

30-015-42009

A Gyrodata Directional Survey

NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 09

FINAL DEFINITIVE COPY

RECEIVED

for

BOPCO

Lease: POKER LAKE FIELD Well: 323 - H, 4 AND 1/2 INCH DRILL PIPE

Location: MCVAY 5, EDDY COUNTY, NEW MEXICO

gyrodata

Job Number: MD0414GDM415

Azimuth Correction:

Gyro: -0.23000 deg to Grid North

Run Date: 22 Apr 2014

Report Generated: 24 Apr 2014 02:42

Depth Reference: Rotary Table

Surveyor: Derek Oster

Air Gap (RKB to Ground / RKB to MSL): 19.50

Calculation Method: MINIMUM CURVATURE

Vertical Section Calculated from Well Head Location

Survey surface coordinates obtained from: Well Plan/Plot

Closure Calculated from Well Head Location

Survey Latitude: 32.239075 deg. N Longitude: 103.899994 deg. W

Horizontal Coordinates Calculated from Well Head Location

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MEASURED DEPTH feet	INCL deg.	CL deg.	DOGLE SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. feet	AZIMUTH deg.	HORIZONTAL COORDINATES feet
0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.00 N 0.00 E
0 - 6670 FT. RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 4 AND 1/2 INCH DRILL PIPE							
ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO MCVAY DRILLING RIG #5 R.K.B. HEIGHT OF 19.5 FT.							
50.00	0.23	150.41	0.46	50.00	0.1	150.4	0.09 S 0.05 E
100.00	0.26	119.45	0.27	100.00	0.3	139.3	0.23 S 0.20 E
200.00	0.34	67.07	0.27	200.00	0.7	108.7	0.23 S 0.67 E
300.00	0.38	29.91	0.23	300.00	1.1	80.9	0.18 N 1.11 E
400.00	0.59	15.31	0.24	399.99	1.7	55.7	0.96 N 1.41 E
500.00	0.87	9.12	0.29	499.98	2.8	37.0	2.21 N 1.66 E
537.18	1.12	8.95	0.67	537.16	3.3	31.8	2.84 N 1.77 E
633.12	1.35	659.74	0.32	663.08	5.3	21.3	4.90 N 1.91 E
729.34	1.37	348.36	0.28	729.27	7.4	13.1	7.16 N 1.67 E
825.23	1.41	356.77	0.22	825.13	9.6	8.3	9.46 N 1.37 E
920.65	1.50	358.58	0.11	920.52	12.0	6.1	11.88 N 1.27 E
1015.40	1.59	0.37	0.11	1015.24	14.5	5.0	14.44 N 1.25 E
1110.39	1.39	5.61	0.25	1110.19	17.0	4.6	16.90 N 1.37 E
1205.42	0.69	44.00	1.00	1205.21	18.6	5.8	18.46 N 1.88 E
1300.45	0.76	74.32	0.41	1300.23	19.3	8.6	19.04 N 2.89 E
1395.53	0.78	69.84	0.07	1395.30	19.9	11.9	19.44 N 4.10 E
1490.60	0.74	59.43	0.15	1490.36	20.6	14.7	19.97 N 5.24 E
1585.75	0.70	55.65	0.07	1585.51	21.5	16.9	20.61 N 6.25 E
1680.68	0.67	54.41	0.04	1680.43	22.4	18.7	21.26 N 7.18 E

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MEASURED DEPTH	INCL deg.	CL deg.	DOGLE SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST.	CL deg.	HORIZONTAL COORDINATES feet
1775.67	0.60	42.60	0.16	1775.41	23.4	19.9	21.95 N 7.97 E
1870.68	0.50	35.47	0.13	1870.42	24.2	20.7	22.65 N 8.54 E
1965.77	0.23	12.93	0.32	1965.51	24.8	20.8	23.18 N 8.83 E
2060.72	0.11	249.32	0.32	2060.46	24.9	20.6	23.33 N 8.78 E
2155.76	0.19	257.07	0.09	2155.50	24.8	20.2	23.26 N 8.55 E
2250.76	0.07	213.59	0.16	2250.50	24.6	19.8	23.18 N 8.36 E
2345.81	0.11	99.58	0.16	2345.55	24.6	20.0	23.12 N 8.42 E
2440.78	0.30	119.46	0.21	2440.52	24.6	20.8	22.98 N 8.72 E
2535.27	0.57	113.99	0.29	2535.00	24.5	22.5	22.67 N 9.37 E
2630.32	0.60	111.59	0.04	2630.05	24.5	24.7	22.29 N 10.26 E
2725.38	0.67	101.42	0.14	2725.10	24.7	27.1	22.00 N 11.27 E
2820.48	0.74	92.32	0.14	2820.20	25.1	29.6	21.86 N 12.43 E
2915.62	0.89	93.36	0.16	2915.33	25.8	32.3	21.80 N 13.78 E
3010.62	0.96	102.00	0.16	3010.31	26.5	35.3	21.59 N 15.30 E
3105.66	1.08	112.61	0.23	3105.34	27.0	38.7	21.08 N 16.90 E
3200.72	1.07	121.91	0.18	3200.38	27.4	42.4	20.26 N 18.48 E
3295.76	1.08	141.28	0.38	3295.41	27.5	46.0	19.10 N 19.80 E
3390.88	1.00	150.43	0.19	3390.51	27.3	49.6	17.67 N 20.77 E
3485.83	0.92	171.12	0.37	3485.45	26.8	52.7	16.20 N 21.29 E
3580.97	0.26	209.32	0.77	3580.58	26.2	54.4	15.26 N 21.30 E
3676.08	0.17	176.76	0.16	3675.69	25.9	54.9	14.93 N 21.21 E

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Location: MCVAY 5, EDDY COUNTY, NEW MEXICO

Job Number: MD0414GDM415

MEASURED DEPTH	INCL deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. feet	AZIMUTH deg.	HORIZONTAL COORDINATES feet
3771.08	0.18	162.73	0.05	3770.69	25.8	55.4	14.64 N 21.26 E
3865.67	0.19	156.91	0.02	3865.28	25.7	56.1	14.36 N 21.37 E
4052.29	0.21	257.90	0.17	4051.90	25.4	56.5	14.00 N 21.15 E
4144.90	0.38	247.79	0.19	4144.51	24.9	56.2	13.85 N 20.70 E
4239.67	0.47	244.03	0.10	4239.28	24.2	55.9	13.56 N 20.06 E
4333.81	0.50	257.40	0.12	4333.41	23.5	55.4	13.30 N 19.31 E
4429.17	0.46	258.69	0.04	4428.77	22.7	54.7	13.14 N 18.53 E
4523.36	0.44	240.06	0.16	4522.96	22.0	54.2	12.88 N 17.85 E
4709.69	0.41	242.86	0.02	4709.28	20.6	53.7	12.22 N 16.63 E
4803.16	0.40	251.54	0.07	4802.75	20.0	53.3	11.97 N 16.03 E
4896.92	0.41	249.88	0.02	4896.51	19.4	52.7	11.75 N 15.40 E
4990.34	0.56	275.56	0.28	4989.92	18.7	51.4	11.68 N 14.63 E
5083.62	0.82	252.05	0.41	5083.20	17.8	49.6	11.51 N 13.55 E
5177.18	1.08	258.90	0.30	5176.74	16.4	47.2	11.14 N 12.04 E
5271.67	1.25	250.02	0.26	5271.21	14.7	43.9	10.61 N 10.20 E
5366.18	1.10	253.17	0.17	5365.70	13.0	39.9	10.00 N 8.36 E
5460.77	1.07	246.79	0.13	5460.28	11.5	35.4	9.39 N 6.68 E
5554.32	1.00	246.42	0.08	5553.81	10.1	30.5	8.72 N 5.13 E
5648.50	1.05	245.79	0.05	5647.98	8.8	24.1	8.04 N 3.59 E
5742.10	1.16	227.94	0.38	5741.56	7.4	16.6	7.05 N 2.11 E
5835.43	1.11	235.10	0.16	5834.87	5.9	6.4	5.90 N 0.66 E
5929.28	1.05	228.96	0.14	5928.71	4.9	351.4	4.81 N 0.73 W

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Location: MCVAY 5, EDDY COUNTY, NEW MEXICO

Job Number: MD0414GDM415

MEASURED INCL	AZIMUTH		DOGLEG	VERTICAL	CLOSURE		HORIZONTAL	
DEPTH			SEVERITY	DEPTH	DIST.	AZIMUTH	COORDINATES	
feet	deg.	deg.	deg./ 100 ft.	feet	feet	deg.	feet	
6023.39	0.91	243.09	0.30	6022.80	4.4	332.4	3.91 N	2.05 W
6118.14	1.09	232.73	0.27	6117.54	4.6	311.3	3.02 N	3.44 W
6212.39	0.93	207.74	0.49	6211.77	4.9	291.8	1.80 N	4.51 W
6305.78	1.01	218.24	0.21	6305.15	5.4	275.2	0.49 N	5.37 W
6399.58	0.88	208.40	0.22	6398.94	6.3	262.7	0.80 S	6.22 W
6494.41	0.99	204.04	0.14	6493.75	7.2	252.4	2.19 S	6.90 W
6588.00	0.84	192.05	0.26	6587.33	8.2	244.0	3.59 S	7.37 W
6668.00	0.74	189.31	0.13	6667.32	8.9	238.3	4.68 S	7.58 W

Final Station Closure: Distance: 8.91 ft Az: 238.32 deg.

gyrodata

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: May 7, 2013

30-015-42009

Attention: Todd Carpenter

NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 09 2014

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Re: BOPCO, LP
Well: Poker Lake Unit 323H
Eddy County, New Mexico

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:

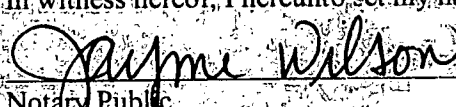
Name & Title Of Surveyor	Well Number	Surveyed Depths	Dates Performed	Type of Survey
Chris Hinterlach MWD Supervisor	323H	6720 MD 16684 MD	4/13/2014 5/6/2014	Measurement While Drilling

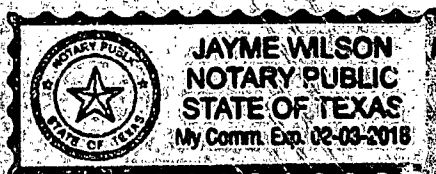
A notarized plan vs. actual is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.


Jesse Aguilar
MWD Ops Coordinator

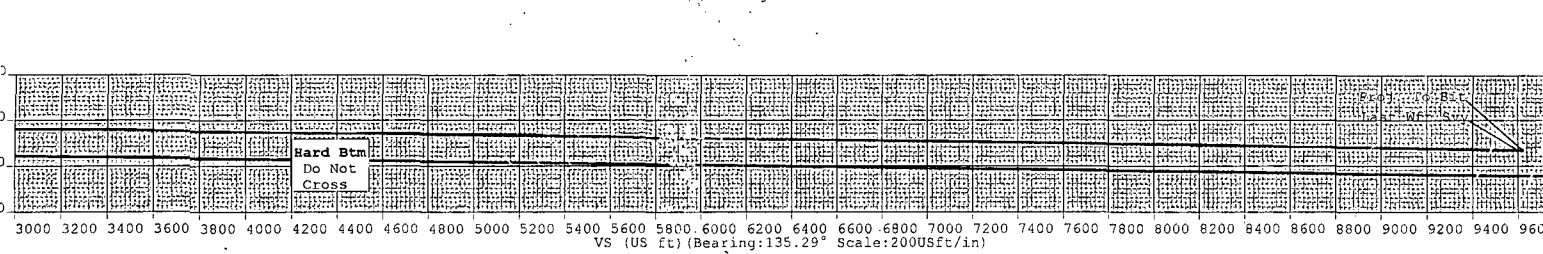
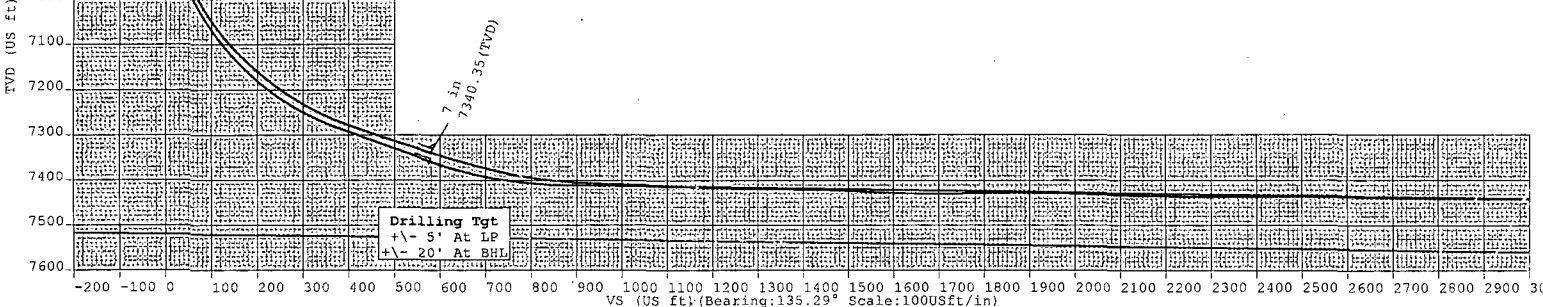
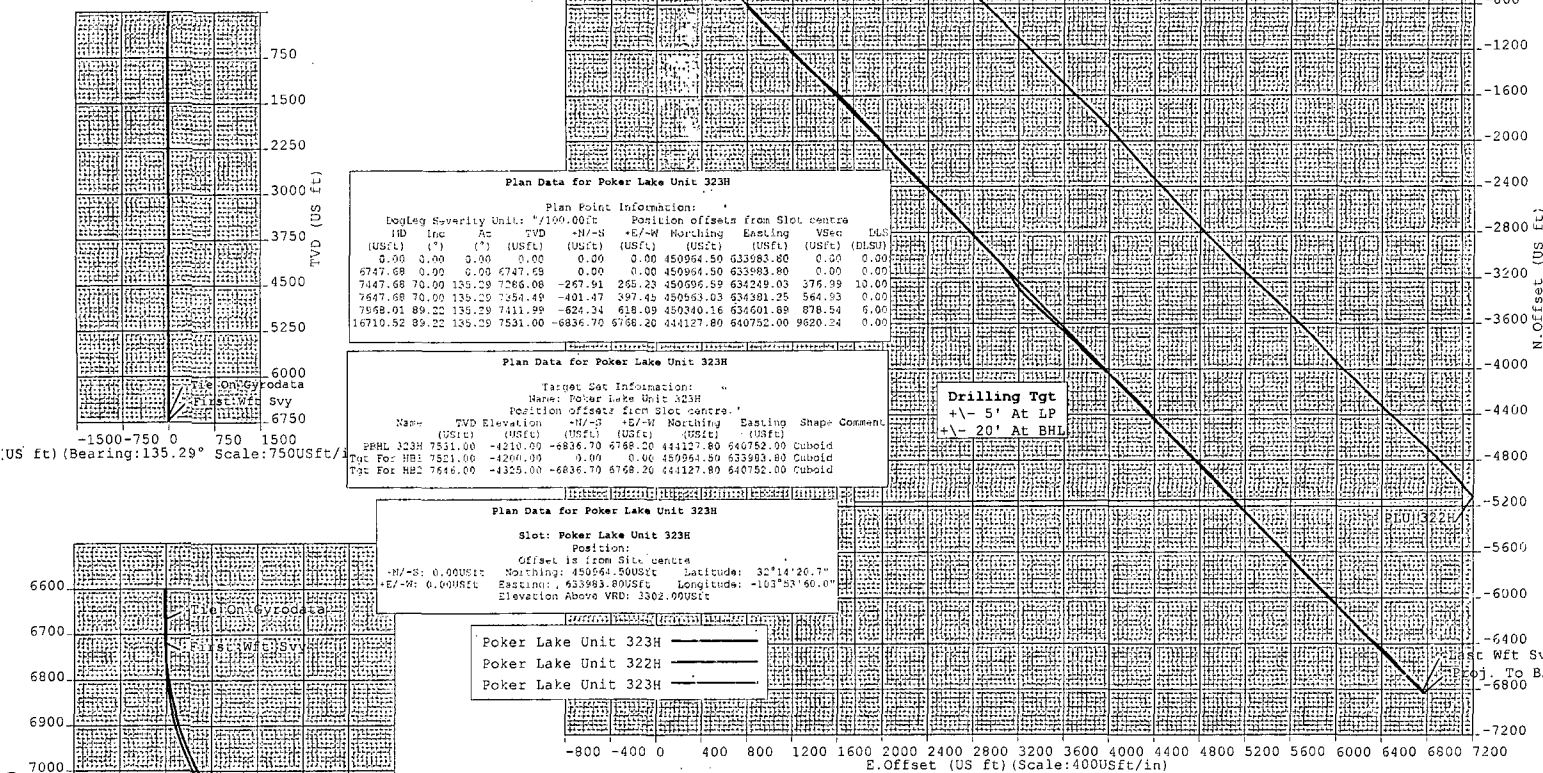
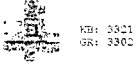
On this, the TH day of May, 2014, before me a notary public, the undersigned officer, personally appeared Jesse Aguilar, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same for the purposes therein contained.

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


Notary Public



BOPCO, L.P.
Poker Lake Unit 323H
Eddy Co, NM



Sign Off: Russell Joyner

5D Survey Report

BOPCO, L.P.

Field Name: *Eddy Co, NM Nad27 NMEZ*

Site Name: *Poker Lake Unit 323H*

Well Name: *Poker Lake Unit 323H*

Survey: *Wft MWD Svy*

06 May 2014

NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 09 2014

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Weatherford®

Poker Lake Unit 323H

Field Name Eddy Co, NM Nad27 NMEZ	Map Units : US ft		Company Name : BOPCO, L.P.	
	Vertical Reference Datum (VRD) : Mean Sea Level			
	Projected Coordinate System : NAD27 / New Mexico East			
	Comment :			
Site Name Poker Lake Unit 323H	Units : US ft	North Reference : Grid	Convergence Angle : 0.23	
	Position	Northing : 450964.50 US ft	Latitude : 32° 14' 20.67"	
		Easting : 633983.80 US ft	Longitude : 103° 53' 59.98"	
	Elevation above Mean Sea Level: 3302.00 US ft		Comment :	
Slot Name Poker Lake Unit 323H	Position (Offsets relative to Site Centre)			
	+N / -S : 0.00 US ft	Northing : 450964.50 US ft	Latitude : 32° 14' 20.67"	
	+E / -W : 0.00 US ft	Easting : 633983.80 US ft	Longitude : 103° 53' 59.98"	
	Slot TVD Reference : Ground Elevation			
Well Name Poker Lake Unit 323H	Type : Main well		UWI :	
	Rig Height Drill Floor : 19.00 US ft		Comment :	
	Relative to Mean Sea Level: 3321.00 US ft			
	Closure Distance : 9620.13 US ft		Closure Azimuth : 135.244°	
Vertical Section (Position of Origin Relative to Slot)				
+N / -S : 0.00 US ft +E / -W : 0.00 US ft Az : 135.29°				

Target Set	
Name : Poker Lake Unit	Number of Targets : 3
323H	

Comment :

Target Name: PBHL 323H Shape: Cuboid	Position (Relative to Slot centre)			
	+N / -S : -6836.70 US ft	Northing : 444127.80 US ft	Latitude : 32° 13' 12.74"	
	+E / -W : -6768.20 US ft	Easting : 640752.00 US ft	Longitude : 103° 52' 41.51"	
	TVD (Drill Floor) : 7531.00 US ft			
Orientation Azimuth : 0.00°		Inclination : 0.00°		
Dimensions Length : 0.00 US ft		Breadth : 0.00 US ft	Height : 0.00 US ft	
Target Name: Tgt For HB1 Shape: Cuboid	Position (Relative to Slot centre)			
	+N / -S : 0.00 US ft	Northing : 450964.50 US ft	Latitude : 32° 14' 20.67"	
	+E / -W : 0.00 US ft	Easting : 633983.80 US ft	Longitude : 103° 53' 59.98"	
	TVD (Drill Floor) : 7521.00 US ft			
Orientation Azimuth : 135.29°		Inclination : -0.75°		
Dimensions Length : 8000.00 US ft		Breadth : 0.00 US ft	Height : 2.00 US ft	

Target Name:	Position (Relative to Slot centre)		
Tgt For HB2	+N / -S : 6836.70US ft	Northing : 444127.80 US ft	Latitude : 32°13'12.74"
Shape:	+E / -W : 6768.20 US ft	Easting : 640752.00US ft	Longitude : -103°52'41.51"
Cuboid	TVD (Drill Floor) : 7646.00 US ft		
	Orientation Azimuth : 135.29°	Inclination : -0.75°	
	Dimensions Length : 17484.00 US ft	Breadth : 0.00 US ft	Height : 2.00 US ft

Survey Name : Wft MWD Svy**Date :** 23/Apr/2014**Survey Tool :** MWD**Comment :****Company :** Wft**Magnetic Model****Model Name:** BGGM**Date:** 25/Apr/2014**Field Strength:**
48303.3 nT**Declination:** 7.51°**Dip:** 60.06°**Tie Point****MD:** 6668**Inclination:** 0.74 **Azimuth:** 189.31**TVD:** 6667.32**North Offset:** -4.67795 **East Offset:** -7.5808**Casing Points (Relative to Slot centre, TVD relative to Drill Floor)**

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N. Offset (US ft)	E. Offset (US ft)	Northing (US ft)	Easting (US ft)	Name
7647.00	72.89	131.98	7340.35	-408.79	414.08	450555.71	634397.88	7 in

Well path created using minimum curvature**Survey Points (Relative to Slot centre, TVD relative to Drill Floor)**

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N. Offset (US ft)	E. Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Northing (US ft)	Easting (US ft)	Comment
6668.00	0.74	189.31	6667.32	-4.68	-7.58	-2.01	0.00	450959.82	633976.22	Tie On Gyrodata
6720.00	1.30	177.69	6719.32	-5.60	-7.61	-1.38	1.14	450958.90	633976.19	First Wft Svy
6751.00	4.07	155.59	6750.28	-6.95	-7.14	-0.08	9.38	450957.55	633976.66	
6782.00	7.16	151.39	6781.13	-9.65	-5.76	2.80	10.05	450954.85	633978.04	
6814.00	10.03	144.84	6812.77	-13.68	-3.20	7.47	9.46	450950.82	633980.60	
6846.00	12.34	141.97	6844.16	-18.65	0.51	13.61	7.42	450945.85	633984.31	
6877.00	14.79	144.35	6874.29	-24.48	4.86	20.81	8.10	450940.02	633988.66	
6908.00	17.32	143.04	6904.08	-31.38	9.94	29.29	8.24	450933.12	633993.74	
6938.00	20.63	139.16	6932.44	-38.95	16.08	39.00	11.80	450925.55	633999.88	
6969.00	23.72	137.50	6961.15	-47.68	23.87	50.68	10.17	450916.82	634007.67	
7000.00	26.93	136.10	6989.17	-57.34	32.95	63.93	10.53	450907.16	634016.75	
7031.00	29.56	135.69	7016.47	-67.87	43.16	78.60	8.51	450896.63	634026.96	
7062.00	33.01	134.70	7042.96	-79.29	54.51	94.69	11.25	450885.21	634038.31	
7094.00	36.39	133.98	7069.27	-92.01	67.54	112.91	10.64	450872.49	634051.34	
7124.00	39.98	133.41	7092.84	-104.82	80.95	131.44	12.02	450859.68	634064.75	
7155.00	43.31	133.42	7116.01	-118.98	95.91	152.03	10.74	450845.52	634079.71	
7187.00	46.61	133.41	7138.65	-134.51	112.33	174.62	10.31	450829.99	634096.13	
7219.00	49.29	133.49	7160.08	-150.85	129.58	198.37	8.38	450813.65	634113.38	
7250.00	51.43	133.85	7179.85	-167.34	146.85	222.23	6.96	450797.16	634130.65	
7282.00	54.70	133.50	7199.08	-185.00	165.34	247.80	10.26	450779.50	634149.14	
7313.00	56.91	133.46	7216.50	-202.64	183.95	273.42	7.13	450761.86	634167.75	
7344.00	59.76	133.11	7232.77	-220.73	203.16	299.79	9.24	450743.77	634186.96	
7375.00	62.72	132.51	7247.69	-239.19	223.09	326.94	9.70	450725.31	634206.89	
7407.00	65.78	132.06	7261.59	-258.58	244.41	355.72	9.65	450705.92	634228.21	
7438.00	69.29	131.73	7273.43	-277.71	265.73	384.31	11.37	450686.79	634249.53	
7469.00	70.31	131.53	7284.13	-297.03	287.48	413.34	3.35	450667.47	634271.28	
7500.00	70.65	131.36	7294.49	-316.37	309.38	442.49	1.21	450648.13	634293.18	
7532.00	71.08	131.20	7304.98	-336.32	332.10	472.65	1.42	450628.18	634315.90	
7579.00	72.03	131.29	7319.85	-365.71	365.62	517.13	2.03	450598.79	634349.42	
7647.00	72.89	131.98	7340.35	-408.79	414.08	581.83	1.59	450555.71	634397.88	7 in
7697.00	73.52	132.48	7354.79	-440.96	449.53	629.63	1.59	450523.54	634433.33	
7728.00	74.75	134.74	7363.27	-461.53	471.11	659.43	8.06	450502.97	634454.91	

5D Survey Report

Survey Points (Relative to Slot centre, TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N. Offset (US ft)	E. Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Northing (US ft)	Easting (US ft)	Comment
7759.00	75.88	136.72	7371.13	-483.00	492.04	689.42	7.17	450481.50	634475.84	
7789.00	76.11	137.48	7378.39	-504.32	511.86	718.51	2.57	450460.18	634495.66	
7821.00	77.74	138.94	7385.63	-527.56	532.63	749.64	6.76	450436.94	634516.43	
7852.00	79.84	139.70	7391.66	-550.62	552.45	779.97	7.19	450413.88	634536.25	
7884.00	81.90	139.94	7396.73	-574.76	572.83	811.46	6.48	450389.74	634556.63	
7916.00	83.64	140.78	7400.76	-599.20	593.08	843.08	6.03	450365.30	634576.88	
7948.00	84.93	140.86	7403.95	-623.89	613.20	874.78	4.04	450340.61	634597.00	
7980.00	87.04	141.29	7406.19	-648.72	633.25	906.53	6.73	450315.78	634617.05	
8012.00	87.96	140.90	7407.58	-673.60	653.33	938.34	3.12	450290.90	634637.13	
8044.00	88.46	140.92	7408.58	-698.42	673.50	970.17	1.56	450266.08	634657.30	
8076.00	88.09	138.89	7409.55	-722.89	694.10	1002.05	6.45	450241.61	634677.90	
8171.00	87.10	132.20	7413.54	-790.60	760.53	1096.91	7.11	450173.90	634744.33	
8266.00	87.96	135.52	7417.63	-856.36	828.95	1191.78	3.61	450108.14	634812.75	
8362.00	89.63	136.06	7419.65	-925.15	895.88	1287.75	1.83	450039.35	634879.68	
8454.00	89.51	132.59	7420.34	-989.42	961.68	1379.72	3.77	449975.08	634945.48	
8550.00	87.34	134.62	7422.98	-1055.60	1031.16	1475.63	3.09	449908.90	635014.96	
8645.00	87.59	137.60	7427.18	-1123.99	1096.95	1570.52	3.14	449840.51	635080.75	
8741.00	89.32	137.21	7429.77	-1194.63	1161.90	1666.41	1.85	449769.87	635145.70	
8834.00	91.98	133.77	7428.72	-1260.93	1227.07	1759.38	4.68	449703.57	635210.87	
8929.00	90.43	133.07	7426.72	-1326.21	1296.06	1854.31	1.79	449638.29	635279.86	
9025.00	87.96	130.95	7428.07	-1390.45	1367.37	1950.13	3.39	449574.05	635351.17	
9120.00	88.33	131.02	7431.14	-1452.72	1439.05	2044.81	0.40	449511.78	635422.85	
9215.00	88.64	129.83	7433.65	-1514.30	1511.34	2139.43	1.29	449450.20	635495.14	
9311.00	89.12	131.92	7435.53	-1577.11	1583.91	2235.13	2.23	449387.39	635567.71	
9406.00	90.55	136.53	7435.80	-1643.35	1651.97	2330.08	5.08	449321.15	635635.77	
9502.00	90.55	137.15	7434.88	-1713.37	1717.63	2426.04	0.65	449251.13	635701.43	
9597.00	89.38	135.14	7434.94	-1781.87	1783.45	2521.02	2.45	449182.63	635767.25	
9692.00	89.26	135.90	7436.07	-1849.65	1850.01	2616.02	0.81	449114.85	635833.81	
9788.00	89.20	139.88	7437.36	-1920.85	1914.36	2711.89	4.15	449043.65	635898.16	
9884.00	89.57	136.77	7438.39	-1992.54	1978.18	2807.74	3.26	448971.96	635961.98	
9979.00	89.57	138.51	7439.10	-2062.73	2042.18	2902.65	1.83	448901.77	636025.98	
10072.00	89.63	138.52	7439.75	-2132.40	2103.79	2995.50	0.07	448832.10	636087.59	
10168.00	90.49	136.92	7439.65	-2203.42	2168.37	3091.41	1.89	448761.08	636152.17	
10262.00	89.38	135.76	7439.76	-2271.42	2233.26	3185.39	1.71	448693.08	636217.06	
10356.00	89.57	134.20	7440.62	-2337.86	2299.75	3279.38	1.67	448626.64	636283.55	
10452.00	89.26	132.17	7441.60	-2403.56	2369.74	3375.31	2.14	448560.94	636353.54	
10547.00	88.70	131.79	7443.29	-2467.09	2440.35	3470.13	0.71	448497.41	636424.15	
10643.00	88.64	133.35	7445.52	-2532.01	2511.03	3566.00	1.63	448432.49	636494.83	
10739.00	88.58	135.95	7447.85	-2599.45	2579.30	3661.95	2.71	448365.05	636563.10	
10834.00	89.32	137.17	7449.59	-2668.42	2644.61	3756.91	1.50	448296.08	636628.41	
10930.00	90.12	137.40	7450.06	-2738.95	2709.73	3852.85	0.87	448225.55	636693.53	
11026.00	88.34	135.82	7451.35	-2808.70	2775.66	3948.81	2.48	448155.80	636759.46	
11122.00	88.58	136.52	7453.93	-2877.93	2842.12	4044.77	0.77	448086.57	636825.92	
11217.00	88.83	133.44	7456.08	-2945.06	2909.30	4139.73	3.25	448019.44	636893.10	
11313.00	88.64	133.41	7458.20	-3011.03	2979.00	4235.65	0.20	447953.47	636962.80	
11408.00	89.57	137.18	7459.68	-3078.53	3045.81	4330.62	4.09	447885.97	637029.61	
11504.00	90.43	144.25	7459.68	-3152.79	3106.55	4426.13	7.42	447811.71	637090.35	
11600.00	91.42	147.40	7458.13	-3232.19	3160.46	4520.49	3.44	447732.31	637144.26	
11695.00	90.49	139.88	7456.54	-3308.63	3216.74	4614.40	7.97	447655.87	637200.54	
11791.00	88.76	134.32	7457.17	-3378.92	3282.06	4710.31	6.07	447585.58	637265.86	
11886.00	88.27	131.73	7459.63	-3443.71	3351.48	4805.19	2.77	447520.79	637335.28	
11982.00	89.81	132.01	7461.24	-3507.78	3422.95	4901.01	1.63	447456.72	637406.75	
12077.00	89.01	133.38	7462.22	-3572.19	3492.77	4995.90	1.67	447392.31	637476.57	
12173.00	89.08	131.70	7463.82	-3637.09	3563.49	5091.77	1.75	447327.41	637547.29	
12269.00	89.38	133.86	7465.11	-3702.28	3633.94	5187.67	2.27	447262.22	637617.74	
12364.00	88.27	133.90	7467.06	-3768.11	3702.40	5282.62	1.17	447196.39	637686.20	
12460.00	89.08	137.02	7469.28	-3836.51	3769.71	5378.58	3.36	447127.99	637753.51	
12554.00	89.26	134.58	7470.64	-3903.89	3835.23	5472.56	2.60	447060.61	637819.03	
12650.00	88.15	131.26	7472.81	-3969.23	3905.50	5568.44	3.65	446995.27	637889.30	

5D Survey Report

Survey Points (Relative to Slot centre, TVD relative to Drill floor)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N. Offset (US ft)	E. Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Northing (US ft)	Easting (US ft)	Comment	
12746.00	88.46	128.13	7475.65	-4030.51	3979.33	5663.93	3.27	446933.99	637963.13		
12841.00	88.77	130.49	7477.95	-4090.68	4052.81	5758.37	2.50	446873.82	638036.61		
12936.00	89.20	134.19	7479.63	-4154.84	4123.00	5853.22	3.92	446809.86	638106.80		
13030.00	90.00	135.07	7480.29	-4220.68	4189.90	5947.21	1.27	446743.82	638173.70		
13125.00	88.52	134.81	7481.52	-4287.77	4257.13	6042.19	1.58	446676.73	638240.93		
13221.00	89.26	137.57	7483.38	-4357.03	4323.57	6138.15	2.98	446607.47	638307.37		
13316.00	89.32	137.72	7484.55	-4427.23	4387.57	6233.07	0.17	446537.27	638371.37		
13411.00	89.57	135.62	7485.47	-4496.33	4452.75	6328.03	2.23	446468.17	638436.55		
13507.00	89.32	134.59	7486.40	-4564.33	4520.51	6424.02	1.10	446400.17	638504.31		
13603.00	89.51	134.55	7487.38	-4631.70	4588.89	6520.01	0.20	446332.80	638572.69		
13698.00	88.95	135.39	7488.66	-4698.83	4656.10	6615.00	1.06	446265.67	638639.90		
13793.00	89.38	135.02	7490.04	-4766.34	4723.02	6709.99	0.60	446198.26	638706.82		
13889.00	89.51	133.60	7490.97	-4833.29	4791.71	6805.97	1.49	446131.21	638775.51		
13985.00	89.51	134.57	7491.80	-4900.08	4860.67	6901.94	1.01	446064.42	638844.47		
14080.00	89.69	135.85	7492.46	-4967.50	4927.59	6996.94	1.36	445997.00	638911.39		
14176.00	89.38	136.41	7493.24	-5036.70	4994.12	7092.92	0.67	445927.80	638977.92		
14271.00	89.14	136.33	7494.46	-5105.46	5059.66	7187.90	0.27	445859.04	639043.46		
14367.00	88.70	135.90	7496.27	-5174.63	5126.20	7283.87	0.64	445789.87	639110.00		
14463.00	89.14	135.94	7498.08	-5243.59	5192.97	7379.85	0.46	445720.91	639176.77		
14557.00	89.26	137.01	7499.40	-5311.73	5257.70	7473.82	1.15	445652.77	639241.50		
14650.00	89.32	136.46	7500.55	-5379.45	5321.44	7566.78	0.59	445585.05	639305.24		
14746.00	89.12	134.39	7501.86	-5447.82	5388.80	7662.77	2.17	445516.68	639372.60		
14841.00	88.21	135.01	7504.07	-5514.63	5456.31	7757.73	1.16	445449.87	639440.11		
14936.00	90.00	136.20	7505.55	-5582.50	5522.76	7852.71	2.26	445382.00	639506.56		
15032.00	90.00	136.33	7505.55	-5651.86	5589.13	7948.70	0.14	445312.64	639572.93		
15127.00	89.14	135.93	7506.27	-5720.35	5654.96	8043.69	1.00	445244.15	639638.76		
15221.00	89.88	136.18	7507.07	-5788.02	5720.19	8137.67	0.83	445176.48	639703.99		
15315.00	88.46	134.15	7508.43	-5854.67	5786.45	8231.66	2.64	445109.83	639770.25		
15411.00	88.52	133.93	7510.96	-5921.38	5855.44	8327.60	0.24	445043.12	639839.24		
15505.00	89.38	134.57	7512.68	-5986.96	5922.76	8421.57	1.14	444977.54	639906.56		
15600.00	87.80	134.21	7515.02	-6053.40	5990.62	8516.52	1.71	444911.10	639974.42		
15695.00	88.95	133.44	7517.72	-6119.15	6059.13	8611.45	1.46	444845.35	640042.93		
15789.00	90.37	138.35	7518.27	-6186.63	6124.53	8705.41	5.44	444777.87	640108.33		
15883.00	89.38	136.29	7518.48	-6255.73	6188.25	8799.35	2.43	444708.77	640172.05		
15977.00	89.51	132.59	7519.39	-6321.53	6255.35	8893.32	3.94	444642.97	640239.15		
16071.00	89.07	129.06	7520.55	-6382.96	6326.46	8987.01	3.78	444581.54	640310.26		
16167.00	88.83	132.47	7522.31	-6445.63	6399.15	9082.68	3.56	444518.87	640382.95		
16261.00	88.21	136.73	7524.74	-6511.59	6466.04	9176.62	4.58	444452.91	640449.84		
16355.00	89.44	140.86	7526.67	-6582.28	6527.94	9270.40	4.58	444382.22	640511.74		
16450.00	88.89	135.46	7528.06	-6653.03	6591.28	9365.24	5.71	444311.47	640575.08		
16545.00	88.85	133.69	7529.93	-6719.59	6658.93	9460.21	1.86	444244.81	640642.73		
16639.00	88.83	133.25	7531.83	-6784.34	6727.14	9554.14	0.47	444180.16	640710.94		
16684.00	89.57	136.59	7532.46	-6816.11	6758.99	9599.13	7.60	444148.39	640742.79	Last Wft Svy	
16705.00	89.57	136.59	7532.62	-6831.36	6773.43	9620.12	0.00	444133.14	640757.23	Proj. To Bit	