Schlumberger

Final Surveys - Cimarex Red Hills 32-5 Fed Com #130H MWD 0ft-22088ft (Surcon Corrected) Survey Geodetic Report

(Def Survey)

Report Date:	January 28, 2021 - 09:27 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Cimarex	**Vertical Section Azimuth:**	179.604 ° (Grid North)
Field:	NM Lea County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Red Hills 32-5 Fed Com #130H / Cimarex Red Hills 32-5 Fed Com #130H	**TVD Reference Datum:**	RKB
Well:	Cimarex Red Hills 32-5 Fed Com #130H	**TVD Reference Elevation:**	3419.500 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3396.500 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.557 °
Survey Name:	Final Surveys - Cimarex Red Hills 32-5 Fed Com #130H MWD 0ft-22088ft (Surcon Corrected)	**Total Gravity Field Strength:**	998.4294mgn (9.80665 Based)
Survey Date:	January 28, 2020	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	257.069 ° / 10585.397 ft / 6.690 / 0.862	**Total Magnetic Field Strength:**	47660.081 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.663 °
Location Lat / Long:	N 32° 5' 35.69272", W 103° 36' 4.58276"	**Declination Date:**	April 23, 2020
Location Grid N/E Y/X:	N 398429.910 ftUS, E 768040.210 ftUS	**Magnetic Declination Model:**	HDGM 2019
CRS Grid Convergence Angle:	0.3890 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99996795	**Grid Convergence Used:**	0.3890 °
Version / Patch:	2.10.824.0	**Total Corr Mag North->Grid North:**	6.1681 °
		Local Coord Referenced To:	Structure Reference Point

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 ° ' ")	Closure Azimuth (°)	Closure (ft)
SHL [390' FNL, 490' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	398429.91	768040.21	N 32 5 35.69	W 103 36 4.58	0.00	0.00
	138.00	0.53	127.84	138.00	0.40	-0.39	0.50	0.38	398429.52	768040.71	N 32 5 35.69	W 103 36 4.58	127.84	0.64
	225.00	0.78	276.38	225.00	0.57	-0.57	0.23	1.45	398429.34	768040.44	N 32 5 35.69	W 103 36 4.58	157.83	0.62
	321.00	0.56	270.60	320.99	0.49	-0.50	-0.89	0.24	398429.41	768039.32	N 32 5 35.69	W 103 36 4.59	240.78	1.01
	412.00	0.68	258.39	411.98	0.59	-0.60	-1.86	0.20	398429.31	768038.35	N 32 5 35.69	W 103 36 4.60	252.14	1.95
	502.00	0.79	217.44	501.98	1.18	-1.20	-2.76	0.58	398428.71	768037.45	N 32 5 35.68	W 103 36 4.61	246.51	3.01
	594.00	1.03	160.07	593.97	2.46	-2.48	-2.86	0.98	398427.43	768037.35	N 32 5 35.67	W 103 36 4.62	229.10	3.79
	685.00	1.01	155.94	684.95	3.97	-3.98	-2.26	0.08	398425.93	768037.95	N 32 5 35.65	W 103 36 4.61	209.55	4.58
	776.00	1.15	168.01	775.94	5.59	-5.61	-1.74	0.29	398424.30	768038.47	N 32 5 35.64	W 103 36 4.60	197.24	5.87
	867.00	1.20	173.31	866.92	7.44	-7.45	-1.44	0.13	398422.46	768038.77	N 32 5 35.62	W 103 36 4.60	190.94	7.58
	942.00	1.25	175.90	941.90	9.03	-9.04	-1.29	0.10	398420.87	768038.92	N 32 5 35.60	W 103 36 4.60	188.12	9.13
	1050.00	0.92	152.60	1049.88	10.98	-10.99	-0.81	0.50	398418.92	768039.40	N 32 5 35.58	W 103 36 4.59	184.20	11.02
	1144.00	0.94	143.49	1143.87	12.28	-12.28	0.00	0.16	398417.63	768040.21	N 32 5 35.57	W 103 36 4.58	180.00	12.28
	1238.00	1.29	161.77	1237.85	13.91	-13.90	0.79	0.53	398416.01	768041.00	N 32 5 35.56	W 103 36 4.57	176.75	13.92
	1333.00	1.57	165.04	1332.82	16.18	-16.17	1.46	0.31	398413.74	768041.67	N 32 5 35.53	W 103 36 4.57	174.84	16.24
	1427.00	1.67	160.84	1426.78	18.73	-18.71	2.24	0.17	398411.20	768042.45	N 32 5 35.51	W 103 36 4.56	173.17	18.85
	1522.00	0.99	144.40	1521.76	20.71	-20.69	3.17	0.81	398409.22	768043.38	N 32 5 35.49	W 103 36 4.55	171.28	20.93
	1617.00	0.76	350.22	1616.75	20.76	-20.73	3.54	1.80	398409.18	768043.75	N 32 5 35.49	W 103 36 4.54	170.30	21.03
	1711.00	1.86	334.80	1710.73	18.76	-18.74	2.79	1.22	398411.17	768043.00	N 32 5 35.51	W 103 36 4.55	171.53	18.95
	1806.00	1.74	337.13	1805.68	16.03	-16.02	1.57	0.15	398413.90	768041.78	N 32 5 35.53	W 103 36 4.57	174.39	16.09
	1902.00	1.77	337.88	1901.64	13.30	-13.30	0.45	0.04	398416.61	768040.66	N 32 5 35.56	W 103 36 4.58	178.07	13.31
	1996.00	1.94	334.75	1995.59	10.51	-10.52	-0.78	0.21	398419.40	768039.43	N 32 5 35.59	W 103 36 4.59	184.23	10.54
	2089.00	0.60	20.85	2088.56	8.63	-8.64	-1.28	1.70	398421.27	768038.93	N 32 5 35.61	W 103 36 4.60	188.40	8.73
	2184.00	0.87	108.48	2183.56	8.40	-8.40	-0.41	1.09	398421.51	768039.80	N 32 5 35.61	W 103 36 4.59	182.83	8.41
	2279.00	1.03	90.92	2278.55	8.65	-8.64	1.12	0.35	398421.27	768041.33	N 32 5 35.61	W 103 36 4.57	172.60	8.72
	2374.00	1.09	18.62	2373.53	7.82	-7.80	2.27	1.32	398422.11	768042.48	N 32 5 35.62	W 103 36 4.56	163.81	8.12
	2469.00	2.07	351.37	2468.50	5.26	-5.25	2.30	1.27	398424.66	768042.51	N 32 5 35.64	W 103 36 4.56	156.36	5.73
	2563.00	1.97	352.76	2562.44	1.98	-1.97	1.84	0.12	398427.94	768042.05	N 32 5 35.67	W 103 36 4.56	136.93	2.69
	2657.00	0.52	348.46	2656.41	-0.04	0.05	1.55	1.54	398429.96	768041.76	N 32 5 35.69	W 103 36 4.56	87.97	1.55
	2752.00	1.35	107.52	2751.41	-0.12	0.14	2.53	1.75	398430.05	768042.74	N 32 5 35.69	W 103 36 4.55	86.82	2.53
	2847.00	3.43	93.15	2846.32	0.40	-0.35	6.44	2.26	398429.56	768046.64	N 32 5 35.69	W 103 36 4.51	93.14	6.44
	2942.00	6.03	87.42	2940.99	0.38	-0.28	14.26	2.78	398429.63	768054.47	N 32 5 35.69	W 103 36 4.42	91.14	14.26
	3037.00	7.86	82.76	3035.29	-0.58	0.76	25.69	2.01	398430.67	768065.90	N 32 5 35.70	W 103 36 4.28	88.31	25.70

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 ° ' ")	Closure Azimuth (°)	Closure (ft)
	3131.00	7.43	80.78	3128.45	-2.28	2.54	38.06	0.54	398432.45	768078.27	N 32 5 35.72	W 103 36 4.14	86.18	38.15
	3226.00	6.01	79.03	3222.80	-4.13	4.47	49.01	1.51	398434.38	768089.22	N 32 5 35.73	W 103 36 4.01	84.78	49.21
	3321.00	5.74	79.62	3317.30	-5.87	6.28	58.57	0.29	398436.19	768098.77	N 32 5 35.75	W 103 36 3.90	83.88	58.90
	3416.00	6.04	93.42	3411.80	-6.36	6.83	68.23	1.52	398436.74	768108.44	N 32 5 35.76	W 103 36 3.79	84.28	68.57
	3511.00	6.30	99.79	3506.25	-5.11	5.65	78.35	0.77	398435.56	768118.56	N 32 5 35.74	W 103 36 3.67	85.88	78.56
	3606.00	6.76	91.03	3600.64	-4.05	4.66	89.08	1.15	398434.57	768129.29	N 32 5 35.73	W 103 36 3.55	87.00	89.20
	3701.00	6.38	85.79	3695.01	-4.26	4.95	99.94	0.75	398434.86	768140.14	N 32 5 35.73	W 103 36 3.42	87.16	100.06
	3795.00	6.34	92.82	3788.44	-4.31	5.08	110.33	0.83	398434.99	768150.53	N 32 5 35.74	W 103 36 3.30	87.36	110.45
	3890.00	6.21	100.22	3882.87	-3.07	3.91	120.62	0.86	398433.82	768160.83	N 32 5 35.72	W 103 36 3.18	88.14	120.69
	3984.00	5.38	99.42	3976.39	-1.39	2.28	129.98	0.89	398432.19	768170.18	N 32 5 35.71	W 103 36 3.07	88.99	130.00
	4079.00	4.37	98.02	4071.04	-0.10	1.05	137.95	1.07	398430.96	768178.16	N 32 5 35.69	W 103 36 2.98	89.56	137.96
	4173.00	4.65	94.30	4164.75	0.74	0.27	145.30	0.43	398430.18	768185.50	N 32 5 35.69	W 103 36 2.89	89.90	145.30
	4268.00	6.82	98.24	4259.27	1.90	-0.83	154.72	2.32	398429.08	768194.93	N 32 5 35.67	W 103 36 2.78	90.31	154.72
	4363.00	7.75	99.82	4353.50	3.88	-2.73	166.62	1.00	398427.18	768206.82	N 32 5 35.65	W 103 36 2.65	90.94	166.64
	4458.00	6.69	105.02	4447.75	6.49	-5.26	178.27	1.31	398424.65	768218.48	N 32 5 35.63	W 103 36 2.51	91.69	178.35
	4553.00	6.52	115.52	4542.12	10.32	-9.02	188.49	1.28	398420.89	768228.69	N 32 5 35.59	W 103 36 2.39	92.74	188.70
	4648.00	6.55	113.58	4636.51	14.88	-13.51	198.32	0.23	398416.40	768238.52	N 32 5 35.55	W 103 36 2.28	93.90	198.78
	4743.00	5.70	106.09	4730.96	18.42	-16.98	207.82	1.23	398412.93	768248.02	N 32 5 35.51	W 103 36 2.17	94.67	208.51
	4837.00	5.13	83.84	4824.55	19.32	-17.83	216.48	2.30	398412.08	768256.69	N 32 5 35.50	W 103 36 2.07	94.71	217.22
	4933.00	5.47	66.16	4920.15	17.07	-15.52	224.94	1.73	398414.39	768265.14	N 32 5 35.52	W 103 36 1.97	93.95	225.47
	5028.00	5.22	65.56	5014.74	13.51	-11.90	233.01	0.27	398418.01	768273.21	N 32 5 35.56	W 103 36 1.88	92.92	233.31
	5123.00	5.16	66.56	5109.35	10.08	-8.41	240.87	0.11	398421.50	768281.07	N 32 5 35.59	W 103 36 1.78	92.00	241.01
	5217.00	5.39	66.71	5202.95	6.70	-4.98	248.80	0.25	398424.93	768289.00	N 32 5 35.63	W 103 36 1.69	91.15	248.85
	5312.00	5.29	66.83	5297.54	3.27	-1.50	256.92	0.11	398428.41	768297.12	N 32 5 35.66	W 103 36 1.60	90.33	256.93
	5407.00	4.97	75.42	5392.16	0.57	1.26	264.93	0.87	398431.17	768305.13	N 32 5 35.69	W 103 36 1.50	89.73	264.93
	5503.00	4.84	79.32	5487.81	-1.17	3.06	272.94	0.37	398432.97	768313.14	N 32 5 35.70	W 103 36 1.41	89.36	272.95
	5598.00	4.33	83.68	5582.50	-2.26	4.20	280.44	0.65	398434.11	768320.64	N 32 5 35.72	W 103 36 1.32	89.14	280.47
	5693.00	4.47	91.24	5677.22	-2.52	4.51	287.70	0.63	398434.42	768327.91	N 32 5 35.72	W 103 36 1.24	89.10	287.74
	5787.00	4.20	92.00	5770.95	-2.27	4.31	294.81	0.29	398434.22	768335.01	N 32 5 35.72	W 103 36 1.16	89.16	294.84
	5882.00	3.64	92.37	5865.73	-1.98	4.07	301.30	0.59	398433.98	768341.50	N 32 5 35.71	W 103 36 1.08	89.23	301.32
	5976.00	3.38	91.16	5959.56	-1.76	3.89	307.05	0.29	398433.80	768347.25	N 32 5 35.71	W 103 36 1.01	89.27	307.07
	6070.00	4.06	87.04	6053.36	-1.84	4.00	313.14	0.78	398433.91	768353.34	N 32 5 35.71	W 103 36 0.94	89.27	313.17
	6164.00	4.83	85.24	6147.07	-2.29	4.50	320.41	0.83	398434.41	768360.61	N 32 5 35.72	W 103 36 0.86	89.19	320.44
	6258.00	4.68	84.42	6240.75	-2.94	5.20	328.17	0.18	398435.11	768368.37	N 32 5 35.72	W 103 36 0.77	89.09	328.21
	6352.00	5.23	88.37	6334.40	-3.37	5.70	336.27	0.69	398435.61	768376.47	N 32 5 35.73	W 103 36 0.67	89.03	336.32
	6447.00	6.17	93.15	6428.93	-3.15	5.54	345.69	1.11	398435.45	768385.89	N 32 5 35.72	W 103 36 0.56	89.08	345.74
	6542.00	6.08	93.55	6523.39	-2.49	4.95	355.81	0.10	398434.86	768396.01	N 32 5 35.72	W 103 36 0.45	89.20	355.85
	6636.00	5.93	91.73	6616.87	-1.97	4.49	365.64	0.26	398434.40	768405.83	N 32 5 35.71	W 103 36 0.33	89.30	365.66
	6731.00	4.73	94.14	6711.46	-1.48	4.06	374.45	1.28	398433.97	768414.65	N 32 5 35.71	W 103 36 0.23	89.38	374.47
	6825.00	2.84	102.04	6805.25	-0.67	3.30	380.59	2.08	398433.21	768420.79	N 32 5 35.70	W 103 36 0.16	89.50	380.61
	6920.00	1.35	123.51	6900.18	0.46	2.19	383.83	1.75	398432.10	768424.02	N 32 5 35.69	W 103 36 0.12	89.67	383.83
	7015.00	0.90	151.87	6995.17	1.75	0.91	385.11	0.74	398430.82	768425.31	N 32 5 35.68	W 103 36 0.11	89.86	385.11
	7110.00	0.96	155.56	7090.15	3.14	-0.47	385.79	0.09	398429.44	768425.99	N 32 5 35.66	W 103 36 0.10	90.07	385.79
	7205.00	0.90	150.93	7185.14	4.52	-1.85	386.48	0.10	398428.06	768426.68	N 32 5 35.65	W 103 36 0.09	90.27	386.49
	7300.00	0.88	149.01	7280.13	5.80	-3.12	387.22	0.04	398426.79	768427.42	N 32 5 35.64	W 103 36 0.08	90.46	387.24
	7395.00	0.60	137.81	7375.12	6.80	-4.12	387.93	0.33	398425.79	768428.13	N 32 5 35.63	W 103 36 0.07	90.61	387.95
	7489.00	0.90	148.02	7469.11	7.79	-5.11	388.65	0.35	398424.80	768428.85	N 32 5 35.62	W 103 36 0.07	90.75	388.69
	7584.00	0.68	149.97	7564.10	8.92	-6.23	389.33	0.23	398423.68	768429.53	N 32 5 35.60	W 103 36 0.06	90.92	389.38
	7679.00	0.71	168.84	7659.10	9.99	-7.29	389.73	0.24	398422.62	768429.92	N 32 5 35.59	W 103 36 0.05	91.07	389.80
	7773.00	0.78	179.61	7753.09	11.20	-8.51	389.84	0.17	398421.40	768430.04	N 32 5 35.58	W 103 36 0.05	91.25	389.94
	7868.00	0.78	159.99	7848.08	12.46	-9.76	390.07	0.28	398420.15	768430.27	N 32 5 35.57	W 103 36 0.05	91.43	390.19
	7962.00	0.82	137.12	7942.07	13.55	-10.85	390.75	0.34	398419.06	768430.94	N 32 5 35.56	W 103 36 0.04	91.59	390.90
	8057.00	0.92	148.62	8037.06	14.71	-12.00	391.61	0.21	398417.91	768431.80	N 32 5 35.55	W 103 36 0.03	91.76	391.79
	8151.00	0.87	157.51	8131.05	16.02	-13.31	392.27	0.16	398416.60	768432.47	N 32 5 35.53	W 103 36 0.02	91.94	392.50
	8246.00	0.73	147.69	8226.04	17.20	-14.48	392.87	0.21	398415.43	768433.07	N 32 5 35.52	W 103 36 0.02	92.11	393.14
	8340.00	0.72	152.44	8320.03	18.23	-15.51	393.46	0.06	398414.40	768433.66	N 32 5 35.51	W 103 36 0.01	92.26	393.77
	8435.00	0.90	158.64	8415.02	19.46	-16.74	394.01	0.21	398413.17	768434.21	N 32 5 35.50	W 103 36 0.00	92.43	394.37
	8530.00	1.00	161.44	8510.01	20.95	-18.22	394.55	0.12	398411.69	768434.74	N 32 5 35.49	W 103 36 0.00	92.64	394.97
	8624.00	0.85	169.08	8604.00	22.41	-19.68	394.94	0.21	398410.23	768435.14	N 32 5 35.47	W 103 35 59.99	92.85	395.43
	8719.00	0.34	164.70	8698.99	23.38	-20.65	395.15	0.54	398409.27	768435.35	N 32 5 35.46	W 103 35 59.99	92.99	395.69
	8814.00	0.14	149.85	8793.99	23.75	-21.02	395.28	0.22	398408.89	768435.48	N 32 5 35.46	W 103 35 59.99	93.04	395.84
	8908.00	0.12	143.94	8887.99	23.93	-21.20	395.40	0.03	398408.71	768435.59	N 32 5 35.46	W 103 35 59.99	93.07	395.97
	9003.00	0.38	331.44	8982.99	23.73	-21.00	395.31	0.53	398408.91	768435.50	N 32 5 35.46	W 103 35 59.99	93.04	395.86
	9097.00	0.76	341.47	9076.99	22.86	-20.14	394.96	0.42	398409.78	768435.15	N 32 5 35.47	W 103 35 59.99	92.92	395.47
	9192.00	0.79	326.99	9171.98	21.71	-18.99	394.40	0.21	398410.92	768434.60	N 32 5 35.48	W 103 36 0.00	92.76	394.86
	9287.00	0.58	298.82	9266.97	20.93	-18.21	393.62	0.41	398411.70	768433.82	N 32 5 35.49	W 103 36 0.01	92.65	394.04
	9382.00	0.38	281.90	9361.97	20.63	-17.91	392.89	0.26	398412.00	768433.09	N 32 5 35.49	W 103 36 0.02	92.61	393.30

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 ° ' ")	Closure Azimuth (°)	Closure (ft)
	9477.00	0.47	220.50	9456.97	20.85	-18.14	392.33	0.46	398411.77	768432.53	N 32 5 35.49	W 103 36 0.02	92.65	392.75
	9573.00	0.21	221.86	9552.96	21.28	-18.57	391.96	0.27	398411.34	768432.16	N 32 5 35.48	W 103 36 0.03	92.71	392.40
	9667.00	1.22	323.91	9646.96	20.60	-17.89	391.25	1.36	398412.02	768431.45	N 32 5 35.49	W 103 36 0.04	92.62	391.66
	9762.00	1.35	313.83	9741.93	18.99	-16.30	389.85	0.27	398413.61	768430.05	N 32 5 35.51	W 103 36 0.05	92.39	390.19
	9858.00	1.62	289.67	9837.90	17.74	-15.06	387.76	0.70	398414.85	768427.95	N 32 5 35.52	W 103 36 0.08	92.22	388.05
	9952.00	1.32	264.89	9931.87	17.37	-14.71	385.43	0.74	398415.20	768425.63	N 32 5 35.52	W 103 36 0.10	92.19	385.71
	10047.00	1.38	302.98	10026.85	16.83	-14.18	383.38	0.93	398415.73	768423.58	N 32 5 35.53	W 103 36 0.13	92.12	383.64
	10141.00	1.47	303.42	10120.82	15.54	-12.90	381.42	0.10	398417.01	768421.62	N 32 5 35.54	W 103 36 0.15	91.94	381.64
	10235.00	0.45	281.69	10214.80	14.79	-12.16	380.06	1.13	398417.75	768420.25	N 32 5 35.55	W 103 36 0.17	91.83	380.25
	10329.00	0.37	212.65	10308.80	14.97	-12.35	379.53	0.50	398417.56	768419.73	N 32 5 35.55	W 103 36 0.17	91.86	379.73
	10424.00	1.13	171.19	10403.79	16.15	-13.53	379.51	0.93	398416.38	768419.71	N 32 5 35.53	W 103 36 0.17	92.04	379.75
	10519.00	1.72	136.58	10498.77	18.12	-15.49	380.63	1.07	398414.42	768420.83	N 32 5 35.51	W 103 36 0.16	92.33	380.95
	10614.00	2.26	130.02	10593.71	20.38	-17.73	383.05	0.62	398412.18	768423.24	N 32 5 35.49	W 103 36 0.13	92.65	383.46
	10709.00	2.21	134.11	10688.64	22.88	-20.21	385.80	0.18	398409.70	768425.99	N 32 5 35.47	W 103 36 0.10	93.00	386.32
	10804.00	1.86	133.98	10783.58	25.24	-22.56	388.22	0.37	398407.35	768428.42	N 32 5 35.44	W 103 36 0.07	93.33	388.87
	10898.00	0.84	110.05	10877.55	26.55	-23.85	389.97	1.22	398406.06	768430.16	N 32 5 35.43	W 103 36 0.05	93.50	390.69
	10992.00	0.54	61.12	10971.54	26.58	-23.87	391.00	0.67	398406.04	768431.20	N 32 5 35.43	W 103 36 0.04	93.49	391.73
	11087.00	0.48	8.07	11066.54	25.97	-23.26	391.45	0.48	398406.65	768431.64	N 32 5 35.44	W 103 36 0.03	93.40	392.14
	11181.00	1.43	300.73	11160.53	24.97	-22.27	390.50	1.41	398407.64	768430.69	N 32 5 35.45	W 103 36 0.05	93.26	391.13
	11276.00	1.81	290.37	11255.49	23.83	-21.15	388.07	0.50	398408.76	768428.27	N 32 5 35.46	W 103 36 0.07	93.12	388.65
	11370.00	2.29	298.93	11349.43	22.38	-19.72	385.03	0.60	398410.19	768425.23	N 32 5 35.47	W 103 36 0.11	92.93	385.54
	11464.00	2.64	306.02	11443.34	20.18	-17.54	381.64	0.49	398412.37	768421.84	N 32 5 35.49	W 103 36 0.15	92.63	382.04
	11559.00	2.18	311.03	11538.26	17.68	-15.07	378.51	0.53	398414.84	768418.70	N 32 5 35.52	W 103 36 0.18	92.28	378.81
	11653.00	1.99	326.56	11632.20	15.13	-12.53	376.26	0.63	398417.38	768416.46	N 32 5 35.54	W 103 36 0.21	91.91	376.47
First SLB Survey	11698.00	2.17	326.22	11677.17	13.77	-11.17	375.35	0.40	398418.74	768415.55	N 32 5 35.56	W 103 36 0.22	91.70	375.52
	11729.00	1.53	319.12	11708.15	12.96	-10.37	374.76	2.19	398419.54	768414.95	N 32 5 35.56	W 103 36 0.23	91.59	374.90
	11761.00	1.45	199.76	11740.15	13.02	-10.43	374.34	8.04	398419.48	768414.54	N 32 5 35.56	W 103 36 0.23	91.60	374.49
KOP [403' FNL, 864' FWL]	*11770.00*	*2.50*	*190.39*	*11749.14*	*13.32*	*-10.73*	*374.27*	*12.18*	*398419.18*	*768414.46*	*N 32 5 35.56*	*W 103 36 0.23*	*91.64*	*374.42*
	11792.00	5.15	183.95	11771.09	14.77	-12.19	374.11	12.18	398417.72	768414.31	N 32 5 35.55	W 103 36 0.24	91.87	374.31
	11824.00	9.25	178.17	11802.83	18.78	-16.19	374.10	12.99	398413.72	768414.29	N 32 5 35.51	W 103 36 0.24	92.48	374.45
	11855.00	12.83	175.83	11833.25	24.70	-22.12	374.43	11.64	398407.79	768414.62	N 32 5 35.45	W 103 36 0.23	93.38	375.08
	11887.00	16.59	179.94	11864.20	32.82	-30.23	374.69	12.19	398399.68	768414.89	N 32 5 35.37	W 103 36 0.23	94.61	375.91
	11918.00	20.93	181.82	11893.54	42.78	-40.20	374.52	14.13	398389.72	768414.72	N 32 5 35.27	W 103 36 0.23	96.13	376.67
	11950.00	25.55	181.63	11922.94	55.40	-52.81	374.14	14.44	398377.10	768414.34	N 32 5 35.14	W 103 36 0.24	98.03	377.85
	11981.00	29.53	182.31	11950.42	69.72	-67.14	373.64	12.88	398362.78	768413.84	N 32 5 35.00	W 103 36 0.24	100.19	379.62
	12028.00	34.25	182.94	11990.32	94.50	-91.93	372.50	10.07	398337.98	768412.69	N 32 5 34.76	W 103 36 0.26	103.86	383.67
	12076.00	39.42	180.69	12028.72	123.25	-120.68	371.62	11.13	398309.23	768411.82	N 32 5 34.47	W 103 36 0.27	107.99	390.72
	12123.00	44.45	178.38	12063.68	154.64	-152.07	371.90	11.19	398277.84	768412.10	N 32 5 34.16	W 103 36 0.27	112.24	401.80
	12171.00	48.64	176.48	12096.69	189.45	-186.87	373.49	9.19	398243.05	768413.68	N 32 5 33.82	W 103 36 0.26	116.58	417.63
	12218.00	53.26	175.79	12126.29	225.87	-223.28	375.95	9.90	398206.64	768416.15	N 32 5 33.46	W 103 36 0.23	120.71	437.26
	12265.00	58.92	177.01	12152.50	264.80	-262.19	378.39	12.23	398167.73	768418.58	N 32 5 33.07	W 103 36 0.21	124.72	460.35
	12312.00	64.65	178.43	12174.71	306.17	-303.55	380.02	12.48	398126.37	768420.22	N 32 5 32.66	W 103 36 0.19	128.62	486.38
First Take Point [740' FNL, 869' FWL]	12360.00	69.11	179.05	12193.55	350.30	-347.68	380.99	9.37	398082.24	768421.18	N 32 5 32.23	W 103 36 0.18	132.38	515.78
	12521.00	79.98	183.35	12236.41	505.14	-502.54	377.59	7.22	397927.38	768417.79	N 32 5 30.69	W 103 36 0.23	143.08	628.59
	12616.00	82.28	183.80	12251.06	598.77	-596.22	371.74	2.47	397833.71	768411.93	N 32 5 29.77	W 103 36 0.31	148.06	702.61
	12711.00	84.82	182.45	12261.73	692.98	-690.47	366.59	3.02	397739.47	768406.79	N 32 5 28.84	W 103 36 0.38	152.03	781.75
	12805.00	87.27	178.75	12268.22	786.72	-784.22	365.62	4.71	397645.72	768405.81	N 32 5 27.91	W 103 36 0.39	155.00	865.26
	12900.00	87.15	178.24	12272.84	881.59	-879.07	368.11	0.55	397550.87	768408.31	N 32 5 26.97	W 103 36 0.37	157.28	953.03
	12995.00	87.47	178.20	12277.30	976.46	-973.92	371.06	0.34	397456.02	768411.25	N 32 5 26.03	W 103 36 0.35	159.14	1042.21
	13090.00	88.33	177.82	12280.78	1071.36	-1068.80	374.35	0.99	397361.15	768414.55	N 32 5 25.09	W 103 36 0.32	160.70	1132.46
	13185.00	88.45	177.90	12283.45	1166.28	-1163.69	377.90	0.15	397266.26	768418.10	N 32 5 24.15	W 103 36 0.28	162.01	1223.51
	13279.00	89.78	178.45	12284.90	1260.23	-1257.63	380.89	1.53	397172.32	768421.09	N 32 5 23.22	W 103 36 0.25	163.15	1314.05
	13374.00	90.48	177.85	12284.69	1355.20	-1352.58	383.96	0.97	397077.38	768424.16	N 32 5 22.28	W 103 36 0.23	164.15	1406.02
	13469.00	90.29	178.24	12284.05	1450.16	-1447.52	387.20	0.46	396982.44	768427.40	N 32 5 21.34	W 103 36 0.20	165.02	1498.41
	13564.00	90.25	177.69	12283.60	1545.12	-1542.46	390.57	0.58	396887.50	768430.77	N 32 5 20.40	W 103 36 0.16	165.79	1591.14
	13659.00	90.45	177.35	12283.02	1640.06	-1637.37	394.68	0.42	396792.59	768434.88	N 32 5 19.46	W 103 36 0.12	166.45	1684.27
	13753.00	90.42	177.76	12282.31	1734.00	-1731.28	398.69	0.44	396698.69	768438.89	N 32 5 18.53	W 103 36 0.09	167.03	1776.60
	13848.00	90.17	179.26	12281.82	1828.98	-1826.25	401.16	1.60	396603.73	768441.36	N 32 5 17.59	W 103 36 0.06	167.61	1869.79
	13943.00	90.02	179.87	12281.66	1923.97	-1921.24	401.88	0.66	396508.73	768442.08	N 32 5 16.65	W 103 36 0.06	168.19	1962.83
	14037.00	90.55	179.77	12281.19	2017.97	-2015.24	402.18	0.57	396414.74	768442.38	N 32 5 15.72	W 103 36 0.07	168.71	2054.98
	14132.00	90.26	179.33	12280.52	2112.97	-2110.24	402.93	0.55	396319.75	768443.12	N 32 5 14.78	W 103 36 0.07	169.19	2148.36
	14227.00	90.79	179.97	12279.65	2207.96	-2205.23	403.51	0.87	396224.76	768443.70	N 32 5 13.84	W 103 36 0.07	169.63	2241.84
	14322.00	90.42	179.35	12278.65	2302.96	-2300.22	404.07	0.76	396129.77	768444.27	N 32 5 12.90	W 103 36 0.07	170.04	2335.44

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 ° ' ")	Closure Azimuth (°)	Closure (ft)
	14416.00	90.12	179.55	12278.20	2396.96	-2394.22	404.97	0.38	396035.78	768445.17	N 32 5 11.97	W 103 36 0.06	170.40	2428.22
	14510.00	90.76	180.18	12277.48	2490.95	-2488.21	405.19	0.96	395941.78	768445.39	N 32 5 11.04	W 103 36 0.07	170.75	2520.99
	14605.00	91.47	179.91	12275.63	2585.93	-2583.19	405.12	0.80	395846.81	768445.32	N 32 5 10.10	W 103 36 0.08	171.09	2614.77
	14700.00	90.54	180.08	12273.97	2680.91	-2678.18	405.13	1.00	395751.82	768445.32	N 32 5 9.16	W 103 36 0.09	171.40	2708.65
	14795.00	89.98	179.32	12273.53	2775.91	-2773.17	405.63	0.99	395656.83	768445.82	N 32 5 8.22	W 103 36 0.09	171.68	2802.68
	14890.00	90.23	179.33	12273.36	2870.91	-2868.17	406.74	0.26	395561.84	768446.94	N 32 5 7.28	W 103 36 0.08	171.93	2896.86
	14985.00	87.83	179.28	12274.97	2965.89	-2963.14	407.90	2.53	395466.87	768448.09	N 32 5 6.34	W 103 36 0.08	172.16	2991.08
	15080.00	90.08	180.19	12276.70	3060.86	-3058.12	408.34	2.55	395371.90	768448.53	N 32 5 5.40	W 103 36 0.08	172.39	3085.26
	15174.00	90.79	180.05	12275.99	3154.86	-3152.11	408.14	0.77	395277.91	768448.33	N 32 5 4.47	W 103 36 0.09	172.62	3178.43
	15269.00	91.15	179.38	12274.38	3249.84	-3247.10	408.61	0.80	395182.92	768448.81	N 32 5 3.53	W 103 36 0.09	172.83	3272.71
	15364.00	91.08	179.33	12272.53	3344.82	-3342.07	409.68	0.09	395087.95	768449.88	N 32 5 2.59	W 103 36 0.08	173.01	3367.09
	15459.00	88.93	179.05	12272.52	3439.82	-3437.06	411.02	2.28	394992.97	768451.22	N 32 5 1.65	W 103 36 0.08	173.18	3461.55
	15554.00	90.50	179.76	12273.00	3534.81	-3532.05	412.01	1.81	394897.98	768452.21	N 32 5 0.71	W 103 36 0.07	173.35	3556.00
	15649.00	89.72	179.37	12272.81	3629.81	-3627.04	412.73	0.92	394802.99	768452.93	N 32 4 59.77	W 103 36 0.07	173.51	3650.45
	15744.00	91.72	180.38	12271.62	3724.79	-3722.03	412.94	2.36	394708.01	768453.13	N 32 4 58.83	W 103 36 0.08	173.67	3744.87
	15839.00	91.75	180.43	12268.74	3819.74	-3816.98	412.27	0.06	394613.06	768452.46	N 32 4 57.90	W 103 36 0.09	173.84	3839.18
	15934.00	91.15	179.54	12266.34	3914.71	-3911.95	412.29	1.13	394518.09	768452.49	N 32 4 56.96	W 103 36 0.10	173.98	3933.62
	16029.00	91.18	180.80	12264.41	4009.68	-4006.93	412.01	1.33	394423.12	768452.21	N 32 4 56.02	W 103 36 0.11	174.13	4028.06
	16124.00	91.09	179.71	12262.53	4104.66	-4101.91	411.59	1.15	394328.14	768451.78	N 32 4 55.08	W 103 36 0.12	174.27	4122.51
	16218.00	90.95	180.18	12260.85	4198.64	-4195.89	411.68	0.52	394234.16	768451.87	N 32 4 54.15	W 103 36 0.13	174.40	4216.04
	16313.00	91.08	179.83	12259.17	4293.62	-4290.88	411.67	0.39	394139.18	768451.87	N 32 4 53.21	W 103 36 0.14	174.52	4310.58
	16409.00	91.32	180.84	12257.16	4389.59	-4386.85	411.11	1.08	394043.20	768451.30	N 32 4 52.26	W 103 36 0.15	174.65	4406.08
	16504.00	91.08	180.41	12255.17	4484.56	-4481.83	410.07	0.52	393948.23	768450.27	N 32 4 51.32	W 103 36 0.17	174.77	4500.55
	16599.00	90.75	180.30	12253.65	4579.53	-4576.81	409.48	0.37	393853.25	768449.68	N 32 4 50.38	W 103 36 0.18	174.89	4595.10
	16693.00	90.72	180.36	12252.45	4673.52	-4670.80	408.94	0.07	393759.26	768449.14	N 32 4 49.45	W 103 36 0.20	175.00	4688.67
	16788.00	90.20	179.75	12251.68	4768.51	-4765.80	408.85	0.84	393664.27	768449.05	N 32 4 48.51	W 103 36 0.21	175.10	4783.31
	16883.00	90.49	181.63	12251.11	4863.49	-4860.79	407.71	2.00	393569.29	768447.90	N 32 4 47.57	W 103 36 0.23	175.21	4877.86
Private Leaseline Crossing [865' FWL]	*16912.90*	*90.04*	*180.88*	*12250.97*	*4893.38*	*-4890.68*	*407.05*	*2.92*	*393539.40*	*768447.25*	*N 32 4 47.27*	*W 103 36 0.24*	*175.24*	*4907.59*
	16978.00	89.06	179.25	12251.48	4958.47	-4955.77	406.98	2.92	393474.30	768447.17	N 32 4 46.63	W 103 36 0.24	175.31	4972.46
	17073.00	89.18	178.34	12252.94	5053.45	-5050.74	408.98	0.97	393379.34	768449.17	N 32 4 45.69	W 103 36 0.23	175.37	5067.27
	17168.00	89.63	178.90	12253.93	5148.43	-5145.71	411.26	0.76	393284.38	768451.46	N 32 4 44.75	W 103 36 0.21	175.43	5162.12
	17263.00	90.07	178.78	12254.18	5243.42	-5240.69	413.19	0.48	393189.40	768453.38	N 32 4 43.81	W 103 36 0.19	175.49	5256.95
	17358.00	89.98	178.22	12254.14	5338.40	-5335.66	415.67	0.60	393094.44	768455.87	N 32 4 42.87	W 103 36 0.17	175.55	5351.82
	17453.00	89.73	179.14	12254.38	5433.39	-5430.63	417.86	1.00	392999.47	768458.06	N 32 4 41.93	W 103 36 0.15	175.60	5446.68
	17547.00	89.64	179.40	12254.89	5527.38	-5524.62	419.06	0.29	392905.48	768459.25	N 32 4 41.00	W 103 36 0.15	175.66	5540.49
	17642.00	89.82	178.60	12255.34	5622.38	-5619.60	420.72	0.86	392810.50	768460.91	N 32 4 40.06	W 103 36 0.14	175.72	5635.33
	17737.00	90.08	177.76	12255.43	5717.35	-5714.55	423.73	0.93	392715.55	768463.93	N 32 4 39.12	W 103 36 0.11	175.76	5730.24
	17832.00	90.29	178.48	12255.12	5812.31	-5809.50	426.85	0.79	392620.61	768467.05	N 32 4 38.18	W 103 36 0.08	175.80	5825.16
	17927.00	90.05	178.55	12254.84	5907.30	-5904.47	429.31	0.26	392525.64	768469.51	N 32 4 37.24	W 103 36 0.06	175.84	5920.06
	18022.00	90.15	178.54	12254.67	6002.28	-5999.44	431.72	0.11	392430.68	768471.92	N 32 4 36.30	W 103 36 0.04	175.88	6014.95
	18117.00	89.96	178.94	12254.58	6097.27	-6094.42	433.81	0.47	392335.70	768474.01	N 32 4 35.36	W 103 36 0.02	175.93	6109.84
	18212.00	90.29	180.71	12254.37	6192.26	-6189.41	434.10	1.90	392240.71	768474.30	N 32 4 34.42	W 103 36 0.03	175.99	6204.62
Private - NMNM0106040 4 Crossing [882' FWL]	*18235.60*	*90.23*	*180.56*	*12254.27*	*6215.86*	*-6213.01*	*433.84*	*0.69*	*392217.11*	*768474.04*	*N 32 4 34.18*	*W 103 36 0.03*	*176.01*	*6228.14*
	18306.00	90.05	180.11	12254.09	6286.25	-6283.41	433.43	0.69	392146.72	768473.63	N 32 4 33.49	W 103 36 0.04	176.05	6298.34
	18400.00	90.13	179.61	12253.95	6380.25	-6377.41	433.66	0.54	392052.72	768473.86	N 32 4 32.56	W 103 36 0.05	176.11	6392.13
	18495.00	90.20	180.70	12253.67	6475.25	-6472.40	433.40	1.15	391957.73	768473.60	N 32 4 31.62	W 103 36 0.06	176.17	6486.90
	18590.00	90.10	179.96	12253.42	6570.24	-6567.40	432.86	0.79	391862.73	768473.05	N 32 4 30.68	W 103 36 0.07	176.23	6581.65
	18685.00	90.19	179.68	12253.18	6665.24	-6662.40	433.16	0.31	391767.74	768473.35	N 32 4 29.74	W 103 36 0.07	176.28	6676.47
	18780.00	89.92	179.44	12253.09	6760.24	-6757.40	433.88	0.38	391672.74	768474.08	N 32 4 28.80	W 103 36 0.07	176.33	6771.31
	18875.00	89.77	179.99	12253.35	6855.23	-6852.40	434.36	0.60	391577.75	768474.55	N 32 4 27.86	W 103 36 0.08	176.37	6866.15
	18970.00	90.16	180.71	12253.41	6950.23	-6947.39	433.78	0.86	391482.75	768473.97	N 32 4 26.92	W 103 36 0.09	176.43	6960.92
	19065.00	90.18	180.41	12253.12	7045.21	-7042.39	432.85	0.32	391387.76	768473.04	N 32 4 25.98	W 103 36 0.11	176.48	7055.68
	19160.00	90.29	179.76	12252.74	7140.21	-7137.39	432.71	0.69	391292.77	768472.90	N 32 4 25.04	W 103 36 0.12	176.53	7150.49
	19254.00	90.25	180.50	12252.29	7234.20	-7231.39	432.49	0.79	391198.77	768472.69	N 32 4 24.11	W 103 36 0.13	176.58	7244.31
	19349.00	90.27	180.43	12251.86	7329.19	-7326.38	431.72	0.08	391103.78	768471.92	N 32 4 23.17	W 103 36 0.14	176.63	7339.09
	19444.00	89.55	180.72	12252.01	7424.18	-7421.38	430.77	0.82	391008.79	768470.97	N 32 4 22.23	W 103 36 0.16	176.68	7433.87
	19538.00	90.18	180.52	12252.23	7518.16	-7515.37	429.75	0.70	390914.80	768469.95	N 32 4 21.30	W 103 36 0.18	176.73	7527.65

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 ° ' ")	Closure Azimuth (°)	Closure (ft)
NMNM0106040 4 - NMNM0160973 Crossing [868' FWL]	*19558.18*	*90.18*	*180.40*	*12252.17*	*7538.34*	*-7535.55*	*429.59*	*0.58*	*390894.62*	*768469.79*	*N 32 4 21.10*	*W 103 36 0.18*	*176.74*	*7547.78*
	19633.00	90.17	179.97	12251.94	7613.15	-7610.37	429.35	0.58	390819.80	768469.54	N 32 4 20.36	W 103 36 0.19	176.77	7622.47
	19728.00	89.60	179.83	12252.13	7708.15	-7705.37	429.51	0.62	390724.81	768469.71	N 32 4 19.42	W 103 36 0.20	176.81	7717.33
	19823.00	90.13	180.29	12252.36	7803.15	-7800.37	429.41	0.74	390629.81	768469.61	N 32 4 18.48	W 103 36 0.21	176.85	7812.18
	19918.00	90.32	180.37	12251.98	7898.14	-7895.36	428.87	0.22	390534.82	768469.06	N 32 4 17.54	W 103 36 0.22	176.89	7907.00
	20013.00	90.15	179.94	12251.59	7993.13	-7990.36	428.61	0.49	390439.82	768468.80	N 32 4 16.60	W 103 36 0.23	176.93	8001.85
	20108.00	91.26	181.68	12250.42	8088.10	-8085.34	427.27	2.17	390344.84	768467.46	N 32 4 15.66	W 103 36 0.26	176.98	8096.62
	20203.00	90.50	179.44	12248.97	8183.07	-8180.32	426.34	2.49	390249.87	768466.53	N 32 4 14.72	W 103 36 0.27	177.02	8191.42
	20298.00	90.25	178.32	12248.34	8278.06	-8275.30	428.19	1.21	390154.90	768468.39	N 32 4 13.78	W 103 36 0.26	177.04	8286.37
	20393.00	90.15	177.89	12248.01	8373.02	-8370.24	431.34	0.46	390059.95	768471.53	N 32 4 12.84	W 103 36 0.23	177.05	8381.35
	20487.00	90.15	178.37	12247.77	8466.99	-8464.19	434.40	0.51	389966.01	768474.60	N 32 4 11.91	W 103 36 0.20	177.06	8475.33
	20582.00	90.47	179.11	12247.25	8561.98	-8559.17	436.49	0.85	389871.03	768476.69	N 32 4 10.97	W 103 36 0.19	177.08	8570.29
	20677.00	90.19	177.66	12246.70	8656.95	-8654.13	439.17	1.55	389776.08	768479.37	N 32 4 10.03	W 103 36 0.16	177.09	8665.26
	20772.00	90.04	177.44	12246.51	8751.89	-8749.04	443.23	0.28	389681.17	768483.43	N 32 4 9.09	W 103 36 0.12	177.10	8760.26
	20867.00	90.11	178.15	12246.39	8846.85	-8843.97	446.89	0.75	389586.24	768487.08	N 32 4 8.15	W 103 36 0.09	177.11	8855.25
	20961.00	90.29	178.05	12246.06	8940.81	-8937.92	450.00	0.22	389492.30	768490.20	N 32 4 7.22	W 103 36 0.06	177.12	8949.24
	21056.00	90.11	178.03	12245.73	9035.78	-9032.86	453.25	0.19	389397.36	768493.45	N 32 4 6.28	W 103 36 0.03	177.13	9044.22
	21150.00	89.84	178.62	12245.77	9129.75	-9126.82	456.00	0.69	389303.40	768496.19	N 32 4 5.35	W 103 36 0.00	177.14	9138.20
	21245.00	89.25	180.55	12246.53	9224.74	-9221.81	456.69	2.12	389208.42	768496.88	N 32 4 4.41	W 103 36 0.00	177.16	9233.11
	21340.00	89.45	180.67	12247.60	9319.72	-9316.80	455.68	0.25	389113.43	768495.87	N 32 4 3.47	W 103 36 0.02	177.20	9327.93
	21435.00	89.04	180.25	12248.85	9414.70	-9411.78	454.91	0.62	389018.45	768495.11	N 32 4 2.53	W 103 36 0.04	177.23	9422.77
	21529.00	90.97	181.28	12248.85	9508.68	-9505.77	453.66	2.33	388924.46	768493.85	N 32 4 1.60	W 103 36 0.06	177.27	9516.59
	21624.00	89.65	180.46	12248.33	9603.65	-9600.76	452.22	1.64	388829.48	768492.41	N 32 4 0.66	W 103 36 0.08	177.30	9611.40
	21718.00	89.38	179.51	12249.13	9697.65	-9694.75	452.24	1.05	388735.49	768492.44	N 32 3 59.73	W 103 36 0.09	177.33	9705.29
	21813.00	88.94	179.72	12250.52	9792.63	-9789.74	452.88	0.51	388640.51	768493.07	N 32 3 58.79	W 103 36 0.09	177.35	9800.21
	21908.00	88.88	180.19	12252.33	9887.62	-9884.72	452.95	0.50	388545.53	768493.15	N 32 3 57.85	W 103 36 0.10	177.38	9895.09
	22003.00	90.68	181.09	12252.69	9982.59	-9979.71	451.89	2.12	388450.54	768492.09	N 32 3 56.91	W 103 36 0.12	177.41	9989.94
Last Take Point [169' FSL, 873' FWL]	*22020.00*	*90.06*	*180.49*	*12252.58*	*9999.59*	*-9996.71*	*451.66*	*5.05*	*388433.54*	*768491.85*	*N 32 3 56.74*	*W 103 36 0.12*	*177.41*	*10006.91*
Final Survey	22039.00	89.37	179.83	12252.68	10018.59	-10015.71	451.60	5.05	388414.54	768491.80	N 32 3 56.56	W 103 36 0.12	177.42	10025.88
TD, PTB [101' FSL, 873' FWL]	22088.00	89.37	179.83	12253.22	10067.59	-10064.70	451.75	0.00	388365.55	768491.94	N 32 3 56.07	W 103 36 0.13	177.43	10074.84

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	23.000	1/98.425	17.500	13.375	NAL_MWD_IFR1+MS-Depth Only	Original Borehole / Final Surveys - Cimarex Red Hills 32-5 Fed Com #130H MWD 0ft-22088ft (Surcon
	1	23.000	23.000	Act Stns	17.500	13.375	NAL_MWD_IFR1+MS-Depth Only	Original Borehole / Final Surveys - Cimarex Red Hills 32-5 Fed Com #130H MWD 0ft-22088ft (Surcon
	1	23.000	140.000	Act Stns	17.500	13.375	NAL_MWD_IFR1+MS	Original Borehole / Final Surveys - Cimarex Red Hills 32-5 Fed Com
	1	140.000	1010.000	Act Stns	14.740	10.750	NAL_MWD_IFR1+MS	Original Borehole / Final Surveys - Cimarex Red Hills 32-5 Fed Com
	1	1010.000	11740.000	Act Stns	9.875	7.625	NAL_MWD_IFR1+MS	Original Borehole / Final Surveys - Cimarex Red Hills 32-5 Fed Com
	1	11740.000	12437.000	Act Stns	8.750	7.625	NAL_MWD_IFR1+MS	Original Borehole / Final Surveys - Cimarex Red Hills 32-5 Fed Com
	1	12437.000	22088.000	Act Stns	6.750	5.000	NAL_MWD_IFR1+MS	Original Borehole / Final Surveys - Cimarex Red Hills 32-5 Fed Com

Schlumberger

Cimarex

Final PvA

CIMAREX

Borehole:	Well:	Field:	Structure:
Original Borehole	Cimarex Red Hills 32-5 Fed Com #130H	NM Lea County (NAD 83)	Cimarex Red Hills 32-5 Fed Com #130H

Gravity & Magnetic Parameters

Model:	HDGM 2019	Dip:	59.663°	Date:	23-Apr-2020
MagDec:	6.557°	FS:	47660.081nT	Gravity FS:	998.429mgn (9.80665 Based)

Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet

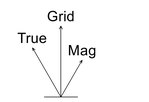
Lat:	N 32 5 35.69	Northing:	398429.91ftUS	Grid Conv:	0.389°
Lon:	W 103 36 4.58	Easting:	768040.21ftUS	Scale Fact:	0.99996795

Miscellaneous

Slot:	Cimarex Red Hills 32-5 Fed Com #130H	TVD Ref:	RKB(3419.5ft above MSL)
Plan:	Final Surveys - Cimarex Red Hills 32-5 Fed Com #130H MWD 0ft-22088ft (Surcon Corrected)		

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [390' FNL, 490' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
First SLB Survey	11698.00	2.17	326.22	11677.17	13.77	-11.17	375.35	0.40
KOP [403' FNL, 864' FWL]	11770.00	2.50	190.39	11749.14	13.32	-10.73	374.27	12.18
First Take Point [740' FNL, 869' FWL]	12360.00	69.11	179.05	12193.55	350.30	-347.68	380.99	9.37
Private Leaseline Crossing [865' FWL]	16912.90	90.04	180.88	12250.97	4893.38	-4890.68	407.05	2.92
Private - NMNM01060404 Crossing [882' FWL]	18235.60	90.23	180.56	12254.27	6215.86	-6213.01	433.84	0.69
NMNM01060404 - NMNM0160973 Crossing [868' FWL]	19558.18	90.18	180.40	12252.17	7538.34	-7535.55	429.59	0.58
Last Take Point [169' FSL, 873' FWL]	22020.00	90.06	180.49	12252.58	9999.59	-9996.71	451.66	5.05
Final Survey	22039.00	89.37	179.83	12252.68	10018.59	-10015.71	451.60	5.05
TD, PTB [101' FSL, 873' FWL]	22088.00	89.37	179.83	12253.22	10067.59	-10064.70	451.75	0.00



D E C **CONTROLLED**

Plan ref	Final Surveys - Cimarex Red Hills 32-5 Fed Com #130H MWD 0ft-22088ft (Surcon Corrected)
Drawing ref	
Copy number	of 3
Date	28-Jan-2021

1	Client	
2	Client	
3	Office	
4	Office	

Copy number for