braun

Re: BOPCO, LP
Well: Poker Lake Unit 428H
Eddy County, New Mexico

30-015-41246

Enclosed, please find the original survey performed on the referenced well by Precision Energy Services, Inc. (P-5 No. 676004), a Weatherford company. Other information required by your office is as follows:

Name & Title Of Surveyor	Well Number	Surveyed Depths	Dates Performed	Type of Survey
Zack Snyder MWD Supervisor	428H	226 MD 3830 MD	7/26/2013 8/3/2013	Measurement While Drilling
Zack Snyder MWD Supervisor	428H	6951 MD 13149 MD	8/7/2013 8/21/2013	Measurement While Drilling

A notarized plan vs. actual is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

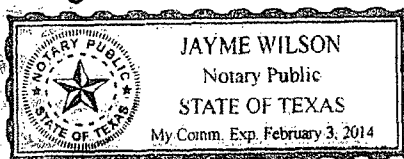
Jesse Aguilar

Jesse Aguilar
MWD Ops Coordinator

On this, the 21st day of August, 2013, before me a notary public, the undersigned officer, personally appeared Jesse Aguilar, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same for the purposes therein contained.

In witness hereof, I hereunto set my hand and official seal.

Jayme Wilson
Notary Public



BOPCO, L.P.

Poker Lake Unit 428H
Eddy Co, NM



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	6908.00	1.26	154.73	6905.88	-23.04	-20.62	0.00	0.00	-1.37	
2	6989.00	1.26	154.73	6986.86	-24.65	-19.86	0.00	0.00	-3.04	
3	7700.84	70.00	314.71	7537.10	238.29	-289.88	10.00	160.13	373.85	
4	7900.84	70.00	314.71	7605.50	370.50	-423.44	0.00	0.00	561.78	
5	8109.75	90.89	314.71	7639.99	514.63	-569.04	10.00	0.00	766.65	
6	13222.62	90.89	314.71	7560.50	4111.04	-4202.35	0.00	0.00	5878.81	PBHL

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
PLU 428H	0.00	0.00	429201.99	643390.96	32°10'44.919N	103°52'11.542W	N/A

TARGET DETAILS

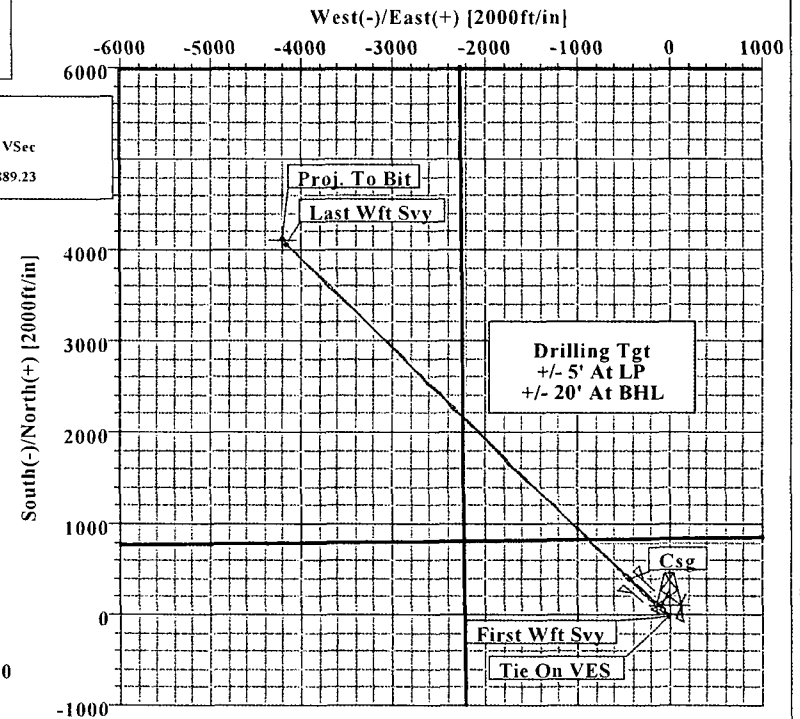
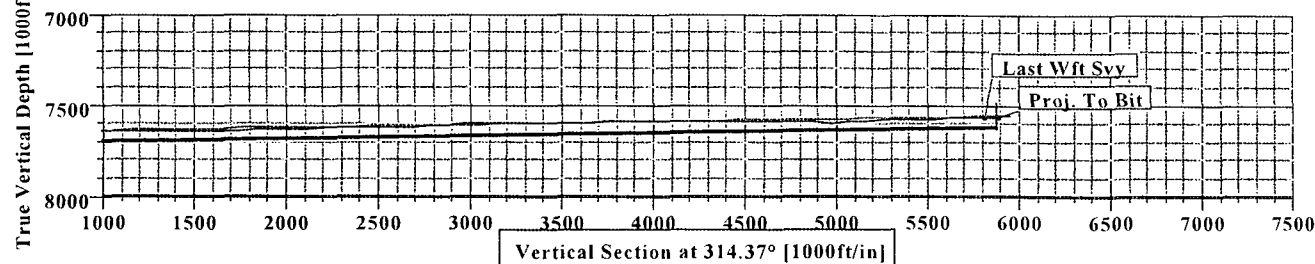
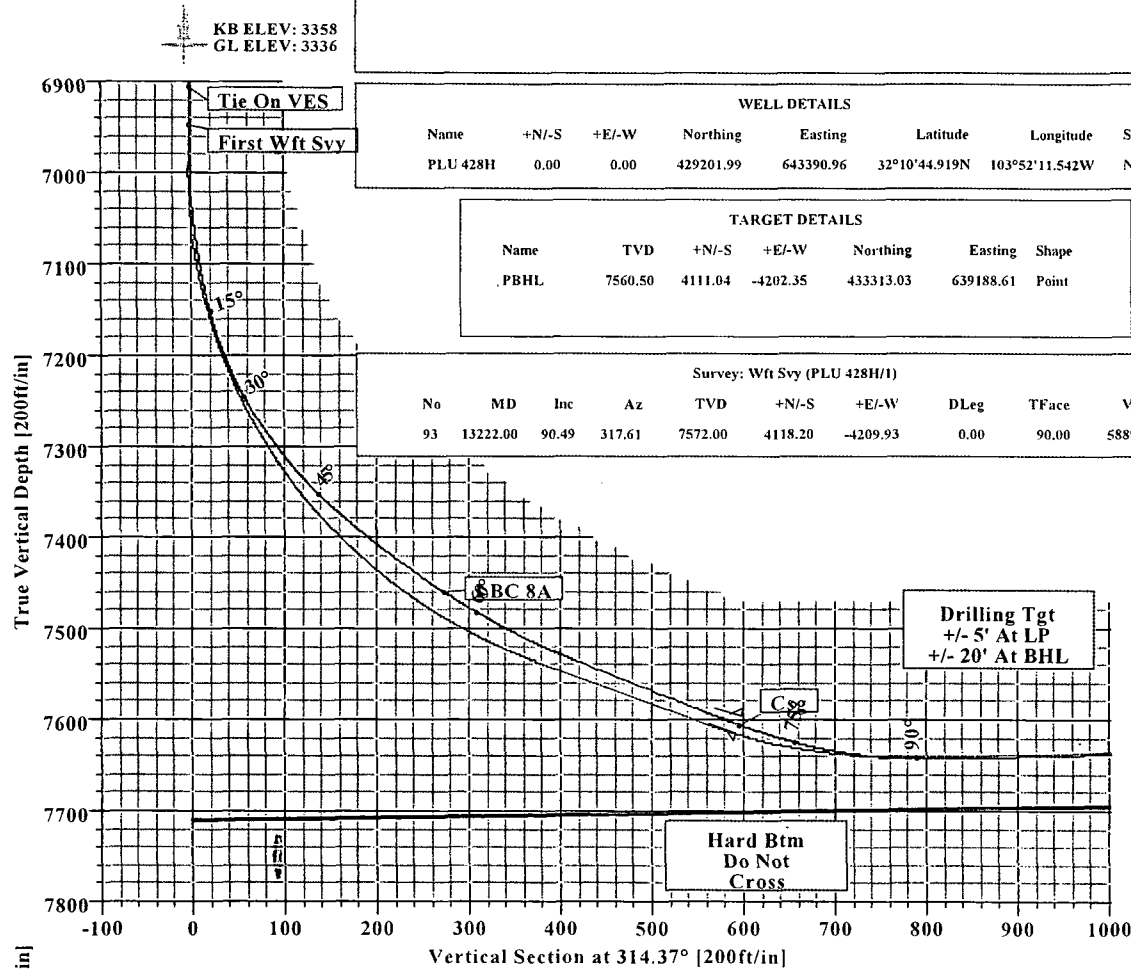
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	7560.50	4111.04	-4202.35	433313.03	639188.61	Point

Survey: Wft Svy (PLU 428H/1)

No	MD	Inc	Az	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
93	13222.00	90.49	317.61	7572.00	4118.20	-4209.93	0.00	90.00	5889.23

SITE DETAILS

Poker Lake Unit 428H
 Site Centre Northing: 429201.99
 Easting: 643390.96
 Ground Level: 3336.00
 Positional Uncertainty: 0.00
 Convergence: 0.25



LEGEND

- PLU 428H,1,Plan #3
- PLU 428H,1,Wft Svy Top
- PLU 428H,1,Gyro
- 1
- Wft Svy

Survey: Wft Svy (PLU 428H/1)

Created By: Russell W. Joyner

Date: 8/21/2013

Weatherford

Wft Survey Report X Y's.



Weatherford

Company: BOPCO, L.P.	Date: 8/21/2013	Time: 12:32:36	Page: 1
Field: Eddy County, NM (Nad 27)	Co-ordinate(NE): Reference:	Well: PLU 428H	Grid North
Site: Poker Lake Unit 428H	Vertical (TVD): Reference:	SITE 3358.0	
Well: PLU 428H	Section (VS): Reference:	Well: (0.00N:0.00E:314.37Azi)	
Wellpath: 1	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey: Wft Svy	Start Date:	8/8/2013	
Company: Weatherford	Engineer:	Russell W. Joyner	
Tool: MWD;MWD - Standard	Tied-to:	User Defined	

Site: Poker Lake Unit 428H

Site Position:	Northing:	429201.99 ft	Latitude:	32 10 44.919 N
From: Map	Easting:	643390.96 ft	Longitude:	103 52 11.542 W
Position Uncertainty: 0.00 ft			North Reference:	Grid
Ground Level: 3336.00 ft			Grid Convergence:	0.25 deg

Well: PLU 428H	Slot Name:		
Well Position: +N/-S 0.00 ft	Northing:	429201.99 ft	Latitude: 32 10 44.919 N
+E/-W 0.00 ft	Easting:	643390.96 ft	Longitude: 103 52 11.542 W
Position Uncertainty: 0.00 ft			

Wellpath: 1	Drilled From:	Surface	
Current Datum: SITE	Tie-on Depth:	0.00 ft	
Magnetic Data: 8/30/2013	Above System Datum:	Mean Sea Level	
Field Strength: 48361 nT	Declination:	7.45 deg	
Vertical Section: Depth From (TVD)	Mag Dip Angle:	60.04 deg	
ft	+N/-S	ft	Direction
	ft	ft	deg
0.00	0.00	0.00	314.37

Survey											
MD	Incl	Azim	TVD	N/S	E/W	DES	VS	MapN	MapE	Comment	
ft	deg	deg	ft	ft	ft	deg/100ft	ft	ft	ft	ft	
226.00	2.29	259.04	225.94	-0.86	-4.43	0.00	2.57	429201.13	643386.53	First Wft Svy	
3830.00	0.35	192.65	3828.06	-16.61	-19.20	0.06	2.11	429185.38	643371.76	Last Wft Svy	
6908.00	1.26	154.73	6905.88	-23.04	-20.62	0.03	-1.37	429178.95	643370.34	Tie On VES	
6951.00	0.99	180.66	6948.88	-23.84	-20.42	1.32	-2.07	429178.15	643370.54	First Wft Svy	
6981.00	1.19	278.57	6978.87	-24.05	-20.73	5.50	-2.00	429177.94	643370.23		
7013.00	3.03	313.03	7010.85	-23.43	-21.68	6.74	-0.88	429178.56	643369.28		
7045.00	5.36	321.32	7042.76	-21.68	-23.23	7.51	1.45	429180.31	643367.73		
7075.00	8.10	321.22	7072.55	-18.94	-25.43	9.13	4.94	429183.05	643365.53		
7106.00	10.17	327.43	7103.16	-14.93	-28.27	7.39	9.77	429187.06	643362.69		
7137.00	12.45	331.85	7133.55	-9.68	-31.32	7.86	15.63	429192.31	643359.64		
7168.00	16.57	330.69	7163.56	-2.87	-35.07	13.32	23.06	429199.12	643355.89		
7200.00	21.27	330.77	7193.82	6.18	-40.14	14.69	33.01	429208.17	643350.82		
7231.00	25.92	332.15	7222.22	17.08	-46.05	15.10	44.86	429219.07	643344.91		
7262.00	30.53	330.49	7249.53	29.93	-53.10	15.08	58.89	429231.92	643337.86		
7293.00	34.38	327.53	7275.69	44.17	-61.68	13.43	74.98	429246.16	643329.28		
7325.00	37.27	322.57	7301.63	59.50	-72.42	12.80	93.38	429261.49	643318.54		
7356.00	40.91	317.05	7325.70	74.39	-85.05	16.24	112.82	429276.38	643305.91		
7387.00	44.56	314.84	7348.46	89.49	-99.69	12.73	133.84	429291.48	643291.27		
7419.00	47.21	314.06	7370.74	105.58	-116.09	8.46	156.81	429307.57	643274.87		
7450.00	49.71	313.74	7391.29	121.67	-132.81	8.10	180.01	429323.66	643258.15		
7482.00	52.08	313.73	7411.48	138.83	-150.75	7.41	204.84	429340.82	643240.21		
7512.00	53.61	313.68	7429.60	155.35	-168.03	5.10	228.75	429357.34	643222.93		
7544.00	54.74	313.52	7448.32	173.24	-186.82	3.55	254.69	429375.23	643204.14		
7575.00	57.53	313.51	7465.60	190.96	-205.49	9.00	280.43	429392.95	643185.47		
7607.00	59.90	313.06	7482.21	209.71	-225.39	7.50	307.77	429411.70	643165.57		
7639.00	61.74	312.76	7497.81	228.73	-245.86	5.81	335.70	429430.72	643145.10		
7669.00	63.62	312.79	7511.58	246.83	-265.42	6.27	362.34	429448.82	643125.54		
7700.00	66.18	312.71	7524.73	265.89	-286.03	8.26	390.40	429467.88	643104.93		
7731.00	68.15	312.76	7536.76	285.27	-307.02	6.36	418.96	429487.26	643083.94		
7762.00	68.73	312.57	7548.15	304.81	-328.22	1.96	447.78	429506.80	643062.74		

Weatherford

Wft Survey Report X Y's.



Weatherford®

Company: BOPCO, L.P.	Date: 8/21/2013	Time: 12:32:36	Page: 2
Field: Eddy County, NM (Nad: 27)	Co-ordinate(NE) Reference:	Well: PLU 428H	Grid North
Site: Poker Lake Unit 428H	Vertical (TVD) Reference:	SITE 3358.0	
Well: PLU 428H	Section (VS) Reference:	Well: (0.00N, 0.00E) 314.37Azi	
Wellpath: 1	Survey Calculation Method:	Minimum Curvature	
		Db: Sybase	

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DES deg/100ft	VS ft	MapN ft	MapE ft	Comment
7792.00	68.61	312.19	7559.07	323.65	-348.86	1.25	475.70	429525.64	643042.10	
7823.00	68.30	312.14	7570.45	343.01	-370.23	1.01	504.52	429545.00	643020.73	
7847.00	67.77	312.17	7579.43	357.94	-386.73	2.21	526.76	429559.93	643004.23	
7964.00	72.54	311.59	7619.13	431.38	-468.65	4.10	636.67	429633.37	642922.31	
7996.00	76.23	311.50	7627.75	451.82	-491.71	11.53	667.45	429653.81	642899.25	
8028.00	79.95	311.71	7634.35	472.61	-515.12	11.64	698.72	429674.60	642875.84	
8059.00	83.41	313.07	7638.83	493.28	-537.77	11.98	729.37	429695.27	642853.19	
8091.00	86.85	313.86	7641.55	515.21	-560.91	11.03	761.24	429717.20	642830.05	
8122.00	90.35	314.03	7642.31	536.72	-583.22	11.30	792.23	429738.71	642807.74	
8154.00	90.56	314.76	7642.05	559.10	-606.08	2.37	824.23	429761.09	642784.88	
8186.00	90.77	314.90	7641.68	581.66	-628.78	0.79	856.22	429783.65	642762.18	
8218.00	91.82	315.17	7640.96	604.30	-651.38	3.39	888.21	429806.29	642739.58	
8312.00	91.68	314.00	7638.09	670.25	-718.30	1.25	982.17	429872.24	642672.66	
8407.00	87.62	312.85	7638.67	735.54	-787.28	4.44	1077.13	429937.53	642603.68	
8502.00	88.18	313.17	7642.15	800.30	-856.70	0.68	1172.04	430002.29	642534.26	
8596.00	90.91	315.10	7642.90	865.74	-924.15	3.56	1266.02	430067.73	642466.81	
8692.00	89.86	315.45	7642.25	933.95	-991.70	1.15	1362.01	430135.94	642399.26	
8787.00	90.91	314.67	7641.61	1001.19	-1058.81	1.38	1457.00	430203.18	642332.15	
8881.00	90.00	315.35	7640.87	1067.66	-1125.26	1.21	1550.99	430269.65	642265.70	
8976.00	90.98	314.57	7640.05	1134.79	-1192.48	1.32	1645.98	430336.78	642198.48	
9070.00	91.96	314.17	7637.64	1200.50	-1259.65	1.13	1739.94	430402.49	642131.31	
9165.00	91.33	313.52	7634.92	1266.28	-1328.14	0.95	1834.90	430468.27	642062.82	
9260.00	92.52	313.59	7631.72	1331.70	-1396.94	1.25	1929.83	430533.69	641994.02	
9355.00	92.24	313.29	7627.78	1396.97	-1465.86	0.43	2024.74	430598.96	641925.10	
9449.00	90.49	312.41	7625.54	1460.87	-1534.75	2.08	2118.67	430662.86	641856.21	
9544.00	91.26	311.66	7624.09	1524.47	-1605.31	1.13	2213.58	430726.46	641785.65	
9639.00	91.19	312.27	7622.06	1587.98	-1675.93	0.65	2308.48	430789.97	641715.03	
9734.00	91.05	314.46	7620.20	1653.20	-1744.97	2.31	2403.44	430855.19	641645.99	
9828.00	89.86	315.89	7619.46	1719.86	-1811.23	1.98	2497.42	430921.85	641579.73	
9923.00	92.45	316.83	7617.54	1788.59	-1876.78	2.90	2592.34	430990.58	641514.18	
10018.00	90.70	316.47	7614.93	1857.65	-1941.96	1.88	2687.22	431059.64	641449.00	
10112.00	92.94	315.98	7611.94	1925.48	-2006.96	2.44	2781.12	431127.47	641384.00	
10207.00	93.08	316.03	7606.96	1993.73	-2072.85	0.16	2875.95	431195.72	641318.11	
10302.00	92.03	314.66	7602.72	2061.24	-2139.55	1.82	2970.84	431263.23	641251.41	
10397.00	90.91	312.94	7600.28	2126.97	-2208.09	2.16	3065.80	431328.96	641182.87	
10492.00	89.65	313.02	7599.82	2191.73	-2277.59	1.33	3160.77	431393.72	641113.37	
10587.00	90.63	315.11	7599.59	2257.80	-2345.85	2.43	3255.76	431459.79	641045.11	
10681.00	90.21	314.91	7598.90	2324.27	-2412.30	0.49	3349.75	431526.26	640978.66	
10780.00	89.72	314.53	7598.96	2393.93	-2482.65	0.63	3448.75	431595.92	640908.31	
10875.00	91.68	315.78	7597.80	2461.28	-2549.63	2.45	3543.72	431663.27	640841.33	
10970.00	91.54	316.81	7595.13	2529.93	-2615.25	1.09	3638.63	431731.92	640775.71	
11065.00	91.33	316.10	7592.75	2598.77	-2680.67	0.78	3733.54	431800.76	640710.29	
11160.00	92.10	316.57	7589.91	2667.46	-2746.23	0.95	3828.44	431869.45	640644.73	
11254.00	90.14	315.39	7588.07	2735.03	-2811.54	2.43	3922.38	431937.02	640579.42	
11350.00	89.44	314.95	7588.42	2803.12	-2879.22	0.86	4018.37	432005.11	640511.74	
11444.00	90.00	314.47	7588.88	2869.25	-2946.02	0.78	4112.36	432071.24	640444.94	
11538.00	90.70	314.25	7588.31	2934.97	-3013.23	0.78	4206.36	432136.96	640377.73	
11633.00	91.33	314.44	7586.62	3001.36	-3081.15	0.69	4301.35	432203.35	640309.81	
11728.00	90.07	313.54	7585.46	3067.33	-3149.50	1.63	4396.33	432269.32	640241.46	
11823.00	89.51	313.66	7585.81	3132.84	-3218.29	0.60	4491.32	432334.83	640172.67	
11918.00	88.60	313.30	7587.38	3198.20	-3287.21	1.03	4586.30	432400.19	640103.75	
12013.00	88.81	313.20	7589.52	3263.28	-3356.39	0.24	4681.26	432465.27	640034.57	

Weatherford

Wft Survey Report X Y's.



Weatherford

Company: BOPCO L.P. Field: Eddy County, NM (Nad 27) Site: Poker Lake Unit 428H Well: PLU 428H Wellpath: 1	Date: 8/21/2013 Time: 12:32:36 Page: 3 Co-ordinate(NE) Reference: Well: PLU 428H Grd: North Vertical (TVD) Reference: SITE 3358.0 Section (VS) Reference: Well: (0.00N 0.00E 314.37Azi) Survey Calculation Method: Minimum Curvature Db: Sybase
--	---

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
12108.00	89.02	313.52	7591.32	3328.49	-3425.45	0.40	4776.22	432530.48	639965.51	
12204.00	88.74	313.56	7593.20	3394.61	-3495.03	0.29	4872.20	432596.60	639895.93	
12299.00	89.79	313.78	7594.42	3460.20	-3563.74	1.13	4967.18	432662.19	639827.22	
12393.00	92.87	313.68	7592.24	3525.16	-3631.63	3.28	5061.14	432727.15	639759.33	
12488.00	93.22	313.68	7587.19	3590.67	-3700.24	0.37	5156.00	432792.66	639690.72	
12583.00	92.73	315.59	7582.26	3657.33	-3767.75	2.07	5250.86	432859.32	639623.21	
12678.00	92.10	315.14	7578.26	3724.87	-3834.43	0.81	5345.76	432926.86	639556.53	
12773.00	90.49	314.89	7576.11	3792.04	-3901.57	1.72	5440.73	432994.03	639489.39	
12867.00	92.59	316.40	7573.58	3859.22	-3967.26	2.75	5534.66	433061.21	639423.70	
12962.00	90.84	315.91	7570.74	3927.70	-4033.03	1.91	5629.57	433129.69	639357.93	
13057.00	88.18	317.11	7571.55	3996.62	-4098.41	3.07	5724.49	433198.61	639292.55	
13149.00	90.49	317.61	7572.62	4064.28	-4160.72	2.57	5816.35	433266.27	639230.24	Last Wft Svy
13222.00	90.49	317.61	7572.00	4118.20	-4209.93	0.00	5889.23	433320.19	639181.03	Proj. To Bit

Annotation

MD ft	TVD ft	
226.00	225.94	First Wft Svy
3830.00	3828.06	Last Wft Svy
6908.00	6905.88	Tie On VES
6951.00	6948.88	First Wft Svy
13149.00	7572.62	Last Wft Svy
13222.00	7572.00	Proj. To Bit