Schlumberger

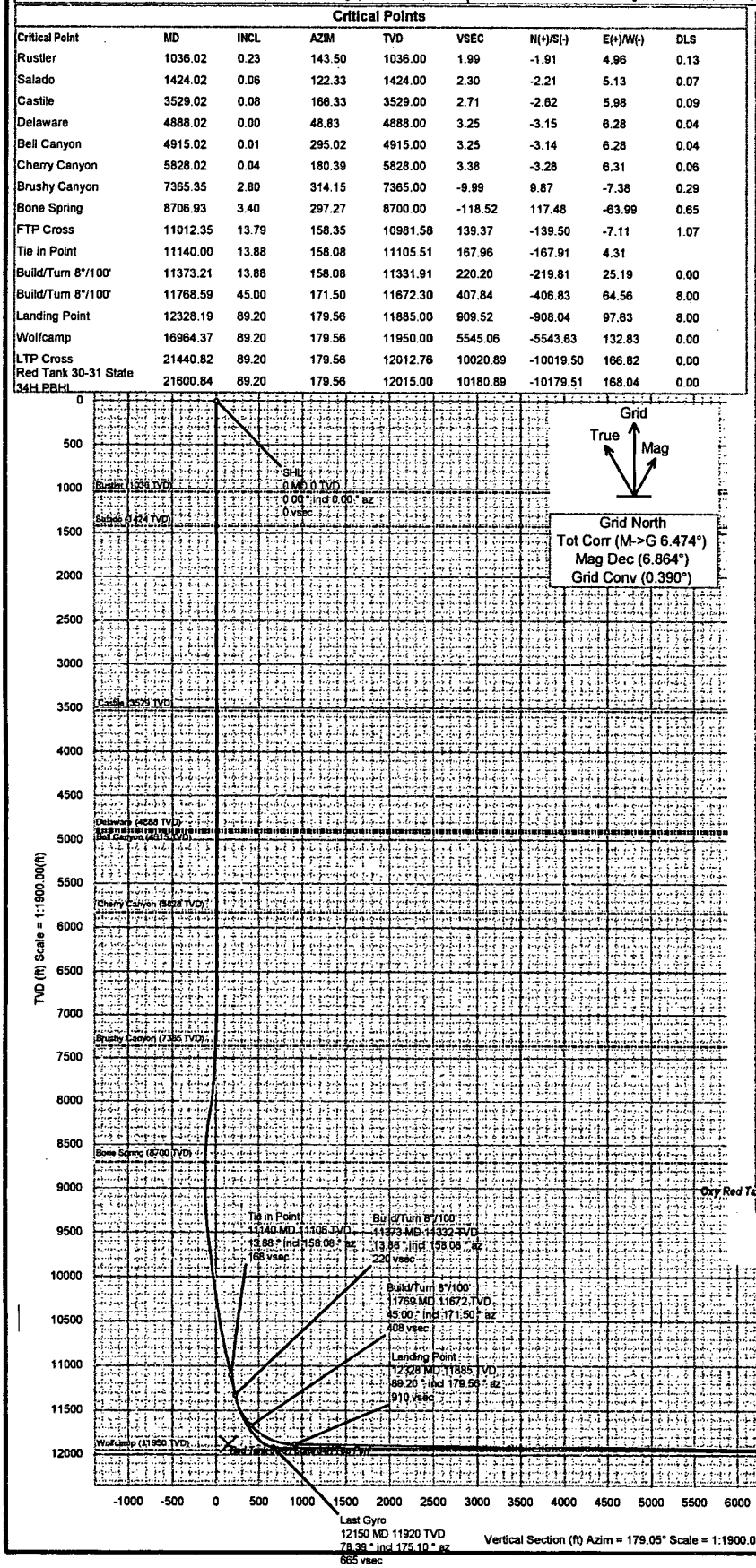
OXY

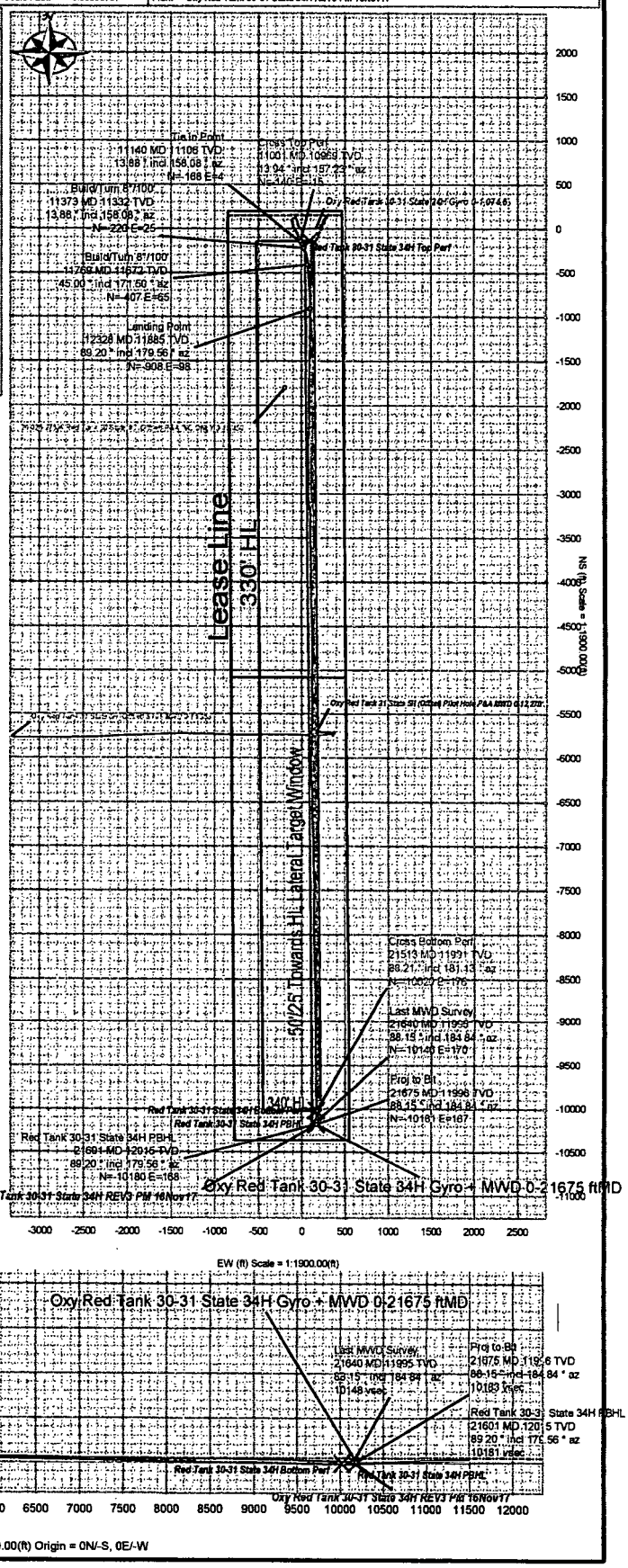
Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Red Tank 30-31 State 34H	NM Lea County (NAD 83)	Oxy Red Tank 30-31 State 34H

Gravity & Magnetic Parameters				Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet				Miscellaneous		
Model: HDGM 2017	Dip: 60.192°	Date: ' 16-Nov-2017		Lat: N 32 22 10.30	Northing: 498932.4ftUS	Grid Conv: 0.3902°			Slot: Oxy Red Tank 30-31 State 34H	TVD Ref: RKB=26.5'(3686.4ft above MSL)	
MagDec: 6.864°	FS: 48201.391nT	Gravity FS: 998.452mgn (9.80665 Based)		Lon: W 103 38 16.48	Easting: 766335ftUS	Scale Fact: 0.99996707			Plan: Oxy Red Tank 30-31 State 34H REV3 PM 16Nov17		

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
Rustler	1036.02	0.23	143.50	1036.00	1.99	-1.91	4.96	0.13
Salado	1424.02	0.06	122.33	1424.00	2.30	-2.21	5.13	0.07
Castile	3529.02	0.08	166.33	3529.00	2.71	-2.62	5.98	0.09
Delaware	4888.02	0.00	48.83	4888.00	3.25	-3.15	6.28	0.04
Bell Canyon	4915.02	0.01	295.02	4915.00	3.25	-3.14	6.28	0.04
Cherry Canyon	5828.02	0.04	180.39	5828.00	3.38	-3.28	6.31	0.06
Brushy Canyon	7365.35	2.80	314.15	7365.00	-9.99	9.87	-7.38	0.29
Bone Spring	8706.93	3.40	297.27	8700.00	-118.52	117.48	-63.99	0.65
FTP Cross	11012.35	13.79	158.35	10981.58	139.37	-139.50	-7.11	1.07
Tie in Point	11140.00	13.88	158.08	11105.51	167.96	-167.91	4.31	
Build/Turn 8°/100'	11373.21	13.88	158.08	11331.91	220.20	-219.81	25.19	0.00
Build/Turn 8°/100'	11768.59	45.00	171.50	11672.30	407.84	-406.83	64.56	8.00
Landing Point	12328.19	89.20	179.56	11885.00	909.52	-908.04	97.83	8.00
Wolfcamp	16964.37	89.20	179.56	11950.00	5545.06	-5543.63	132.83	0.00
LTP Cross	21440.82	89.20	179.56	12012.76	10020.89	-10019.50	166.82	0.00
Red Tank 30-31 State 34H PBHL	21600.84	89.20	179.56	12015.00	10180.89	-10179.51	168.04	0.00





Vertical Section (ft) Azim = 179.05° Scale = 1:1900.00(ft) Origin = 0N/-S, 0E/-W

Schlumberger

Oxy Red Tank 30-31 State 34H Gyro + MWD 0-21675 ftMD Survey Geodetic Report

(Def Survey)

Report Date:	November 30, 2017 - 09:20 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	OXY	**Vertical Section Azimuth:**	0.000 ° (Grid North)
Field:	NM Lea County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Oxy Red Tank 30-31 State 34H / Oxy Red Tank 30-31 State 34H	**TVD Reference Datum:**	RKB=26.5'
Well:	Oxy Red Tank 30-31 State 34H	**TVD Reference Elevation:**	3686.400 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3659.900 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.861 °
Survey Name:	Oxy Red Tank 30-31 State 34H Gyro + MWD 0-21675 ftMD	**Total Gravity Field Strength:**	998.4524mgn (9.80665 Based)
Survey Date:	November 30, 2017	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	272.798 ° / 10558.181 ft / 6.716 / 0.880	**Total Magnetic Field Strength:**	48196.993 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	60.191 °
Location Lat / Long:	N 32° 22' 10.30437", W 103° 36' 16.47895"	**Declination Date:**	November 30, 2017
Location Grid N/E Y/X:	N 498932.400 ftUS, E 766335.000 ftUS	**Magnetic Declination Model:**	HDGM 2017
CRS Grid Convergence Angle:	0.3902 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99996707	**Grid Convergence Used:**	0.3902 °
Version / Patch:	2.10.565.0	**Total Corr Mag North->Grid North:**	6.4707 °
		Local Coord Referenced To:	Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	498932.40	766335.00	N 32 22 10.30	W 103 36 16.48
	77.66	0.27	86.79	77.66	0.01	0.01	0.18	0.35	498932.41	766335.18	N 32 22 10.30	W 103 36 16.48
	172.27	0.30	61.33	172.27	0.14	0.14	0.62	0.14	498932.54	766335.62	N 32 22 10.31	W 103 36 16.47
	267.12	0.32	67.49	267.12	0.36	0.36	1.09	0.04	498932.76	766336.09	N 32 22 10.31	W 103 36 16.47
	361.78	0.34	101.67	361.78	0.41	0.41	1.60	0.21	498932.81	766336.60	N 32 22 10.31	W 103 36 16.46
	456.49	0.35	108.93	456.48	0.26	0.26	2.15	0.05	498932.66	766337.15	N 32 22 10.31	W 103 36 16.45
	552.48	0.31	134.68	552.47	-0.02	-0.02	2.62	0.16	498932.38	766337.62	N 32 22 10.30	W 103 36 16.45
	644.95	0.33	145.89	644.94	-0.42	-0.42	2.94	0.07	498931.98	766337.94	N 32 22 10.30	W 103 36 16.44
	737.42	0.31	152.84	737.41	-0.86	-0.86	3.21	0.05	498931.54	766338.21	N 32 22 10.30	W 103 36 16.44
	829.88	0.32	168.67	829.87	-1.34	-1.34	3.37	0.09	498931.06	766338.37	N 32 22 10.29	W 103 36 16.44
	922.30	0.39	183.95	922.29	-1.90	-1.90	3.40	0.13	498930.50	766338.40	N 32 22 10.29	W 103 36 16.44
	1014.80	0.65	155.22	1014.78	-2.69	-2.69	3.60	0.39	498929.71	766338.60	N 32 22 10.28	W 103 36 16.44
	1107.27	0.55	158.67	1107.25	-3.58	-3.58	3.98	0.11	498928.82	766338.98	N 32 22 10.27	W 103 36 16.43
	1199.78	0.38	160.70	1199.75	-4.29	-4.29	4.24	0.18	498928.11	766339.24	N 32 22 10.26	W 103 36 16.43
	1292.30	0.33	161.24	1292.27	-4.83	-4.83	4.43	0.05	498927.57	766339.43	N 32 22 10.26	W 103 36 16.43
	1384.69	0.33	166.24	1384.66	-5.34	-5.34	4.58	0.03	498927.06	766339.58	N 32 22 10.25	W 103 36 16.43
	1479.04	0.33	156.65	1479.01	-5.85	-5.85	4.75	0.06	498926.55	766339.75	N 32 22 10.25	W 103 36 16.42
	1667.77	0.32	171.44	1667.74	-6.87	-6.87	5.04	0.04	498925.53	766340.04	N 32 22 10.24	W 103 36 16.42
	1762.41	0.33	177.78	1762.38	-7.41	-7.41	5.09	0.04	498924.99	766340.09	N 32 22 10.23	W 103 36 16.42
	1856.99	0.34	172.48	1856.95	-7.96	-7.96	5.14	0.03	498924.44	766340.14	N 32 22 10.23	W 103 36 16.42
	1951.44	0.32	359.94	1951.40	-7.97	-7.97	5.18	0.70	498924.43	766340.18	N 32 22 10.23	W 103 36 16.42
	2045.89	0.32	349.71	2045.85	-7.45	-7.45	5.13	0.06	498924.95	766340.13	N 32 22 10.23	W 103 36 16.42
	2140.29	0.33	18.39	2140.25	-6.93	-6.93	5.17	0.17	498925.47	766340.17	N 32 22 10.24	W 103 36 16.42
	2234.66	0.32	348.04	2234.62	-6.41	-6.41	5.20	0.18	498925.99	766340.20	N 32 22 10.24	W 103 36 16.42
	2329.09	0.33	359.00	2329.05	-5.88	-5.88	5.14	0.07	498926.52	766340.14	N 32 22 10.25	W 103 36 16.42
	2423.57	0.33	355.25	2423.53	-5.34	-5.34	5.11	0.02	498927.06	766340.11	N 32 22 10.25	W 103 36 16.42
	2518.04	0.32	353.83	2517.99	-4.81	-4.81	5.06	0.01	498927.59	766340.06	N 32 22 10.26	W 103 36 16.42
	2706.93	0.31	351.38	2706.88	-3.78	-3.78	4.93	0.01	498928.62	766339.93	N 32 22 10.27	W 103 36 16.42
	2801.44	0.32	348.38	2801.39	-3.27	-3.27	4.84	0.02	498929.13	766339.84	N 32 22 10.27	W 103 36 16.42
	2895.83	0.32	168.80	2895.78	-3.27	-3.27	4.84	0.68	498929.13	766339.84	N 32 22 10.27	W 103 36 16.42
	2990.28	0.34	188.38	2990.23	-3.80	-3.80	4.85	0.12	498928.60	766339.85	N 32 22 10.27	W 103 36 16.42
	3084.70	0.35	232.69	3084.65	-4.26	-4.26	4.58	0.28	498928.14	766339.58	N 32 22 10.26	W 103 36 16.43
	3273.55	0.34	143.56	3273.49	-5.06	-5.06	4.45	0.26	498927.34	766339.45	N 32 22 10.25	W 103 36 16.43
	3367.96	0.29	156.02	3367.90	-5.50	-5.50	4.71	0.09	498926.90	766339.71	N 32 22 10.25	W 103 36 16.42
	3462.33	0.33	159.22	3462.27	-5.97	-5.97	4.91	0.05	498926.43	766339.91	N 32 22 10.24	W 103 36 16.42
	3556.86	0.35	126.54	3556.80	-6.40	-6.40	5.24	0.20	498926.00	766340.24	N 32 22 10.24	W 103 36 16.42
	3746.01	0.36	136.93	3745.95	-7.18	-7.18	6.11	0.03	498925.22	766341.11	N 32 22 10.23	W 103 36 16.41
	3840.59	0.34	144.16	3840.52	-7.62	-7.62	6.47	0.05	498924.78	766341.47	N 32 22 10.23	W 103 36 16.40
	4029.50	0.28	272.57	4029.43	-8.05	-8.05	6.34	0.30	498924.35	766341.34	N 32 22 10.22	W 103 36 16.41
	4123.90	0.29	273.72	4123.83	-8.03	-8.03	5.87	0.01	498924.37	766340.87	N 32 22 10.22	W 103 36 16.41
	4218.31	0.28	279.97	4218.24	-7.97	-7.97	5.41	0.03	498924.43	766340.41	N 32 22 10.23	W 103 36 16.42
	4312.87	0.30	272.08	4312.80	-7.92	-7.92	4.93	0.05	498924.48	766339.93	N 32 22 10.23	W 103 36 16.42
	4407.32	0.34	261.37	4407.25	-7.96	-7.96	4.41	0.08	498924.44	766339.41	N 32 22 10.23	W 103 36 16.43
	4501.78	0.34	278.27	4501.71	-7.96	-7.96	3.85	0.11	498924.44	766338.85	N 32 22 10.23	W 103 36 16.43
	4690.75	0.33	285.20	4690.67	-7.74	-7.74	2.77	0.02	498924.66	766337.77	N 32 22 10.23	W 103 36 16.45
	4784.96	0.32	79.64	4784.88	-7.62	-7.62	2.77	0.67	498924.78	766337.77	N 32 22 10.23	W 103 36 16.45
	4973.95	0.31	224.76	4973.87	-7.89	-7.89	2.93	0.32	498924.51	766337.93	N 32 22 10.23	W 103 36 16.45
	5162.82	0.33	62.13	5162.74	-7.99	-7.99	3.05	0.33	498924.41	766338.05	N 32 22 10.23	W 103 36 16.44
	5257.03	0.32	47.12	5256.95	-7.69	-7.69	3.48	0.09	498924.71	766338.48	N 32 22 10.23	W 103 36 16.44
	5351.39	0.33	74.49	5351.31	-7.44	-7.44	3.94	0.16	498924.96	766338.94	N 32 22 10.23	W 103 36 16.43
	5540.34	0.31	84.84	5540.25	-7.24	-7.24	4.97	0.03	498925.16	766339.97	N 32 22 10.23	W 103 36 16.42
	5729.26	0.30	236.45	5729.17	-7.47	-7.47	5.07	0.31	498924.93	766340.07	N 32 22 10.23	W 103 36 16.42
	5823.44	0.33	226.21	5823.35	-7.80	-7.80	4.67	0.07	498924.60	766339.67	N 32 22 10.23	W 103 36 16.43
	6012.35	0.31	241.97	6012.26	-8.41	-8.41	3.82	0.05	498923.99	766338.82	N 32 22 10.22	W 103 36 16.44
	6106.69	0.33	234.89	6106.60	-8.69	-8.69	3.37	0.05	498923.71	766338.37	N 32 22 10.22	W 103 36 16.44
	6200.97	0.32	347.60	6200.88	-8.59	-8.59	3.10	0.57	498923.81	766338.10	N 32 22 10.22	W 103 36 16.44
	6295.46	0.32	246.64	6295.37	-8.43	-8.43	2.80	0.52	498923.97	766337.80	N 32 22 10.22	W 103 36 16.45
	6484.49	0.32	232.41	6484.39	-8.97	-8.97	1.89	0.04	498923.43	766336.89	N 32 22 10.22	W 103 36 16.46
	6579.02	0.33	228.63	6578.92	-9.31	-9.31	1.48	0.03	498923.09	766336.48	N 32 22 10.21	W 103 36 16.46
	6673.58	0.22	11.42	6673.48	-9.31	-9.31	1.31	0.55	498923.09	766336.31	N 32 22 10.21	W 103 36 16.46
	6862.43	0.89	356.97	6862.32	-7.49	-7.49	1.31	0.36	498924.91	766336.31	N 32 22 10.23	W 103 36 16.46
	6956.86	1.43	303.45	6956.73	-6.11	-6.11	0.28	1.22	498926.29	766335.28	N 32 22 10.24	W 103 36 16.48
	7051.30	1.97	319.77	7051.13	-4.22	-4.22	-1.75	0.76	498928.18	766333.25	N 32 22 10.26	W 103 36 16.50
	7145.79	2.41	320.26	7145.55	-1.45	-1.45	-4.07	0.47	498930.95	766330.93	N 32 22 10.29	W 103 36 16.53
	7240.26	2.56	317.78	7239.93	1.64	1.64	-6.75	0.20	498934.04	766328.25	N 32 22 10.32	W 103 36 16.56
	7334.70	2.78	317.13	7334.27	4.88	4.88	-9.73	0.24	498937.28	766325.27	N 32 22 10.35	W 103 36 16.59
	7429.00	3.46	318.20	7428.43	8.68	8.68	-13.18	0.72	498941.08	766321.82	N 32 22 10.39	W 103 36 16.63
	7523.55	3.73	318.88	7522.80	13.12	13.12	-17.11	0.29	498945.52	766317.89	N 32 22 10.44	W 103 36 16.68
	7617.95	3.91	319.52	7616.99	17.88	17.88	-21.21	0.20	498950.28	766313.79	N 32 22 10.48	W 103 36 16.72
	7712.45	4.44	320.83	7711.23	23.17	23.17	-25.62	0.57	498955.57	766309.38	N 32 22 10.54	W 103 36 16.78
	7806.96	5.05	324.19	7805.42	29.38	29.38	-30.36	0.71	498961.78	766304.64	N 32 22 10.60	W 103 36 16.83
	7901.62	5.87	329.87	7899.65	36.94	36.94	-35.23	1.04	498969.34	766299.77	N 32 22 10.67	W 103 36 16.89

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	7995.97	7.55	339.14	7993.35	46.91	46.91	-39.86	2.11	498979.31	766295.14	N 32 22 10.77	W 103 36 16.94
	8090.51	9.21	347.27	8086.88	60.09	60.09	-43.74	2.15	498992.49	766291.26	N 32 22 10.90	W 103 36 16.98
	8184.94	9.31	347.03	8180.08	74.91	74.91	-47.12	0.11	499007.31	766287.88	N 32 22 11.05	W 103 36 17.02
	8279.52	7.71	342.02	8273.62	88.40	88.40	-50.79	1.86	499020.80	766284.21	N 32 22 11.18	W 103 36 17.06
	8374.01	6.38	335.52	8367.40	99.21	99.21	-54.92	1.64	499031.60	766280.08	N 32 22 11.29	W 103 36 17.11
	8468.58	5.43	327.38	8461.47	107.76	107.76	-59.51	1.34	499040.15	766275.49	N 32 22 11.37	W 103 36 17.16
	8562.89	4.41	317.64	8555.43	114.20	114.20	-64.36	1.39	499046.59	766270.64	N 32 22 11.44	W 103 36 17.22
	8657.23	3.70	301.86	8649.53	118.48	118.48	-69.39	1.40	499050.88	766265.61	N 32 22 11.48	W 103 36 17.28
	8751.58	3.39	293.74	8743.70	121.21	121.21	-74.53	0.62	499053.61	766260.47	N 32 22 11.51	W 103 36 17.34
	8845.80	2.58	286.89	8837.80	122.95	122.95	-79.11	0.94	499055.35	766255.89	N 32 22 11.53	W 103 36 17.39
	8940.25	2.19	278.79	8932.16	123.84	123.84	-82.93	0.54	499056.24	766252.07	N 32 22 11.54	W 103 36 17.44
	9034.78	1.91	264.19	9026.63	123.96	123.96	-86.28	0.62	499056.36	766248.72	N 32 22 11.54	W 103 36 17.48
	9129.14	2.47	227.99	9120.93	122.44	122.44	-89.36	1.55	499054.84	766245.65	N 32 22 11.52	W 103 36 17.51
	9223.57	4.09	216.84	9215.20	118.38	118.38	-92.89	1.84	499050.78	766242.12	N 32 22 11.48	W 103 36 17.55
	9318.12	5.34	209.21	9309.43	111.84	111.84	-97.06	1.48	499044.24	766237.95	N 32 22 11.42	W 103 36 17.60
	9412.62	6.16	200.98	9403.46	103.27	103.27	-101.02	1.23	499035.67	766233.99	N 32 22 11.33	W 103 36 17.65
	9507.24	6.67	193.42	9497.49	93.19	93.19	-104.11	1.04	499025.58	766230.89	N 32 22 11.23	W 103 36 17.69
	9601.76	7.33	182.29	9591.31	81.82	81.82	-105.63	1.59	499014.22	766229.38	N 32 22 11.12	W 103 36 17.70
	9696.29	7.38	171.56	9685.06	69.79	69.79	-104.98	1.45	499002.19	766230.03	N 32 22 11.00	W 103 36 17.70
	9790.82	7.56	162.92	9778.79	57.84	57.84	-102.26	1.20	498990.24	766232.75	N 32 22 10.88	W 103 36 17.67
	9885.40	7.59	160.05	9872.55	46.02	46.02	-98.30	0.40	498978.42	766236.70	N 32 22 10.77	W 103 36 17.62
	9979.78	8.08	161.32	9966.05	33.88	33.88	-94.05	0.55	498966.28	766240.95	N 32 22 10.65	W 103 36 17.57
	10074.09	8.65	159.67	10059.35	20.95	20.95	-89.46	0.66	498953.35	766245.54	N 32 22 10.52	W 103 36 17.52
	10168.56	9.42	153.45	10152.65	7.37	7.37	-83.54	1.32	498939.77	766251.47	N 32 22 10.38	W 103 36 17.45
	10262.85	9.67	146.81	10245.64	-6.16	-6.16	-75.75	1.20	498926.24	766259.25	N 32 22 10.25	W 103 36 17.36
	10357.22	10.17	144.71	10338.60	-19.59	-19.59	-66.60	0.65	498912.81	766268.40	N 32 22 10.12	W 103 36 17.26
	10451.78	8.97	149.53	10431.84	-32.76	-32.76	-58.04	1.52	498899.64	766276.96	N 32 22 9.98	W 103 36 17.16
	10546.13	10.65	153.96	10524.81	-46.93	-46.93	-50.48	1.95	498885.47	766284.52	N 32 22 9.84	W 103 36 17.07
	10640.57	12.38	157.47	10617.35	-64.13	-64.13	-42.77	1.98	498868.28	766292.23	N 32 22 9.67	W 103 36 16.98
	10735.09	12.96	161.07	10709.57	-83.51	-83.51	-35.45	1.04	498848.89	766299.55	N 32 22 9.48	W 103 36 16.90
	10829.45	12.77	161.14	10801.56	-103.39	-103.39	-28.65	0.20	498829.01	766306.35	N 32 22 9.28	W 103 36 16.82
	10923.59	13.23	160.14	10893.29	-123.37	-123.37	-21.62	0.54	498809.04	766313.38	N 32 22 9.09	W 103 36 16.74
	11112.45	15.02	153.53	11076.44	-165.61	-165.61	-3.37	1.27	498766.80	766331.63	N 32 22 8.67	W 103 36 16.53
	11206.78	14.37	147.98	11167.69	-186.47	-186.47	8.28	1.64	498745.93	766343.28	N 32 22 8.46	W 103 36 16.40
	11301.13	12.72	147.21	11259.41	-205.13	-205.13	20.12	1.76	498727.27	766355.12	N 32 22 8.27	W 103 36 16.26
	11395.57	15.29	158.42	11351.05	-225.46	-225.46	30.33	3.95	498706.95	766365.33	N 32 22 8.07	W 103 36 16.14
	11489.94	22.30	163.06	11440.34	-254.20	-254.20	40.14	7.59	498678.21	766375.14	N 32 22 7.79	W 103 36 16.03
	11584.09	24.30	162.92	11526.81	-289.81	-289.81	51.03	2.13	498642.60	766386.03	N 32 22 7.43	W 103 36 15.91
	11678.40	26.07	169.31	11612.17	-328.73	-328.73	60.58	3.44	498603.68	766395.58	N 32 22 7.05	W 103 36 15.80
	11772.70	34.40	167.38	11693.57	-375.17	-375.17	70.26	8.89	498557.24	766405.26	N 32 22 6.59	W 103 36 15.69
	11867.12	43.07	170.28	11767.16	-433.09	-433.09	81.55	9.38	498499.33	766416.55	N 32 22 6.01	W 103 36 15.56
	11961.39	46.68	173.41	11833.96	-498.91	-498.91	90.93	4.49	498433.51	766425.92	N 32 22 5.36	W 103 36 15.46
	12055.94	62.52	173.78	11888.55	-575.26	-575.26	99.47	16.76	498357.16	766434.47	N 32 22 4.61	W 103 36 15.36
Last Gyro	12150.31	78.39	175.10	11920.03	-663.49	-663.49	108.01	16.87	498268.93	766443.01	N 32 22 3.73	W 103 36 15.27
	12230.00	89.83	179.78	11928.19	-742.53	-742.53	111.51	15.49	498189.90	766446.51	N 32 22 2.95	W 103 36 15.24
	12277.00	90.50	180.16	11928.06	-789.53	-789.53	111.54	1.64	498142.90	766446.53	N 32 22 2.48	W 103 36 15.24
	12368.00	90.62	181.14	11927.17	-880.52	-880.52	110.50	1.08	498051.91	766445.50	N 32 22 1.58	W 103 36 15.26
	12557.00	90.34	181.56	11925.59	-1069.46	-1069.46	106.05	0.27	497862.98	766441.05	N 32 21 59.72	W 103 36 15.33
	12651.00	90.22	181.99	11925.13	-1163.41	-1163.41	103.14	0.47	497769.03	766438.14	N 32 21 58.79	W 103 36 15.37
	12840.00	89.94	180.66	11924.86	-1352.36	-1352.36	98.77	0.72	497580.09	766433.77	N 32 21 56.92	W 103 36 15.43
	12935.00	90.56	181.42	11924.45	-1447.34	-1447.34	97.05	1.03	497485.11	766432.04	N 32 21 55.98	W 103 36 15.46
	13029.00	90.45	181.07	11923.62	-1541.31	-1541.31	95.00	0.39	497391.14	766430.00	N 32 21 55.05	W 103 36 15.49
	13123.00	89.83	181.19	11923.39	-1635.29	-1635.29	93.15	0.67	497297.16	766428.15	N 32 21 54.12	W 103 36 15.52
	13218.00	89.72	180.98	11923.76	-1730.28	-1730.28	91.35	0.25	497202.19	766426.35	N 32 21 53.18	W 103 36 15.55
	13312.00	89.78	180.61	11924.17	-1824.27	-1824.27	90.05	0.40	497108.20	766425.04	N 32 21 52.25	W 103 36 15.57
	13407.00	89.83	180.73	11924.50	-1919.26	-1919.26	88.94	0.14	497013.21	766423.93	N 32 21 51.31	W 103 36 15.59
	13501.00	89.78	180.21	11924.82	-2013.25	-2013.25	88.17	0.56	496919.22	766423.16	N 32 21 50.38	W 103 36 15.61
	13596.00	89.50	181.16	11925.41	-2108.24	-2108.24	87.03	1.04	496824.23	766422.03	N 32 21 49.44	W 103 36 15.63
	13690.00	89.55	180.45	11926.19	-2202.23	-2202.23	85.71	0.76	496730.25	766420.71	N 32 21 48.51	W 103 36 15.65
	13785.00	89.78	181.32	11926.75	-2297.22	-2297.22	84.24	0.95	496635.26	766419.24	N 32 21 47.57	W 103 36 15.68
	13879.00	90.11	181.70	11926.84	-2391.18	-2391.18	81.76	0.54	496541.30	766416.76	N 32 21 46.64	W 103 36 15.72
	13974.00	90.22	182.13	11926.56	-2486.13	-2486.13	78.59	0.47	496446.36	766413.59	N 32 21 45.70	W 103 36 15.76
	14068.00	90.17	179.69	11926.24	-2580.11	-2580.11	77.10	2.60	496352.38	766412.09	N 32 21 44.77	W 103 36 15.78
	14162.00	90.22	179.68	11925.92	-2674.11	-2674.11	77.61	0.05	496258.38	766412.61	N 32 21 43.84	W 103 36 15.79
	14257.00	90.22	179.89	11925.56	-2769.11	-2769.11	77.97	0.22	496163.39	766412.97	N 32 21 42.90	W 103 36 15.79
	14351.00	90.17	179.55	11925.24	-2863.11	-2863.11	78.43	0.37	496069.39	766413.43	N 32 21 41.97	W 103 36 15.79
	14446.00	90.06	179.00	11925.05	-2958.10	-2958.10	79.63	0.59	495974.41	766414.63	N 32 21 41.03	W 103 36 15.79
	14540.00	90.17	177.41	11924.86	-3052.05	-3052.05	82.58	1.70	495880.46	766417.57	N 32 21 40.10	W 103 36 15.76
	14635.00	90.00	176.55	11924.72	-3146.92	-3146.92	87.58	0.92	495785.59	766422.58	N 32 21 39.16	W 103 36 15.71
	14729.00	89.83	177.51	11924.86	-3240.79	-3240.79	92.45	1.04	495691.73	766427.45	N 32 21 38.23	W 103 36 15.66
	14823.00	90.39	176.95	11924.68	-3334.68	-3334.68	96.99	0.84	495597.84	766431.99	N 32 21 37.30	W 103 36 15.61
	14918.00	89.72	177.88	11924.59	-3429.58	-3429.58	101.28	1.21	495502.94	766436.28	N 32 21 36.36	W 103 36 15.57
	15013.00	90.73	179.24	11924.21	-3524.54	-3524.54	103.67	1.78	495407.98	766438.66	N 32 21 35.42	W 103 36 15.55
	15107.00	90.84	178.73	11922.93	-3618.52	-3618.52	105.33	0.55	495314.01	766440.33	N 32 21 34.49	W 103 36 15.54
	15202.00	90.62	178.40	11921.72	-3713.48	-3713.48	107.71	0.42	495219.05	766442.71	N 32 21 33.55	W 103 36 15.52
	15296.00	90.50	179.02	11920.80	-3807.45	-3807.45	109.83	0.67	495125.08	766444.82	N 32 21 32.62	W 103 36 15.50
	15390.00	90.67	179.01	11919.84	-3901.44	-3901.44	111.44	0.18	495031.10	766446.44	N 32 21 31.69	W 103 36 15.49
	15485.00	90.56	180.27	11918.82	-3996.43	-3996.43	112.04	1.33	494936.11	766447.03	N 32 21 30.75	W 103 36 15.49
	15580.00	90.62	178.26	11917.84	-4091.41	-4091.41	113.26	2.12	494841.13	766448.25	N 32 21 29.81	W 103 36 15.48
	15674.00	90.39	178.95	11917.01	-4185.38	-4185.38	115.55	0.77	494747.17	766450.54	N 32 21 28.88	W 103 36 15.46
	15768.00	90.22	176.96	11916.51	-4279.31	-4279.31	118.90	2.12	494653.24	766453.90	N 32 21 27.95	W 103 36 15.43
	15863.00	90.67	178.62	11915.77	-4374.23	-4374.23	122.56	1.81	494558.32	766457.56	N 32 21 27.01	W 103 36 15.40
	15957.00	89.66	177.80	11915.50	-4468.18	-4468.18	125.50	1.38	494464.37	766460.49	N 32 21 26.08	W 103 36 15.37
	16051.00	90.00	179.06	11915.78	-4562.15	-4562.15	128.07	1.39	494370.41	766463.07	N 32 21 25.15	W 103 36 15.35
	16146.00	88.71	177.75	11916.85	-4657.10	-4657.10	130.72	1.94	494275.46	766465.71	N 32 21 24.21	W 103 36 15.32
	16240.00	88.71	182.54	11918.97	-4751.05	-4751.05	130.48	5.09	494181.52	766465.48	N 32 21 23.29	W 103 36 15.33
	16335.00	88.88	180.78	11920.97	-4845.98	-4845.98	127.73	1.86	494086.59	766462.72	N 32 21 22.35	W 103 36 15.37
	16429.00	89.05	181.42	11922.66	-4939.95	-4939.95	125.92	0.70	493992.62	766460.92	N 32 21 21.42	W 103 36 15.40
	16524.00	89.22	181.00	11924.10	-5034.92	-5034.92	123.92	0.48	493897.66	766458.91	N 32 21 20.48	W 103 36 15.43
	16618.00	89.10	180.50	11925.48	-5128.90	-5128.90	122.69	0.55	493803.68	766457.68	N 32 21 19.55	W 103 36 15.46
	16713.00	89.27	180.64	11926.83	-5223.89	-5223.89	121.74	0.23	493708.70	766456.74	N 32 21 18.61	W 103 36 15.47
	16902.00	89.33	180.78	11929.14	-5412.86	-5412.86	119.40	0.08	493519.73	766454.40	N 32 21 16.74	W 103 36 15.52
	16996.00	89.22	181.35	11930.33	-5506.83	-5506.83	117.65	0.62	493425.76	766452.65	N 32 21 15.81	W 103 36 15.54
	17091.00	89.16	181.43	11931.67	-5601.80	-5601.80	115.35	0.11	493330.80	766450.35	N 32 21 14.87	W 103 36 15.58
	17185.00	89.05	180.49	11933.14	-5695.77	-5695.77	113.78	1.01	493236.83	766448.77	N 32 21 13.94	W 103 36 15.60
	17280.00	88.71	181.08	11934.99	-5790.74	-5790.74	112.47	0.72	493141.86	766447.47	N 32 21 13.00	W 103 36 15.63
	17374.00	89.16	180.04	11936.74	-5884.72	-5884.72	111.56	1.21	493047.89	766446.55	N 32 21 12.07	W 103 36 15.65
	17468.00	88.93	181.07	11938.31	-5978.70	-5978.70	110.65	1.12	492953.91	766445.64	N 32 21 11.14	W 103 36 15.66
	17563.00	91.07	180.84	11938.31	-6073.68	-6073.68	109.06	2.27	492858.93	766444.06	N 32 21 10.20	W 103 36 15.69
	17657.00	89.72	177.96	11937.66	-6167.66	-6167.66	110.05	3.38	492764.95	766445.04	N 32 21 9.27	W 103 36 15.69
	17752.00	89.72	177.23	11938.12	-6262.58	-6262.58	114.03	0.77	492670.04	766449.03	N 32 21 8.33	W 103 36 15.65

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	17846.00	89.10	178.24	11939.09	-6356.50	-6356.50	117.75	1.26	492576.12	766452.74	N 32 21 7.40	W 103 36 15.61
	17941.00	88.54	179.25	11941.05	-6451.45	-6451.45	119.83	1.22	492481.17	766454.82	N 32 21 6.46	W 103 36 15.59
	18035.00	88.99	180.12	11943.07	-6545.43	-6545.43	120.35	1.04	492387.20	766455.34	N 32 21 5.53	W 103 36 15.60
	18129.00	89.89	179.04	11943.99	-6639.42	-6639.42	121.03	1.50	492293.21	766456.03	N 32 21 4.60	W 103 36 15.60
	18318.00	87.76	174.84	11947.87	-6828.06	-6828.06	131.12	2.49	492104.58	766466.11	N 32 21 2.73	W 103 36 15.49
	18412.00	88.60	178.40	11950.86	-6921.83	-6921.83	136.65	3.89	492010.81	766471.65	N 32 21 1.81	W 103 36 15.44
	18507.00	87.98	179.50	11953.69	-7016.77	-7016.77	138.39	1.33	491915.88	766473.39	N 32 21 0.87	W 103 36 15.42
	18601.00	89.89	179.16	11955.44	-7110.74	-7110.74	139.49	2.06	491821.91	766474.49	N 32 20 59.94	W 103 36 15.42
	18695.00	88.93	177.77	11956.41	-7204.70	-7204.70	142.01	1.80	491727.95	766477.01	N 32 20 59.01	W 103 36 15.40
	18790.00	89.33	177.80	11957.85	-7299.62	-7299.62	145.68	0.42	491633.04	766480.68	N 32 20 58.07	W 103 36 15.36
	18884.00	89.05	178.58	11959.18	-7393.56	-7393.56	148.65	0.88	491539.10	766483.65	N 32 20 57.14	W 103 36 15.33
	18978.00	89.22	180.39	11960.60	-7487.54	-7487.54	149.50	1.93	491445.12	766484.49	N 32 20 56.21	W 103 36 15.33
	19073.00	88.93	180.15	11962.13	-7582.53	-7582.53	149.05	0.40	491350.14	766484.04	N 32 20 55.27	W 103 36 15.34
	19167.00	89.22	181.35	11963.65	-7676.51	-7676.51	147.82	1.31	491256.16	766482.81	N 32 20 54.34	W 103 36 15.37
	19261.00	89.27	180.82	11964.89	-7770.48	-7770.48	146.04	0.57	491162.19	766481.03	N 32 20 53.41	W 103 36 15.39
	19356.00	88.32	182.21	11966.89	-7865.42	-7865.42	143.53	1.77	491067.25	766478.52	N 32 20 52.47	W 103 36 15.43
	19450.00	91.68	180.04	11966.89	-7959.39	-7959.39	141.68	4.25	490973.29	766476.68	N 32 20 51.54	W 103 36 15.46
	19545.00	90.79	177.57	11964.84	-8054.34	-8054.34	143.66	2.76	490878.35	766478.66	N 32 20 50.60	W 103 36 15.44
	19639.00	88.93	178.52	11965.07	-8148.28	-8148.28	146.87	2.22	490784.41	766481.86	N 32 20 49.67	W 103 36 15.41
	19734.00	90.00	178.97	11965.95	-8243.25	-8243.25	148.95	1.22	490689.44	766483.94	N 32 20 48.73	W 103 36 15.40
	19829.00	91.57	177.56	11964.65	-8338.19	-8338.19	151.83	2.22	490594.50	766486.82	N 32 20 47.79	W 103 36 15.37
	19922.00	87.98	175.54	11965.02	-8431.00	-8431.00	157.42	4.43	490501.69	766492.41	N 32 20 46.87	W 103 36 15.31
	20017.00	90.50	178.33	11966.28	-8525.84	-8525.84	162.50	3.96	490406.86	766497.49	N 32 20 45.93	W 103 36 15.26
	20111.00	89.16	181.66	11966.56	-8619.82	-8619.82	162.51	3.82	490312.88	766497.50	N 32 20 45.00	W 103 36 15.27
	20205.00	90.56	179.08	11966.79	-8713.81	-8713.81	161.90	3.12	490218.89	766496.89	N 32 20 44.07	W 103 36 15.28
	20300.00	91.01	178.28	11965.49	-8808.78	-8808.78	164.09	0.97	490123.93	766499.08	N 32 20 43.13	W 103 36 15.27
	20394.00	90.50	176.70	11964.25	-8902.67	-8902.67	168.20	1.77	490030.04	766503.20	N 32 20 42.20	W 103 36 15.22
	20488.00	89.27	174.23	11964.44	-8996.37	-8996.37	175.64	2.94	489936.34	766510.63	N 32 20 41.28	W 103 36 15.15
	20583.00	89.83	174.06	11965.18	-9090.87	-9090.87	185.33	0.62	489841.85	766520.32	N 32 20 40.34	W 103 36 15.04
	20707.00	87.92	176.62	11967.62	-9214.42	-9214.42	195.40	2.58	489718.30	766530.39	N 32 20 39.12	W 103 36 14.93
	20770.00	87.93	180.28	11969.90	-9277.35	-9277.35	197.10	5.81	489655.38	766532.09	N 32 20 38.49	W 103 36 14.92
	20867.00	88.15	181.91	11973.22	-9374.27	-9374.27	195.25	1.69	489558.46	766530.24	N 32 20 37.54	W 103 36 14.95
	20961.00	88.26	181.58	11976.16	-9468.18	-9468.18	192.39	0.37	489464.55	766527.38	N 32 20 36.61	W 103 36 14.99
	21056.00	88.26	182.01	11979.04	-9563.09	-9563.09	189.41	0.45	489369.65	766524.41	N 32 20 35.67	W 103 36 15.03
	21150.00	88.54	182.52	11981.67	-9656.98	-9656.98	185.70	0.62	489275.76	766520.69	N 32 20 34.74	W 103 36 15.08
	21244.00	88.60	180.57	11984.02	-9750.91	-9750.91	183.17	2.07	489181.83	766518.16	N 32 20 33.81	W 103 36 15.12
	21339.00	88.49	182.77	11986.43	-9845.83	-9845.83	180.40	2.32	489086.91	766515.39	N 32 20 32.87	W 103 36 15.16
	21433.00	88.88	180.95	11988.59	-9939.75	-9939.75	177.35	1.98	488992.99	766512.34	N 32 20 31.94	W 103 36 15.20
	21528.00	88.09	181.16	11991.10	-10034.70	-10034.70	175.60	0.86	488898.05	766510.59	N 32 20 31.00	W 103 36 15.23
Last MWD Survey	21640.00	88.15	184.84	11994.77	-10146.47	-10146.47	169.74	3.28	488786.28	766504.74	N 32 20 29.90	W 103 36 15.31
Proj to Bit	21675.00	88.15	184.84	11995.90	-10181.33	-10181.33	166.79	0.00	488751.43	766501.78	N 32 20 29.55	W 103 36 15.34

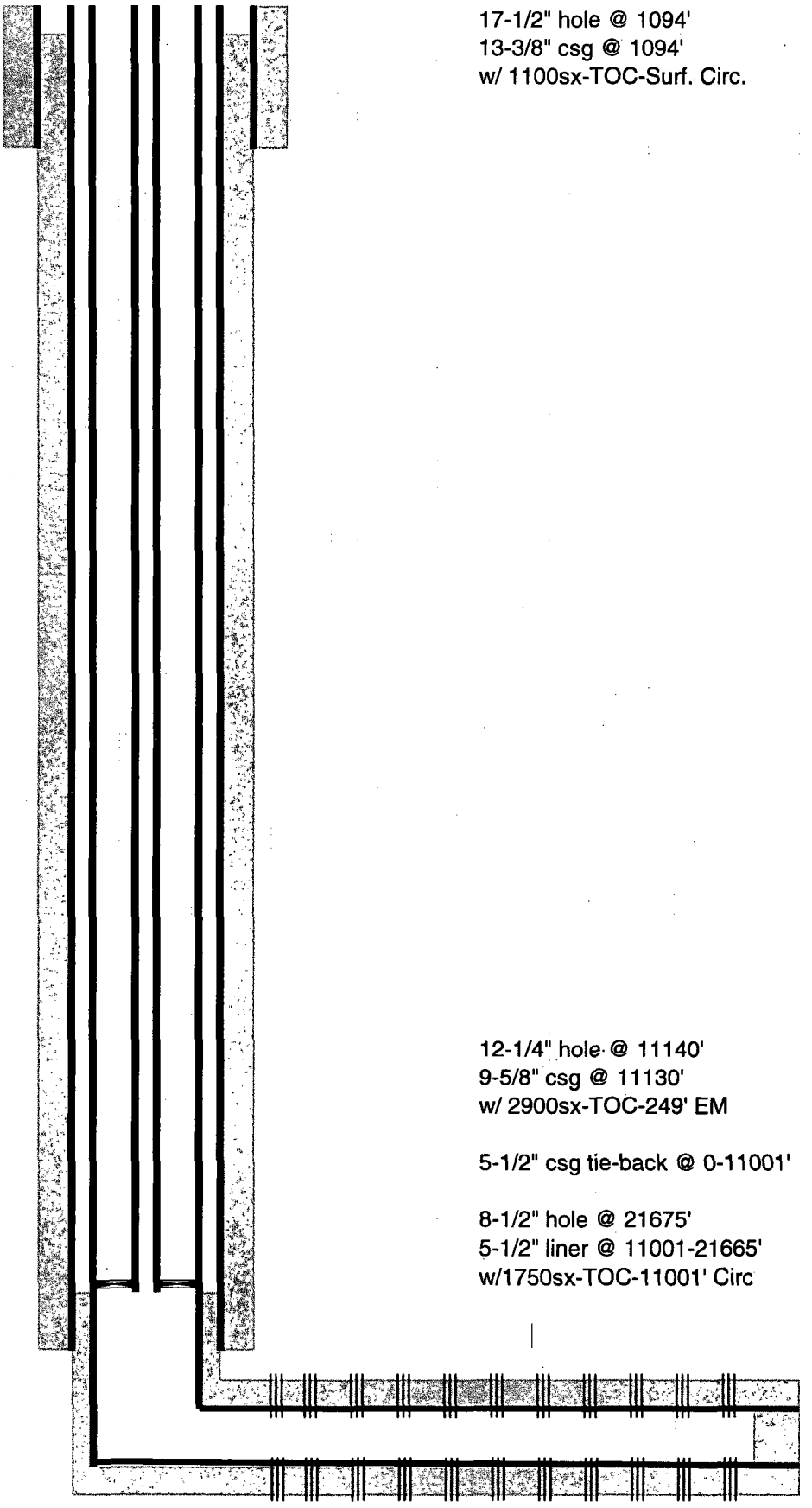
Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	26.500	1/98.425	30.000	30.000	SLB_NSG+MSHOT-Depth Only	Original Borehole / Oxy Red Tank 30-31 State 34H Gyro + MWD 0-21675 ftMD
	1	26.500	26.500	Act Stns	30.000	30.000	SLB_NSG+MSHOT-Depth Only	Original Borehole / Oxy Red Tank 30-31 State 34H Gyro + MWD 0-21675 ftMD
	1	26.500	12150.310	Act Stns	30.000	30.000	SLB_NSG+MSHOT	Original Borehole / Oxy Red Tank 30-31 State 34H Gyro + MWD 0-
	1	12150.310	21675.000	Act Stns	30.000	30.000	NAL_MWD_PLUS_0.5_DEG	Original Borehole / Oxy Red Tank 30-31 State 34H Gyro + MWD 0-

OXY USA Inc.
Red Tank 30-31 State Com 34H
API No. 30-025-44063



17-1/2" hole @ 1094'
13-3/8" csg @ 1094'
w/ 1100sx-TOC-Surf. Circ.

12-1/4" hole @ 11140'
9-5/8" csg @ 11130'
w/ 2900sx-TOC-249' EM

5-1/2" csg tie-back @ 0-11001'

8-1/2" hole @ 21675'
5-1/2" liner @ 11001-21665'
w/1750sx-TOC-11001' Circ

2-7/8" tbg & pkr @ 11024'

Perfs @ 21491-12133'

TD- 21675'M 11996'V

Schlumberger Drilling and Measurements
Drilling Group
Geo Market Area: South West Texas Basin
7220 W I-H 20
Midland, Texas 79706
Phone : (432) 742-5400 (Main)
Fax : (432) 742-5606 (Shared)

Schlumberger

Well Reference:
30, 22S, 33E, Lea NM
N 32.36944 W -103.60472

I, Beau Prather certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of November 05, 2017 through November 30, 2017, conduct or supervise the taking of the TelePacer surveys from a depth of 12230.00 feet to a depth of 21640.00 feet referenced to driller's depth; that the data is true, correct, complete and within the limitations of the tool as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I am authorized and qualified to make this report; that this survey was conducted at the request of Oxy USA, Inc. for the Red Tank 30-31 State COM 34H Well (Original Hole) API No. 3002544063 in New Mexico; and that I have reviewed this report and find that it conforms to the principals and procedures as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation.

By
Beau Prather
FS

Subscribed and Sworn to before me this 5th day of February (month) 2018 (yr)

My Commission expires:

12-20-2020

(signature)
Notary Public

Adams County Colorado
(County, State)

JENNIFER ALLEMAND
Notary Public
State of Colorado
Notary ID # 20164047964
My Commission Expires 12-20-2020