



Weatherford

Evaluation, Drilling & Intervention
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Devon Energy
333 W. Sherridan Ave
Oklahoma City, OK, 73102

Date: March 24, 2014

Attention: Art Alarcon

NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 08 2014

Re: Devon Energy
Well: Harroun Trust 31-30 3H
Eddy County, New Mexico

RECEIVED

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
John Josserand MWD Supervisor	3H	2815 MD 12976' MD	3/6/2014 3/20/2014	Measurement While Drilling

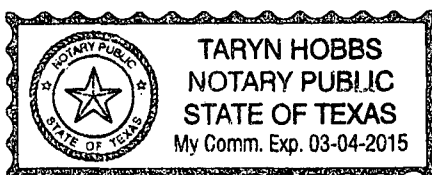
A notarized plan vs. actual is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Daniel Rodriguez
MWD Coordinator

On this, the 1st day of April, 2014, before me a notary public, the undersigned officer, personally appeared Daniel Rodriguez, 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



5D Survey Report**Devon Energy****Field Name:** *Eddy Co, NM (Nad 83 NME)***Site Name:** *Harroun Trust 31-30 Fed Com 2,3H Pad***Well Name:** *Harroun Trust 31-30 3H***Survey:** *Wft Svy*

20 March 2014



Harroun Trust 31-30 3H

Field Name Eddy Co, NM (Nad 83 NME)	Map Units : US ft Company Name : Devon Energy Vertical Reference Datum (VRD) : Mean Sea Level Projected Coordinate System : NAD83 / New Mexico East (ftUS) Comment :
Site Name Harroun Trust 31-30 Fed Com 2,3H Pad	Units : US ft North Reference : Grid Convergence Angle : 0.16 Position Northing : 456706.60 US ft Latitude : 32°15'18.69" Easting : 635686.20 US ft Longitude : 104°1'41.24" Elevation above Mean Sea Level: 2957.00 US ft Comment :
Slot Name Harroun Trust 31-30 3H	Position (Offsets relative to Site Centre) +N / -S : -0.30 US ft Northing : 456706.30 US ft Latitude : 32°15'18.69" +E / -W : 49.80 US ft Easting : 635736.00 US ft Longitude : 104°1'40.66" Slot TVD Reference : Ground Elevation Elevation above Mean Sea Level : 2957.00 US ft Comment :
Well Name Harroun Trust 31-30 3H	Type : Main well UWI : Rig Height Drill Floor : 25.00 US ft Comment : Relative to Mean Sea Level: 2982.00 US ft Closure Distance : 7136.22 US ft Closure Azimuth : 5.24839° Vertical Section (Position of Origin Relative to Slot) +N / -S : 0.00 US ft +E / -W : 0.00 US ft Az : 1.35°
Target Set	
Name : Harroun Trust 31-30 Number of Targets : 2 3H	
Comment :	
Target Name: LP Tgt Shape: Cuboid	Position (Relative to Slot centre) +N / -S : 792.85 US ft Northing : 457499.15 US ft Latitude : 32°15'26.52" +E / -W : -478.04 US ft Easting : 636214.04 US ft Longitude : -104°1'35.07" TVD (Drill Floor) : 6370.00 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

5D Survey Report

Target Name:	Position (Relative to Slot centre)		
PBHL	+N / -S : 7270.50US ft	Northing : 463976.80 US ft	Latitude : 32°16'30.62"
	+E / -W : 630.90 US ft	Easting : 636366.90US.ft	Longitude : 104°1'33.07"
Shape:	TVD (Drill Floor) : 6344.00 US ft		
Cuboid	Orientation	Azimuth : 0.00°	Inclination : 0.00°
	Dimensions	Length : 0.00 US ft	Breadth : 0.00 US ft Height : 0.00 US ft

Survey Name: WFT Svy

Date : 10/Mar/2014

Survey Tool : MWD

Comment :

Company : WFT

Magnetic Model

Model Name: BGGM

Date: 20/Feb/2014

Field Strength:
48317.5 nT

Declination: 7.59°

Dip: 60.05°

Tie Point

MD: 2631.09

Inclination: 2.26 Azimuth: 180.87

TVD: 2629.57

North Offset: 39.0949

East Offset: -
13.6072**Well path created using minimum curvature**

Interpolated 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	
2815.00	1.75	202.34	2813.37	32.87	-14.73	32.52	0.00	456739.17	635721.27	First MWD Svy	
2845.00	1.80	202.52	2843.35	32.01	-15.08	31.65	0.18	456738.31	635720.92		
2875.00	1.85	202.69	2873.34	31.13	-15.45	30.76	0.18	456737.43	635720.55		
2905.00	1.54	186.85	2903.32	30.27	-15.70	29.90	2.10	456736.57	635720.30		
2935.00	1.38	162.72	2933.31	29.53	-15.64	29.15	2.10	456735.83	635720.36		
2965.00	1.50	137.88	2963.31	28.89	-15.27	28.53	2.10	456735.19	635720.73		
2995.00	1.88	116.08	2993.29	28.38	-14.57	28.03	2.62	456734.68	635721.43		
3025.00	2.47	102.12	3023.27	28.03	-13.50	27.70	2.62	456734.33	635722.50		
3055.00	3.14	93.81	3053.23	27.84	-12.05	27.55	2.62	456734.14	635723.95		
3085.00	3.60	86.74	3083.18	27.82	-10.26	27.58	1.85	456734.12	635725.74		
3115.00	3.91	79.73	3113.12	28.06	-8.31	27.86	1.85	456734.36	635727.69		
3145.00	4.27	73.82	3143.04	28.55	-6.23	28.40	1.85	456734.85	635729.77		
3175.00	4.60	70.91	3172.95	29.28	-4.02	29.18	0.87	456735.58	635731.98		
3205.00	4.87	70.90	3202.85	30.09	-1.68	30.05	0.87	456736.39	635734.32		
3235.00	5.13	70.89	3232.73	30.95	0.79	30.96	0.87	456737.25	635736.79		
3265.00	5.40	70.91	3262.61	31.85	3.39	31.92	0.98	456738.15	635739.39		
3295.00	5.69	70.97	3292.47	32.80	6.13	32.93	0.98	456739.10	635742.13		
3325.00	5.99	71.02	3322.31	33.79	9.01	33.99	0.98	456740.09	635745.01		
3355.00	6.28	71.06	3352.14	34.83	12.04	35.11	1.06	456741.13	635748.04		
3385.00	6.60	70.99	3381.95	35.93	15.23	36.27	1.06	456742.23	635751.23		
3415.00	6.92	70.92	3411.74	37.08	18.57	37.50	1.06	456743.38	635754.57		
3445.00	7.24	70.86	3441.51	38.29	22.06	38.80	1.06	456744.59	635758.06		
3475.00	7.62	70.16	3471.26	39.58	25.72	40.18	1.34	456745.88	635761.72		
3505.00	8.02	69.49	3500.98	40.99	29.55	41.67	1.34	456747.29	635765.55		
3535.00	8.41	68.87	3530.67	42.51	33.55	43.29	1.34	456748.81	635769.55		
3565.00	8.47	68.45	3560.35	44.12	37.67	45.00	0.24	456750.42	635773.67		
3595.00	8.42	68.08	3590.02	45.75	41.76	46.73	0.24	456752.05	635777.76		
3625.00	8.38	67.69	3619.70	47.40	45.82	48.47	0.24	456753.70	635781.82		
3655.00	8.30	67.34	3649.38	49.07	49.85	50.23	0.35	456755.37	635785.85		
3685.00	8.21	67.00	3679.07	50.74	53.82	52.00	0.35	456757.04	635789.82		
3715.00	8.12	66.66	3708.77	52.42	57.73	53.76	0.35	456758.72	635793.73		
3745.00	8.08	66.32	3738.47	54.10	61.60	55.54	0.17	456760.40	635797.60		
3775.00	8.11	66.01	3768.17	55.81	65.47	57.34	0.17	456762.11	635801.47		
3805.00	8.14	65.70	3797.87	57.54	69.34	59.16	0.17	456763.84	635805.34		
3835.00	8.22	66.13	3827.56	59.30	73.22	61.01	1.07	456765.60	635809.22		

5D Survey Report

Interpolated Points (Relative to Slot centre, TVD relative to Drill Floor)										
ID (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)	Eastings (US ft)	Comment
3865.00	8.40	67.96	3857.25	60.99	77.21	62.79	1.07	456767.29	635813.21	
3895.00	8.59	69.71	3886.92	62.59	81.35	64.49	1.07	456768.89	635817.35	
3925.00	8.77	71.12	3916.58	64.10	85.62	66.10	0.15	456770.40	635821.62	
3955.00	8.81	71.19	3946.22	65.58	89.96	67.68	0.15	456771.88	635825.96	
3985.00	8.86	71.25	3975.87	67.06	94.32	69.27	0.15	456773.36	635830.32	
4015.00	8.90	71.31	4005.51	68.55	98.71	70.86	0.00	456774.85	635834.71	
4045.00	8.91	71.14	4035.15	70.04	103.10	72.45	0.09	456776.34	635839.10	
4075.00	8.92	70.98	4064.78	71.55	107.50	74.07	0.09	456777.85	635843.50	
4105.00	8.93	70.81	4094.42	73.08	111.90	75.69	0.09	456779.38	635847.90	
4135.00	8.89	70.49	4124.06	74.62	116.29	77.34	0.23	456780.92	635852.29	
4165.00	8.85	70.13	4153.70	76.17	120.64	79.00	0.23	456782.47	635856.64	
4195.00	8.80	69.78	4183.34	77.75	124.96	80.67	0.23	456784.05	635860.96	
4225.00	8.75	69.50	4212.99	79.35	129.26	82.37	0.23	456785.65	635865.26	
4255.00	8.69	69.25	4242.65	80.95	133.51	84.07	0.23	456787.25	635869.51	
4285.00	8.64	69.00	4272.30	82.56	137.74	85.78	0.23	456788.86	635873.74	
4315.00	8.75	69.05	4301.96	84.18	141.95	87.50	0.92	456790.48	635877.95	
4345.00	9.03	69.36	4331.60	85.83	146.28	89.25	0.92	456792.13	635882.28	
4375.00	9.30	69.64	4361.22	87.50	150.76	91.03	0.92	456793.80	635886.76	
4405.00	9.49	69.85	4390.81	89.20	155.36	92.83	0.22	456795.50	635891.36	
4435.00	9.55	69.96	4420.40	90.90	160.02	94.64	0.22	456797.20	635896.02	
4465.00	9.61	70.07	4449.98	92.61	164.71	96.46	0.22	456798.91	635900.71	
4495.00	9.67	70.11	4479.56	94.31	169.44	98.28	0.17	456800.61	635905.44	
4525.00	9.71	69.93	4509.13	96.04	174.18	100.12	0.17	456802.34	635910.18	
4555.00	9.75	69.76	4538.70	97.79	178.94	101.98	0.17	456804.09	635914.94	
4585.00	9.80	69.58	4568.26	99.56	183.72	103.86	0.32	456805.86	635919.72	
4615.00	9.88	69.28	4597.82	101.36	188.52	105.77	0.32	456807.66	635924.52	
4645.00	9.96	68.99	4627.37	103.20	193.35	107.72	0.32	456809.50	635929.35	
4675.00	10.04	68.70	4656.92	105.08	198.21	109.72	0.32	456811.38	635934.21	
4705.00	10.10	68.48	4686.46	106.99	203.09	111.75	0.21	456813.29	635939.09	
4735.00	10.15	68.27	4715.99	108.94	207.99	113.81	0.21	456815.24	635943.99	
4765.00	10.20	68.07	4745.52	110.91	212.91	115.89	0.21	456817.21	635948.91	
4795.00	10.21	67.87	4775.04	112.90	217.84	118.00	0.11	456819.20	635953.84	
4825.00	10.20	67.68	4804.57	114.91	222.76	120.13	0.11	456821.21	635958.76	
4855.00	10.20	67.49	4834.09	116.94	227.67	122.27	0.11	456823.24	635963.67	
4885.00	10.15	67.18	4863.62	118.98	232.57	124.43	0.37	456825.28	635968.57	
4915.00	10.06	66.80	4893.16	121.04	237.41	126.60	0.37	456827.34	635973.41	
4945.00	9.98	66.40	4922.70	123.11	242.20	128.78	0.37	456829.41	635978.20	
4975.00	9.94	66.15	4952.25	125.20	246.94	130.98	0.08	456831.50	635982.94	
5005.00	9.96	66.07	4981.80	127.30	251.68	133.19	0.08	456833.60	635987.68	
5035.00	9.98	65.99	5011.34	129.41	256.43	135.41	0.08	456835.71	635992.43	
5065.00	9.98	65.85	5040.89	131.53	261.18	137.64	0.17	456837.83	635997.18	
5095.00	9.96	65.59	5070.44	133.66	265.91	139.89	0.17	456839.96	636001.91	
5125.00	9.94	65.32	5099.98	135.82	270.63	142.15	0.17	456842.12	636006.63	
5155.00	9.92	65.24	5129.54	137.99	275.32	144.43	0.64	456844.29	636011.32	
5185.00	9.94	66.34	5159.09	140.11	280.04	146.67	0.64	456846.41	636016.04	
5215.00	9.97	67.44	5188.63	142.14	284.81	148.81	0.64	456848.44	636020.81	
5245.00	10.00	68.53	5218.18	144.09	289.64	150.88	0.64	456850.39	636025.64	
5275.00	9.86	68.64	5247.73	145.98	294.45	152.88	0.49	456852.28	636030.45	
5305.00	9.71	68.72	5277.29	147.83	299.20	154.84	0.49	456854.13	636035.20	
5335.00	9.57	68.80	5306.87	149.66	303.89	156.77	0.49	456855.96	636039.89	
5365.00	9.48	68.52	5336.46	151.46	308.51	158.68	0.33	456857.76	636044.51	
5395.00	9.40	68.14	5366.05	153.27	313.08	160.61	0.33	456859.57	636049.08	
5425.00	9.33	67.76	5395.65	155.11	317.61	162.55	0.33	456861.41	636053.61	
5455.00	9.47	67.47	5425.25	156.97	322.12	164.51	0.88	456863.27	636058.12	
5485.00	9.74	67.24	5454.83	158.89	326.74	166.55	0.88	456865.19	636062.74	
5515.00	10.00	67.02	5484.39	160.89	331.48	168.66	0.88	456867.19	636067.48	
5545.00	10.13	66.92	5513.92	162.95	336.32	170.83	0.00	456869.25	636072.32	
5575.00	10.12	66.92	5543.46	165.02	341.16	173.01	0.03	456871.32	636077.16	
5605.00	10.11	66.91	5572.99	167.08	346.01	175.19	0.03	456873.38	636082.01	

5D Survey Report

Interpolated 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
5635.00	10.10	66.83	5602.52	169.15	350.85	177.37	0.14	456875.45	636086.85	
5665.00	10.10	66.59	5632.06	171.23	355.68	179.56	0.14	456877.53	636091.68	
5695.00	10.09	66.35	5661.60	173.33	360.50	181.77	0.14	456879.63	636096.50	
5725.00	10.10	66.15	5691.13	175.44	365.31	184.00	0.23	456881.74	636101.31	
5755.00	10.17	66.15	5720.66	177.58	370.14	186.25	0.23	456883.88	636106.14	
5785.00	10.24	66.16	5750.19	179.73	375.00	188.51	0.23	456886.03	636111.00	
5815.00	10.29	66.03	5779.71	181.89	379.89	190.79	0.22	456888.19	636115.89	
5845.00	10.32	65.69	5809.22	184.09	384.79	193.10	0.22	456890.39	636120.79	
5875.00	11.56	61.86	5838.68	186.60	389.88	195.73	4.96	456892.90	636125.88	
5905.00	13.00	53.17	5868.00	190.02	395.25	199.28	8.03	456896.32	636131.25	
5935.00	14.74	40.22	5897.13	194.92	400.45	204.30	12.49	456901.22	636136.45	
5965.00	17.01	28.97	5925.99	201.68	405.05	211.17	12.77	456907.98	636141.05	
5995.00	19.44	20.02	5954.48	210.23	408.90	219.80	12.20	456916.53	636144.90	
6025.00	22.66	15.15	5982.49	220.47	412.05	230.12	12.47	456926.77	636148.05	
6055.00	26.27	15.71	6009.80	232.47	415.21	242.19	12.77	456938.77	636151.21	
6085.00	29.74	17.26	6036.27	245.98	419.26	255.79	11.21	456952.28	636155.26	
6115.00	33.38	18.47	6061.85	260.90	424.05	270.82	13.31	456967.20	636160.05	
6145.00	36.54	19.06	6086.37	277.24	429.66	287.28	7.69	456983.54	636165.66	
6175.00	38.61	18.82	6110.13	294.56	435.61	304.75	5.90	457000.86	636171.61	
6205.00	40.41	17.69	6133.27	312.66	441.68	322.98	8.42	457018.96	636177.68	
6235.00	42.66	15.51	6155.77	331.69	447.30	342.13	10.31	457037.99	636183.30	
6265.00	45.66	14.18	6177.30	351.88	452.64	362.45	10.99	457058.18	636188.64	
6295.00	49.07	13.11	6197.64	373.30	457.84	383.98	13.85	457079.60	636193.84	
6325.00	52.89	11.56	6216.48	396.08	462.91	406.88	13.90	457102.38	636198.91	
6355.00	55.42	7.59	6234.05	420.06	466.93	430.94	12.07	457126.36	636202.93	
6385.00	57.79	4.32	6250.58	444.96	469.49	455.89	12.98	457151.26	636205.49	
6415.00	61.36	2.69	6265.76	470.78	471.06	481.75	7.86	457177.08	636207.06	
6445.00	63.61	1.90	6279.61	497.36	472.13	508.35	7.86	457203.66	636208.13	
6475.00	66.44	1.65	6292.28	524.54	472.96	535.54	9.49	457230.84	636208.96	
6505.00	69.32	1.86	6303.58	552.32	473.81	563.32	9.68	457258.62	636209.81	
6535.00	71.74	1.91	6313.56	580.59	474.74	591.61	7.81	457286.89	636210.74	
6565.00	73.16	1.92	6322.56	609.19	475.70	620.23	3.97	457315.49	636211.70	
6595.00	74.90	1.99	6330.85	638.00	476.68	649.06	6.46	457344.30	636212.68	
6625.00	76.86	2.10	6338.17	667.08	477.71	678.15	6.57	457373.38	636213.71	
6655.00	79.07	1.94	6344.45	696.39	478.77	707.48	7.91	457402.69	636214.77	
6685.00	81.40	1.75	6349.54	725.94	479.71	737.04	7.73	457432.24	636215.71	
6715.00	83.47	1.78	6353.46	755.67	480.61	766.78	6.18	457461.97	636216.61	
6745.00	85.02	1.73	6356.43	785.50	481.55	796.63	4.27	457491.80	636217.55	
6775.00	86.11	1.54	6358.72	815.40	482.40	826.54	2.97	457521.70	636218.40	
6805.00	87.03	1.43	6360.52	845.34	483.17	856.49	3.29	457551.64	636219.17	
6835.00	87.93	1.33	6361.83	875.30	483.90	886.46	2.49	457581.60	636219.90	
6865.00	88.59	1.16	6362.72	905.28	484.54	916.45	1.62	457611.58	636220.54	
6895.00	88.97	0.95	6363.35	935.27	485.12	946.44	1.83	457641.57	636221.12	
6925.00	89.16	0.64	6363.87	965.26	485.48	976.43	4.00	457671.56	636221.48	
6955.00	90.02	1.44	6364.08	995.26	486.04	1006.43	3.47	457701.56	636222.04	
6985.00	90.97	1.88	6363.82	1025.24	486.91	1036.43	3.47	457731.54	636222.91	
7015.00	91.64	2.14	6363.09	1055.21	487.99	1066.42	0.82	457761.51	636223.99	
7045.00	91.88	2.15	6362.17	1085.18	489.11	1096.40	0.82	457791.48	636225.11	
7075.00	92.13	2.16	6361.12	1115.14	490.24	1126.38	0.82	457821.44	636226.24	
7105.00	92.23	2.16	6359.95	1145.10	491.37	1156.35	1.03	457851.40	636227.37	
7135.00	91.92	2.18	6358.87	1175.05	492.50	1186.33	1.03	457881.35	636228.50	
7165.00	91.61	2.20	6357.94	1205.02	493.65	1216.31	1.03	457911.32	636229.65	
7195.00	91.34	2.20	6357.18	1234.99	494.80	1246.30	0.47	457941.29	636230.80	
7225.00	91.40	2.07	6356.46	1264.96	495.92	1276.29	0.47	457971.26	636231.92	
7255.00	91.47	1.95	6355.71	1294.93	496.97	1306.28	0.47	458001.23	636232.97	
7285.00	91.54	1.83	6354.93	1324.90	497.96	1336.27	0.47	458031.20	636233.96	
7315.00	91.94	1.88	6354.02	1354.87	498.93	1366.25	1.43	458061.17	636234.93	
7345.00	92.36	1.94	6352.90	1384.84	499.93	1396.23	1.43	458091.14	636235.93	
7375.00	92.79	2.01	6351.55	1414.79	500.96	1426.20	1.43	458121.09	636236.96	

5D Survey Report

Interpolated Points (Relative to Slot centre, TVD relative to Drill Floor.)										
MD (US ft)	Incl (°)	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
7405.00	92.32	1.95	6350.17	1444.74	502.00	1456.16	2.30	458151.04	636238.00	
7435.00	91.64	1.87	6349.13	1474.70	503.00	1486.14	2.30	458181.00	636239.00	
7465.00	90.95	1.79	6348.45	1504.68	503.96	1516.13	2.30	458210.98	636239.96	
7495.00	90.53	1.80	6348.09	1534.66	504.89	1546.13	0.91	458240.96	636240.89	
7525.00	90.27	1.86	6347.88	1564.65	505.85	1576.13	0.91	458270.95	636241.85	
7555.00	90.00	1.93	6347.81	1594.63	506.84	1606.13	0.91	458300.93	636242.84	
7585.00	89.85	1.91	6347.87	1624.61	507.86	1636.13	0.35	458330.91	636243.86	
7615.00	89.83	1.81	6347.95	1654.60	508.83	1666.13	0.35	458360.90	636244.83	
7645.00	89.80	1.71	6348.05	1684.58	509.75	1696.12	0.35	458390.88	636245.75	
7675.00	89.78	1.62	6348.16	1714.57	510.62	1726.12	0.26	458420.87	636246.62	
7705.00	89.73	1.55	6348.29	1744.56	511.45	1756.12	0.26	458450.86	636247.45	
7735.00	89.69	1.49	6348.44	1774.55	512.25	1786.12	0.26	458480.85	636248.25	
7765.00	89.66	1.44	6348.61	1804.54	513.02	1816.12	0.23	458510.84	636249.02	
7795.00	89.73	1.46	6348.77	1834.53	513.77	1846.12	0.23	458540.83	636249.77	
7825.00	89.80	1.47	6348.90	1864.52	514.54	1876.12	0.23	458570.82	636250.54	
7855.00	89.85	1.48	6348.99	1894.51	515.31	1906.12	1.13	458600.81	636251.31	
7885.00	89.54	1.62	6349.15	1924.49	516.12	1936.12	1.13	458630.79	636252.12	
7915.00	89.23	1.76	6349.47	1954.48	517.01	1966.12	1.13	458660.78	636253.01	
7945.00	88.92	1.89	6349.95	1984.46	517.96	1996.11	1.13	458690.76	636253.96	
7975.00	89.02	1.89	6350.51	2014.44	518.96	2026.11	0.53	458720.74	636254.96	
8005.00	89.17	1.86	6350.98	2044.42	519.93	2056.10	0.53	458750.72	636255.93	
8035.00	89.33	1.83	6351.37	2074.40	520.90	2086.10	0.53	458780.70	636256.90	
8065.00	89.47	1.83	6351.69	2104.38	521.85	2116.10	0.45	458810.68	636257.85	
8095.00	89.60	1.85	6351.93	2134.37	522.82	2146.09	0.45	458840.67	636258.82	
8125.00	89.73	1.86	6352.11	2164.35	523.79	2176.09	0.45	458870.65	636259.79	
8155.00	89.65	1.89	6352.24	2194.34	524.77	2206.09	0.82	458900.64	636260.77	
8185.00	89.41	1.93	6352.49	2224.32	525.77	2236.09	0.82	458930.62	636261.77	
8215.00	89.17	1.97	6352.86	2254.30	526.79	2266.08	0.82	458960.60	636262.79	
8245.00	89.04	1.99	6353.35	2284.28	527.83	2296.08	0.15	458990.58	636263.83	
8275.00	89.08	1.99	6353.84	2314.25	528.87	2326.07	0.15	459020.55	636264.87	
8305.00	89.13	2.00	6354.31	2344.23	529.92	2356.07	0.15	459050.53	636265.92	
8335.00	89.25	2.02	6354.75	2374.21	530.96	2386.06	1.31	459080.51	636266.96	
8365.00	89.63	2.12	6355.05	2404.19	532.05	2416.06	1.31	459110.49	636268.05	
8395.00	90.01	2.22	6355.14	2434.17	533.19	2446.05	1.31	459140.47	636269.19	
8425.00	90.41	2.31	6355.04	2464.14	534.37	2476.05	1.99	459170.44	636270.37	
8455.00	91.01	2.33	6354.67	2494.12	535.59	2506.04	1.99	459200.42	636271.59	
8485.00	91.60	2.36	6353.98	2524.08	536.82	2536.03	1.99	459230.38	636272.82	
8515.00	92.20	2.38	6352.99	2554.04	538.06	2566.01	1.99	459260.34	636274.06	
8545.00	91.74	2.22	6351.94	2584.00	539.26	2595.99	1.85	459290.30	636275.26	
8575.00	91.21	2.06	6351.16	2613.97	540.38	2625.97	1.85	459320.27	636276.38	
8605.00	90.68	1.89	6350.67	2643.95	541.41	2655.97	1.85	459350.25	636277.41	
8635.00	90.36	1.52	6350.41	2673.93	542.32	2685.97	1.70	459380.23	636278.32	
8665.00	90.09	1.08	6350.29	2703.92	543.00	2715.97	1.70	459410.22	636279.00	
8695.00	89.83	0.64	6350.31	2733.92	543.45	2745.96	1.70	459440.22	636279.45	
8725.00	89.73	0.49	6350.44	2763.92	543.72	2775.96	0.15	459470.22	636279.72	
8755.00	89.76	0.53	6350.58	2793.92	543.99	2805.96	0.15	459500.22	636279.99	
8785.00	89.78	0.57	6350.70	2823.91	544.27	2835.95	0.15	459530.21	636280.27	
8815.00	90.00	0.64	6350.79	2853.91	544.58	2865.95	1.67	459560.21	636280.58	
8845.00	90.49	0.76	6350.66	2883.91	544.95	2895.95	1.67	459590.21	636280.95	
8875.00	90.97	0.88	6350.28	2913.90	545.38	2925.94	1.67	459620.20	636281.38	
8905.00	91.29	0.96	6349.65	2943.89	545.87	2955.94	0.55	459650.19	636281.87	
8935.00	91.13	0.91	6349.02	2973.88	546.36	2985.93	0.55	459680.18	636282.36	
8965.00	90.98	0.85	6348.47	3003.87	546.82	3015.92	0.55	459710.17	636282.82	
8995.00	90.83	0.82	6348.00	3033.87	547.25	3045.92	0.43	459740.17	636283.25	
9025.00	90.76	0.93	6347.58	3063.86	547.71	3075.91	0.43	459770.16	636283.71	
9055.00	90.70	1.04	6347.20	3093.85	548.23	3105.91	0.43	459800.15	636284.23	
9085.00	90.63	1.15	6346.85	3123.85	548.81	3135.91	0.43	459830.15	636284.81	
9115.00	90.28	1.03	6346.61	3153.84	549.38	3165.91	1.24	459860.14	636285.38	
9145.00	89.92	0.91	6346.56	3183.84	549.88	3195.91	1.24	459890.14	636285.88	

5D Survey Report

Interpolated 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
9175.00	89.57	0.79	6346.69	3213.83	550.33	3225.91	1.24	459920.13	636286.33	
9205.00	89.16	0.76	6347.02	3243.83	550.73	3255.90	1.42	459950.13	636286.73	
9235.00	88.73	0.74	6347.58	3273.82	551.12	3285.90	1.42	459980.12	636287.12	
9265.00	88.31	0.72	6348.35	3303.81	551.51	3315.88	1.42	460010.11	636287.51	
9295.00	88.29	0.75	6349.28	3333.79	551.89	3345.87	0.53	460040.09	636287.89	
9325.00	88.44	0.79	6350.13	3363.78	552.29	3375.85	0.53	460070.08	636288.29	
9355.00	88.60	0.83	6350.91	3393.76	552.71	3405.84	0.53	460100.06	636288.71	
9385.00	88.76	0.83	6351.60	3423.75	553.15	3435.83	0.60	460130.05	636289.15	
9415.00	88.94	0.80	6352.20	3453.74	553.58	3465.83	0.60	460160.04	636289.58	
9445.00	89.12	0.77	6352.71	3483.74	553.99	3495.82	0.60	460190.04	636289.99	
9475.00	89.22	0.74	6353.13	3513.73	554.39	3525.82	0.12	460220.03	636290.39	
9505.00	89.20	0.71	6353.54	3543.72	554.77	3555.81	0.12	460250.02	636290.77	
9535.00	89.18	0.68	6353.97	3573.72	555.13	3585.81	0.12	460280.02	636291.13	
9565.00	89.14	0.60	6354.40	3603.71	555.48	3615.80	1.04	460310.01	636291.48	
9595.00	89.01	0.31	6354.89	3633.71	555.72	3645.79	1.04	460340.01	636291.72	
9625.00	88.89	0.03	6355.44	3663.70	555.81	3675.78	1.04	460370.00	636291.81	
9655.00	88.77	359.74	6356.05	3693.70	555.75	3705.77	1.04	460400.00	636291.75	
9685.00	88.84	359.77	6356.69	3723.69	555.60	3735.75	0.63	460429.99	636291.60	
9715.00	88.97	359.91	6357.26	3753.69	555.52	3765.73	0.63	460459.99	636291.52	
9745.00	89.11	0.05	6357.76	3783.68	555.51	3795.72	0.63	460489.98	636291.51	
9775.00	89.32	0.27	6358.18	3813.68	555.58	3825.71	1.30	460519.98	636291.58	
9805.00	89.58	0.56	6358.47	3843.68	555.80	3855.70	1.30	460549.98	636291.80	
9835.00	89.85	0.85	6358.62	3873.67	556.17	3885.70	1.30	460579.97	636292.17	
9865.00	90.17	1.14	6358.62	3903.67	556.68	3915.70	1.67	460609.97	636292.68	
9895.00	90.58	1.44	6358.42	3933.66	557.36	3945.70	1.67	460639.96	636293.36	
9925.00	90.98	1.74	6358.02	3963.65	558.19	3975.70	1.67	460669.95	636294.19	
9955.00	91.14	1.78	6357.42	3993.62	559.16	4005.69	2.32	460699.92	636295.16	
9985.00	90.74	1.21	6356.92	4023.61	559.94	4035.68	2.32	460729.91	636295.94	
10015.00	90.34	0.64	6356.64	4053.60	560.42	4065.68	2.32	460759.90	636296.42	
10045.00	89.99	0.13	6356.56	4083.60	560.61	4095.68	0.37	460789.90	636296.61	
10075.00	89.90	0.07	6356.59	4113.60	560.66	4125.67	0.37	460819.90	636296.66	
10105.00	89.81	0.00	6356.67	4143.60	560.68	4155.66	0.37	460849.90	636296.68	
10135.00	89.72	359.94	6356.79	4173.60	560.67	4185.65	0.37	460879.90	636296.67	
10165.00	89.61	359.41	6356.97	4203.60	560.50	4215.64	1.80	460909.90	636296.50	
10195.00	89.50	358.89	6357.20	4233.60	560.05	4245.62	1.80	460939.90	636296.05	
10225.00	89.39	358.36	6357.49	4263.59	559.33	4275.58	1.80	460969.89	636295.33	
10255.00	89.63	358.43	6357.76	4293.57	558.46	4305.54	1.22	460999.87	636294.46	
10285.00	89.94	358.62	6357.88	4323.56	557.69	4335.50	1.22	461029.86	636293.69	
10315.00	90.26	358.80	6357.82	4353.56	557.01	4365.47	1.22	461059.86	636293.01	
10345.00	90.29	358.69	6357.66	4383.55	556.38	4395.44	0.88	461089.85	636292.38	
10375.00	90.20	358.44	6357.53	4413.54	555.63	4425.40	0.88	461119.84	636291.63	
10405.00	90.11	358.19	6357.45	4443.53	554.74	4455.36	0.88	461149.83	636290.74	
10435.00	90.03	357.95	6357.41	4473.51	553.73	4485.31	0.81	461179.81	636289.73	
10465.00	89.97	357.71	6357.41	4503.49	552.59	4515.26	0.81	461209.79	636288.59	
10495.00	89.90	357.48	6357.45	4533.46	551.33	4545.19	0.81	461239.76	636287.33	
10525.00	89.83	357.42	6357.52	4563.43	549.97	4575.12	0.91	461269.73	636285.97	
10555.00	89.74	357.68	6357.63	4593.40	548.69	4605.05	0.91	461299.70	636284.69	
10585.00	89.65	357.94	6357.79	4623.38	547.54	4635.00	0.91	461329.68	636283.54	
10615.00	89.60	358.32	6357.99	4653.36	546.54	4664.95	2.83	461359.66	636282.54	
10645.00	89.71	359.16	6358.17	4683.35	545.88	4694.91	2.83	461389.65	636281.88	
10675.00	89.82	0.00	6358.29	4713.35	545.66	4724.90	2.83	461419.65	636281.66	
10705.00	89.95	0.83	6358.36	4743.35	545.89	4754.90	2.01	461449.65	636281.89	
10735.00	90.41	1.21	6358.26	4773.35	546.42	4784.89	2.01	461479.65	636282.42	
10765.00	90.88	1.59	6357.92	4803.34	547.16	4814.89	2.01	461509.64	636283.16	
10795.00	91.35	1.97	6357.34	4833.31	548.09	4844.89	2.01	461539.61	636284.09	
10825.00	91.64	2.02	6356.55	4863.29	549.14	4874.87	0.89	461569.59	636285.14	
10855.00	91.90	2.03	6355.62	4893.25	550.20	4904.86	0.89	461599.55	636286.20	
10885.00	92.17	2.05	6354.56	4923.21	551.27	4934.84	0.89	461629.51	636287.27	
10915.00	91.75	2.15	6353.48	4953.18	552.36	4964.81	2.26	461659.48	636288.36	

5D Survey Report

Interpolated Points (Relative to Slot centre, TVD relative to Drill Floor)										Comment
MD (US ft)	Incl (°)	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)	
10945.00	91.09	2.29	6352.74	4983.14	553.52	4994.80	2.26	461689.44	636289.52	
10975.00	90.43	2.43	6352.34	5013.12	554.76	5024.79	2.26	461719.42	636290.76	
11005.00	90.11	2.50	6352.24	5043.09	556.06	5054.79	0.17	461749.39	636292.06	
11035.00	90.07	2.53	6352.19	5073.06	557.37	5084.78	0.17	461779.36	636293.37	
11065.00	90.03	2.55	6352.16	5103.03	558.70	5114.78	0.17	461809.33	636294.70	
11095.00	89.95	2.56	6352.17	5133.00	560.04	5144.77	0.37	461839.30	636296.04	
11125.00	89.84	2.57	6352.22	5162.97	561.38	5174.76	0.37	461869.27	636297.38	
11155.00	89.73	2.58	6352.33	5192.94	562.73	5204.75	0.37	461899.24	636298.73	
11185.00	89.61	2.52	6352.50	5222.91	564.08	5234.75	1.02	461929.21	636300.08	
11215.00	89.45	2.25	6352.75	5252.88	565.33	5264.74	1.02	461959.18	636301.33	
11245.00	89.30	1.99	6353.07	5282.86	566.44	5294.74	1.02	461989.16	636302.44	
11275.00	89.16	1.75	6353.48	5312.84	567.42	5324.73	0.00	462019.14	636303.42	
11305.00	89.16	1.69	6353.92	5342.82	568.32	5354.73	0.17	462049.12	636304.32	
11335.00	89.16	1.64	6354.36	5372.81	569.19	5384.73	0.17	462079.11	636305.19	
11365.00	89.16	1.59	6354.80	5402.79	570.04	5414.72	0.17	462109.09	636306.04	
11395.00	89.08	1.66	6355.26	5432.78	570.89	5444.72	0.39	462139.08	636306.89	
11425.00	88.99	1.74	6355.77	5462.76	571.78	5474.71	0.39	462169.06	636307.78	
11455.00	88.90	1.81	6356.32	5492.74	572.71	5504.71	0.39	462199.04	636308.71	
11485.00	88.90	1.83	6356.90	5522.72	573.66	5534.70	0.07	462229.02	636309.66	
11515.00	88.92	1.83	6357.47	5552.70	574.62	5564.69	0.07	462259.00	636310.62	
11545.00	88.94	1.83	6358.03	5582.68	575.58	5594.69	0.07	462288.98	636311.58	
11575.00	89.12	1.93	6358.56	5612.66	576.55	5624.68	1.02	462318.96	636312.55	
11605.00	89.39	2.08	6358.95	5642.64	577.60	5654.68	1.02	462348.94	636313.60	
11635.00	89.66	2.23	6359.20	5672.61	578.72	5684.67	1.02	462378.91	636314.72	
11665.00	89.94	2.56	6359.30	5702.59	579.95	5714.67	2.00	462408.89	636315.95	
11695.00	90.25	3.07	6359.25	5732.55	581.43	5744.66	2.00	462438.85	636317.43	
11725.00	90.56	3.59	6359.04	5762.50	583.17	5774.64	2.00	462468.80	636319.17	
11755.00	90.67	3.80	6358.68	5792.43	585.15	5804.61	1.64	462498.73	636321.15	
11785.00	90.36	3.42	6358.41	5822.37	587.04	5834.59	1.64	462528.67	636323.04	
11815.00	90.05	3.04	6358.31	5852.32	588.73	5864.57	1.64	462558.62	636324.73	
11845.00	89.79	2.64	6358.36	5882.29	590.22	5894.56	1.58	462588.59	636326.22	
11875.00	89.76	2.17	6358.48	5912.26	591.48	5924.55	1.58	462618.56	636327.48	
11905.00	89.74	1.70	6358.61	5942.24	592.49	5954.55	1.58	462648.54	636328.49	
11935.00	89.73	1.26	6358.75	5972.23	593.26	5984.55	1.99	462678.53	636329.26	
11965.00	89.95	1.81	6358.83	6002.22	594.06	6014.55	1.99	462708.52	636330.06	
11995.00	90.17	2.37	6358.80	6032.20	595.16	6044.55	1.99	462738.50	636331.16	
12025.00	90.39	2.93	6358.66	6062.17	596.54	6074.54	1.99	462768.47	636332.54	
12055.00	90.44	3.27	6358.43	6092.12	598.17	6104.52	1.06	462798.42	636334.17	
12085.00	90.46	3.59	6358.20	6122.07	599.97	6134.50	1.06	462828.37	636335.97	
12115.00	90.48	3.91	6357.95	6152.00	601.93	6164.48	1.06	462858.30	636337.93	
12145.00	90.26	3.88	6357.74	6181.93	603.99	6194.44	1.26	462888.23	636339.99	
12175.00	89.92	3.70	6357.69	6211.87	605.97	6224.42	1.26	462918.17	636341.97	
12205.00	89.59	3.53	6357.82	6241.81	607.87	6254.39	1.26	462948.11	636343.87	
12235.00	89.43	3.59	6358.10	6271.75	609.70	6284.37	0.85	462978.05	636345.70	
12265.00	89.41	3.85	6358.40	6301.68	611.65	6314.34	0.85	463007.98	636347.65	
12295.00	89.38	4.10	6358.72	6331.61	613.72	6344.31	0.85	463037.91	636349.72	
12325.00	89.47	4.32	6359.04	6361.53	615.93	6374.27	1.00	463067.83	636351.93	
12355.00	89.71	4.50	6359.25	6391.44	618.24	6404.23	1.00	463097.74	636354.24	
12385.00	89.95	4.67	6359.34	6421.34	620.64	6434.18	1.00	463127.64	636356.64	
12415.00	90.10	4.70	6359.31	6451.24	623.12	6464.13	1.63	463157.54	636359.12	
12445.00	89.95	4.24	6359.29	6481.15	625.46	6494.08	1.63	463187.45	636361.46	
12475.00	89.79	3.78	6359.36	6511.07	627.55	6524.05	1.63	463217.37	636363.55	
12505.00	89.65	3.26	6359.51	6541.01	629.41	6554.03	3.42	463247.31	636365.41	
12535.00	89.60	2.23	6359.71	6570.98	630.84	6584.02	3.42	463277.28	636366.84	
12565.00	89.56	1.20	6359.93	6600.96	631.74	6614.02	3.42	463307.26	636367.74	
12595.00	89.51	0.18	6360.17	6630.96	632.10	6644.01	3.42	463337.26	636368.10	
12625.00	89.84	0.36	6360.35	6660.96	632.22	6674.01	1.47	463367.26	636368.22	
12655.00	90.19	0.62	6360.34	6690.96	632.48	6704.00	1.47	463397.26	636368.48	
12685.00	90.55	0.89	6360.15	6720.96	632.88	6734.00	1.47	463427.26	636368.88	

5D Survey Report

Interpolated 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
12715.00	90.72	1.21	6359.81	6750.95	633.42	6764.00	1.19	463457.25	636369.42	
12745.00	90.83	1.55	6359.40	6780.94	634.14	6794.00	1.19	463487.24	636370.14	
12775.00	90.94	1.89	6358.94	6810.92	635.04	6823.99	1.19	463517.22	636371.04	
12805.00	90.95	2.11	6358.43	6840.90	636.10	6853.98	0.55	463547.20	636372.10	
12835.00	90.91	2.27	6357.95	6870.87	637.24	6883.98	0.55	463577.17	636373.24	
12865.00	90.86	2.43	6357.48	6900.84	638.47	6913.97	0.55	463607.14	636374.47	
12895.00	90.89	2.93	6357.03	6930.81	639.83	6943.96	3.01	463637.11	636375.83	
12925.00	91.00	3.83	6356.54	6960.75	641.59	6973.94	3.01	463667.05	636377.59	
12955.00	91.11	4.72	6355.99	6990.66	643.83	7003.89	3.01	463696.96	636379.83	
12985.00	91.08	5.15	6355.39	7020.54	646.49	7033.82	2.56	463726.84	636382.49	
13015.00	90.70	4.48	6354.92	7050.43	649.01	7063.76	2.56	463756.73	636385.01	
13045.00	90.33	3.81	6354.65	7080.35	651.18	7093.73	2.56	463786.65	636387.18	
13071.00	90.00	3.23	6354.58	7106.30	652.78	7119.71	2.56	463812.60	636388.78	Proj. To Bit

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
2815.00	1.75	202.34	2813.37	32.87	-14.73	32.52	0.00	456739.17	635721.27	First MWD Svy
2878.00	1.86	202.71	2876.34	31.04	-15.49	30.67	0.18	456737.34	635720.51	
2973.00	1.57	132.22	2971.30	28.74	-15.12	28.38	2.10	456735.04	635720.88	
3068.00	3.45	91.24	3066.21	27.81	-11.30	27.53	2.62	456734.11	635724.70	
3162.00	4.49	70.91	3159.99	28.95	-4.99	28.82	1.85	456735.25	635731.01	
3257.00	5.32	70.89	3254.64	31.61	2.68	31.66	0.87	456737.91	635738.68	
3352.00	6.25	71.07	3349.16	34.72	11.73	34.99	0.98	456741.02	635747.73	
3447.00	7.26	70.86	3443.50	38.37	22.30	38.89	1.06	456744.67	635758.30	
3542.00	8.50	68.74	3537.60	42.88	34.51	43.69	1.34	456749.18	635770.51	
3637.00	8.36	67.54	3631.57	48.07	47.44	49.17	0.24	456754.37	635783.44	
3731.00	8.07	66.47	3724.61	53.31	59.80	54.71	0.35	456759.61	635795.80	
3825.00	8.16	65.50	3817.67	58.71	71.92	60.39	0.17	456765.01	635807.92	
3920.00	8.76	71.11	3911.63	63.85	84.90	65.84	1.07	456770.15	635820.90	
4014.00	8.90	71.31	4004.52	68.50	98.56	70.80	0.15	456774.80	635834.56	
4109.00	8.93	70.79	4098.37	73.28	112.49	75.91	0.09	456779.58	635848.49	
4204.00	8.79	69.67	4192.24	78.23	126.25	81.18	0.23	456784.53	635862.25	
4299.00	8.61	68.88	4286.15	83.31	139.69	86.58	0.23	456789.61	635875.69	
4393.00	9.46	69.81	4378.98	88.51	153.51	92.11	0.92	456794.81	635889.51	
4488.00	9.66	70.15	4472.66	93.92	168.33	97.86	0.22	456800.22	635904.33	
4583.00	9.79	69.60	4566.29	99.44	183.40	103.73	0.17	456805.74	635919.40	
4677.00	10.05	68.68	4658.89	105.21	198.53	109.85	0.32	456811.51	635934.53	
4772.00	10.21	68.02	4752.41	111.37	214.06	116.38	0.21	456817.67	635950.06	
4867.00	10.20	67.41	4845.90	117.75	229.64	123.13	0.11	456824.05	635965.64	
4961.00	9.93	66.19	4938.46	124.22	244.73	129.95	0.37	456830.52	635980.73	
5056.00	9.99	65.93	5032.03	130.89	259.75	136.97	0.08	456837.19	635995.75	
5151.00	9.92	65.09	5125.60	137.70	274.70	144.13	0.17	456844.00	636010.70	
5246.00	10.00	68.57	5219.16	144.16	289.80	150.94	0.64	456850.46	636025.80	
5341.00	9.54	68.82	5312.79	150.01	304.82	157.15	0.49	456856.31	636040.82	
5435.00	9.30	67.63	5405.52	155.72	319.10	163.19	0.33	456862.02	636055.10	
5530.00	10.13	66.92	5499.16	161.92	333.89	169.74	0.88	456868.22	636069.89	
5625.00	10.10	66.91	5592.68	168.46	349.24	176.64	0.03	456874.76	636085.24	
5720.00	10.09	66.15	5686.21	175.09	364.51	183.63	0.14	456881.39	636100.51	
5803.00	10.28	66.16	5767.90	181.02	377.93	189.88	0.23	456887.32	636113.93	
5846.00	10.32	65.68	5810.21	184.16	384.95	193.18	0.22	456890.46	636120.95	
5877.00	11.65	61.63	5840.64	186.79	390.24	195.93	4.96	456893.09	636126.24	
5909.00	13.21	52.11	5871.89	190.57	395.97	199.85	8.03	456896.87	636131.97	
5941.00	15.17	37.84	5902.92	196.13	401.42	205.53	12.49	456902.43	636137.42	
5972.00	17.61	26.74	5932.67	203.52	406.02	213.03	12.77	456909.82	636142.02	
6004.00	20.21	17.72	5962.95	213.11	409.89	222.71	12.20	456919.41	636145.89	
6036.00	23.95	14.01	5992.59	224.68	413.14	234.36	12.47	456930.98	636149.14	
6067.00	27.74	16.64	6020.49	237.71	416.73	247.46	12.77	456944.01	636152.73	
6099.00	31.29	17.69	6048.33	252.76	421.39	262.62	11.21	456959.06	636157.39	

5D Survey Report

Survey Points (Relative to Slot centre, TVD relative to Drill Floor)										
MD (US ft)	Incl (°)	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
6131.00	35.47	19.17	6075.05	269.46	426.97	279.44	13.31	456975.76	636162.97	
6162.00	37.85	18.94	6099.92	286.95	433.01	297.07	7.69	456993.25	636169.01	
6194.00	39.73	18.66	6124.86	305.93	439.47	316.20	5.90	457012.23	636175.47	
6225.00	41.68	16.00	6148.36	325.23	445.48	335.63	8.42	457031.53	636181.48	
6257.00	44.81	14.48	6171.66	346.38	451.23	356.91	10.31	457052.68	636187.23	
6288.00	48.12	13.37	6193.01	368.19	456.64	378.84	10.99	457074.49	636192.64	
6320.00	52.47	12.26	6213.45	392.19	462.09	402.97	13.85	457098.49	636198.09	
6351.00	55.12	8.05	6231.77	416.80	466.48	427.68	13.90	457123.10	636202.48	
6383.00	57.55	4.44	6249.51	443.27	469.36	454.21	12.07	457149.57	636205.36	
6414.00	61.29	2.72	6265.28	469.90	471.02	480.87	12.98	457176.20	636207.02	
6446.00	63.69	1.87	6280.06	498.26	472.16	509.24	7.86	457204.56	636208.16	
6478.00	66.72	1.63	6293.48	527.29	473.04	538.29	9.49	457233.59	636209.04	
6509.00	69.71	1.89	6304.98	556.06	473.93	567.07	9.68	457262.36	636209.93	
6541.00	72.21	1.91	6315.42	586.29	474.93	597.32	7.81	457292.59	636210.93	
6573.00	73.48	1.92	6324.86	616.85	475.95	627.89	3.97	457323.15	636211.95	
6604.00	75.48	2.02	6333.15	646.70	476.98	657.76	6.46	457353.00	636212.98	
6636.00	77.58	2.14	6340.61	677.80	478.11	688.87	6.57	457384.10	636214.11	
6667.00	80.01	1.81	6346.63	708.19	479.16	719.28	7.91	457414.49	636215.16	
6699.00	82.48	1.70	6351.50	739.80	480.13	750.90	7.73	457446.10	636216.13	
6730.00	84.39	1.86	6355.04	770.58	481.08	781.70	6.18	457476.88	636217.08	
6762.00	85.73	1.59	6357.80	802.44	482.04	813.58	4.27	457508.74	636218.04	
6793.00	86.64	1.46	6359.86	833.36	482.86	844.51	2.97	457539.66	636218.86	
6825.00	87.69	1.39	6361.44	865.31	483.66	876.47	3.29	457571.61	636219.66	
6857.00	88.46	1.19	6362.52	897.29	484.38	908.45	2.49	457603.59	636220.38	
6888.00	88.95	1.08	6363.22	928.27	484.99	939.44	1.62	457634.57	636220.99	
6920.00	89.02	0.50	6363.79	960.26	485.43	971.43	1.83	457666.56	636221.43	
6952.00	89.93	1.40	6364.08	992.26	485.96	1003.43	4.00	457698.56	636221.96	
7003.00	91.54	2.14	6363.43	1043.23	487.54	1054.42	3.47	457749.53	636223.54	
7097.00	92.31	2.16	6360.27	1137.11	491.06	1148.36	0.82	457843.41	636227.06	
7192.00	91.33	2.21	6357.25	1231.99	494.68	1243.30	1.03	457938.29	636230.68	
7287.00	91.54	1.82	6354.87	1326.90	498.02	1338.27	0.47	458033.20	636234.02	
7381.00	92.87	2.02	6351.25	1420.78	501.17	1432.19	1.43	458127.08	636237.17	
7476.00	90.70	1.76	6348.30	1515.67	504.30	1527.13	2.30	458221.97	636240.30	
7571.00	89.86	1.96	6347.83	1610.62	507.39	1622.13	0.91	458316.92	636243.39	
7665.00	89.79	1.64	6348.12	1704.57	510.34	1716.12	0.35	458410.87	636246.34	
7759.00	89.65	1.44	6348.58	1798.54	512.86	1810.12	0.26	458504.84	636248.86	
7854.00	89.86	1.48	6348.98	1893.51	515.28	1905.12	0.23	458599.81	636251.28	
7949.00	88.88	1.91	6350.03	1988.46	518.09	2000.11	1.13	458694.76	636254.09	
8043.00	89.37	1.82	6351.46	2082.40	521.15	2094.10	0.53	458788.70	636257.15	
8138.00	89.79	1.87	6352.16	2177.34	524.21	2189.09	0.45	458883.64	636260.21	
8233.00	89.02	1.99	6353.15	2272.28	527.41	2284.08	0.82	458978.58	636263.41	
8328.00	89.16	2.00	6354.66	2367.22	530.72	2379.06	0.15	459073.52	636266.72	
8422.00	90.35	2.31	6355.06	2461.15	534.25	2473.05	1.31	459167.45	636270.25	
8517.00	92.24	2.38	6352.91	2556.04	538.14	2568.01	1.99	459262.34	636274.14	
8612.00	90.56	1.85	6350.59	2650.94	541.64	2662.97	1.85	459357.24	636277.64	
8707.00	89.72	0.47	6350.36	2745.92	543.57	2757.96	1.70	459452.22	636279.57	
8802.00	89.79	0.59	6350.76	2840.91	544.44	2852.95	0.15	459547.21	636280.44	
8897.00	91.33	0.97	6349.84	2935.90	545.74	2947.94	1.67	459642.20	636281.74	
8991.00	90.84	0.81	6348.06	3029.87	547.20	3041.92	0.55	459736.17	636283.20	
9085.00	90.63	1.15	6346.85	3123.85	548.81	3135.91	0.43	459830.15	636284.81	
9180.00	89.51	0.77	6346.73	3218.83	550.40	3230.91	1.24	459925.13	636286.40	
9274.00	88.18	0.72	6348.63	3312.80	551.62	3324.88	1.42	460019.10	636287.62	
9369.00	88.67	0.85	6351.24	3407.76	552.92	3419.84	0.53	460114.06	636288.92	
9464.00	89.23	0.75	6352.98	3502.73	554.25	3514.82	0.60	460209.03	636290.25	
9559.00	89.16	0.66	6354.32	3597.72	555.41	3609.80	0.12	460304.02	636291.41	
9662.00	88.74	359.67	6356.20	3700.70	555.71	3712.76	1.04	460407.00	636291.71	
9757.00	89.16	0.10	6357.94	3795.68	555.52	3807.71	0.63	460501.98	636291.52	
9852.00	90.00	1.01	6358.64	3890.67	556.44	3902.70	1.30	460596.97	636292.44	
9946.00	91.26	1.95	6357.61	3984.63	558.87	3996.69	1.67	460690.93	636294.87	

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
10041.00	90.00	0.14	6356.56	4079.60	560.60	4091.68	2.32	460785.90	636296.60	
10135.00	89.72	359.94	6356.79	4173.60	560.67	4185.65	0.37	460879.90	636296.67	
10230.00	89.37	358.27	6357.55	4268.58	559.18	4280.57	1.80	460974.88	636295.18	
10324.00	90.35	358.86	6357.78	4362.55	556.83	4374.46	1.22	461068.85	636292.83	
10419.00	90.07	358.07	6357.43	4457.52	554.28	4469.34	0.88	461163.82	636290.28	
10514.00	89.86	357.33	6357.49	4552.44	550.47	4564.15	0.81	461258.74	636286.47	
10609.00	89.58	358.15	6357.95	4647.36	546.73	4658.96	0.91	461353.66	636282.73	
10704.00	89.93	0.82	6358.36	4742.35	545.87	4753.90	2.83	461448.65	636281.87	
10798.00	91.40	2.01	6357.27	4836.31	548.19	4847.88	2.01	461542.61	636284.19	
10893.00	92.24	2.05	6354.25	4931.20	551.56	4942.83	0.89	461637.50	636287.56	
10988.00	90.14	2.49	6352.28	5026.10	555.32	5037.79	2.26	461732.40	636291.32	
11082.00	90.00	2.56	6352.16	5120.01	559.46	5131.77	0.17	461826.31	636295.46	
11177.00	89.65	2.59	6352.45	5214.92	563.73	5226.75	0.37	461921.22	636299.73	
11272.00	89.16	1.75	6353.44	5309.84	567.32	5321.73	1.02	462016.14	636303.32	
11367.00	89.16	1.59	6354.83	5404.79	570.09	5416.72	0.17	462111.09	636306.09	
11461.00	88.88	1.83	6356.44	5498.73	572.90	5510.71	0.39	462205.03	636308.90	
11556.00	88.95	1.83	6358.24	5593.67	575.93	5605.69	0.07	462299.97	636311.93	
11650.00	89.79	2.30	6359.27	5687.60	579.32	5699.67	1.02	462393.90	636315.32	
11745.00	90.77	3.93	6358.81	5782.46	584.48	5794.62	2.00	462488.76	636320.48	
11840.00	89.79	2.72	6358.34	5877.29	589.99	5889.56	1.64	462583.59	636325.99	
11934.00	89.72	1.24	6358.74	5971.23	593.24	5983.55	1.58	462677.53	636329.24	
12029.00	90.42	3.00	6358.63	6066.16	596.75	6078.54	1.99	462772.46	636332.75	
12124.00	90.49	4.00	6357.87	6160.98	602.55	6173.47	1.06	462867.28	636338.55	
12218.00	89.44	3.45	6357.93	6254.78	608.66	6267.38	1.26	462961.08	636344.66	
12313.00	89.37	4.25	6358.92	6349.56	615.03	6362.29	0.85	463055.86	636351.03	
12408.00	90.14	4.81	6359.32	6444.26	622.54	6457.14	1.00	463150.56	636358.54	
12502.00	89.65	3.36	6359.50	6538.02	629.23	6551.03	1.63	463244.32	636365.23	
12597.00	89.51	0.11	6360.19	6632.96	632.11	6646.01	3.42	463339.26	636368.11	
12692.00	90.63	0.95	6360.08	6727.95	632.99	6741.00	1.47	463434.25	636368.99	
12786.00	90.98	2.01	6358.76	6821.91	635.42	6834.99	1.19	463528.21	636371.42	
12881.00	90.84	2.51	6357.25	6916.83	639.16	6929.96	0.55	463623.13	636375.16	
12976.00	91.19	5.35	6355.56	7011.58	645.67	7024.84	3.01	463717.88	636381.67	Last Wft Svy
13071.00	90.00	3.23	6354.58	7106.30	652.78	7119.71	2.56	463812.60	636388.78	Proj. To Bit

devon

Weatherford

Harroun Trust 31-30 3H
Eddy Co, NM

Plan Data for Harroun Trust 31-30 3H

Plan Point Information:										
DogLeg Severity Unit: $^{\circ}/100.00\text{ft}$ Position offsets from Slot centre										
MD	Inc	Az	TVD	+N/-S	+E/-W	Northing	Easting	VSec	DLS	
(USft)	($^{\circ}$)	($^{\circ}$)	(USft)	(USft)	(USft)	(USft)	(USft)	(USft)	(DLSU)	
7192.00	91.33	2.21	6357.25	1231.99	494.43	457938.29	636230.43	1243.30	1.03	
7264.00	91.33	2.21	6355.58	1303.92	497.21	458010.22	636233.21	1315.27	0.00	
7366.95	90.10	1.28	6354.29	1406.81	500.34	458113.11	636236.34	1418.20	1.50	
13232.10	90.10	1.28	6344.00	7770.50	630.90	463976.80	636366.90	7283.35	0.00	

Plan Data for Harroun Trust 31-30 3H

Slot: Harroun Trust 31-30 3H

Position:

Offset is from Site centre

+N/-S: -0.30USft Northing: 456706.30USft Latitude: $32^{\circ}15'18.7''$
+E/-W: 49.80USft Easting: 635736.00USft Longitude: $-104^{\circ}1'40.7''$
Elevation Above VRD: 2957.00USft

Plan Data for Harroun Trust 31-30 3H

Target Set Information:

Name: Harroun Trust 31-30 3H

Position offsets from Slot centre

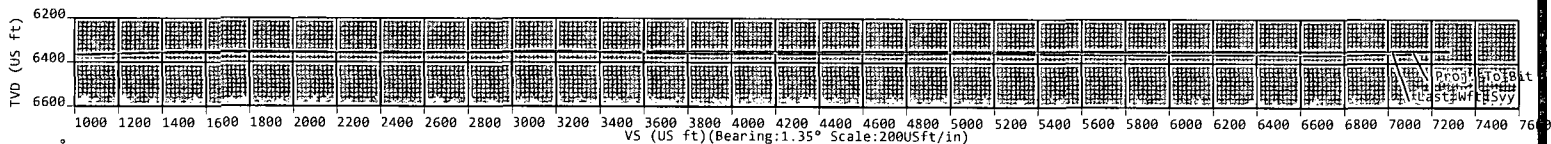
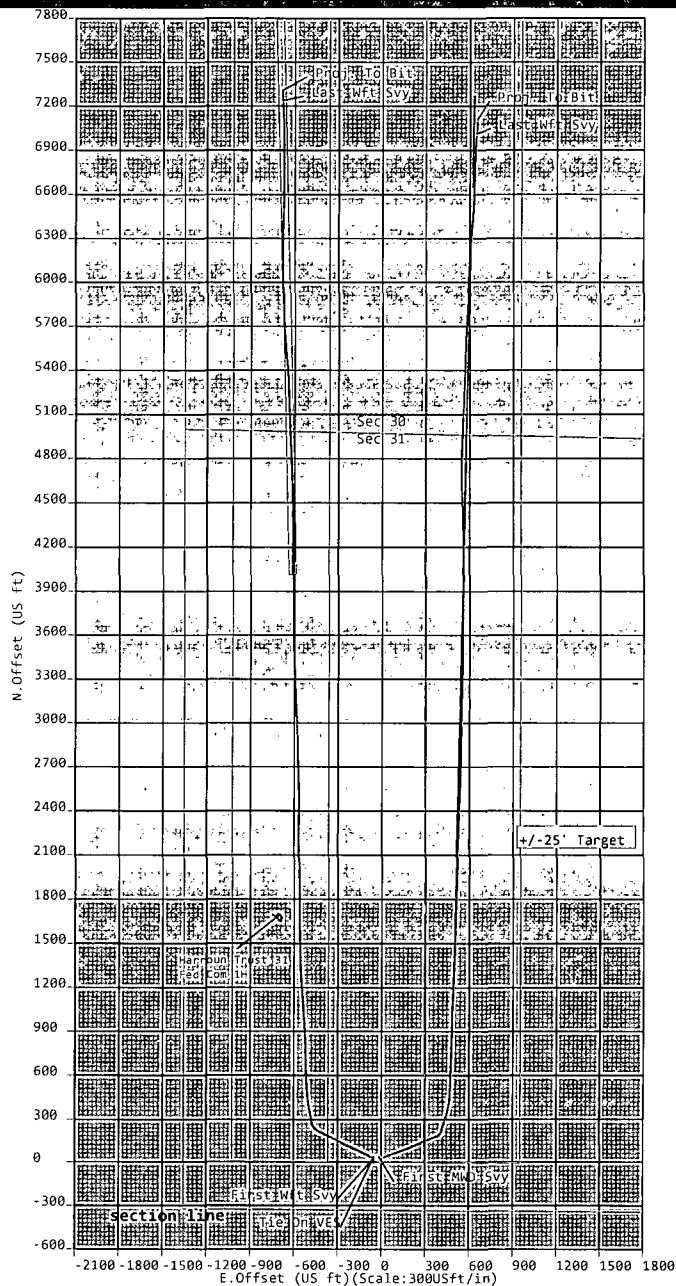
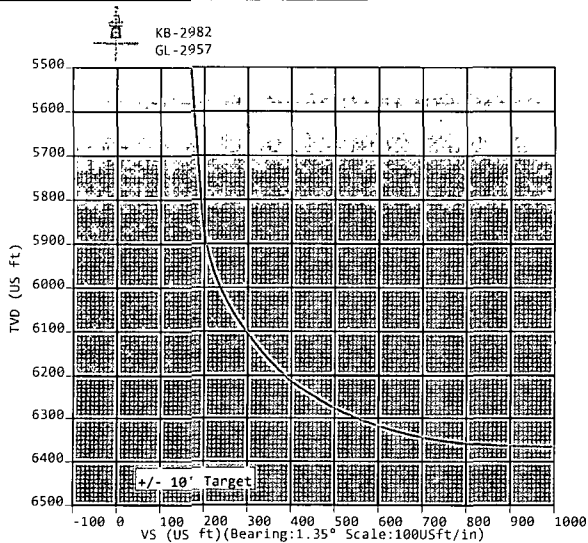
Name	VDD	+N/-S	+E/-W	Northing	Easting	Shape	Comment
(USft)	(USft)	(USft)	(USft)	(USft)	(USft)		
LP 1gt	6370.00	792.85	478.04	457499.15	636214.04	Cuboid	
PBHL	6344.00	7270.50	630.90	463976.80	636366.90	Cuboid	

Harroun Trust 31-30 3H

Harroun Trust 31 Fed Com 1H

Harroun Trust 31-30 Fed Com #2H

Harroun Trust 31-30 3H



Sign Off: Russell Joyner