Schlumberger

Chisholm

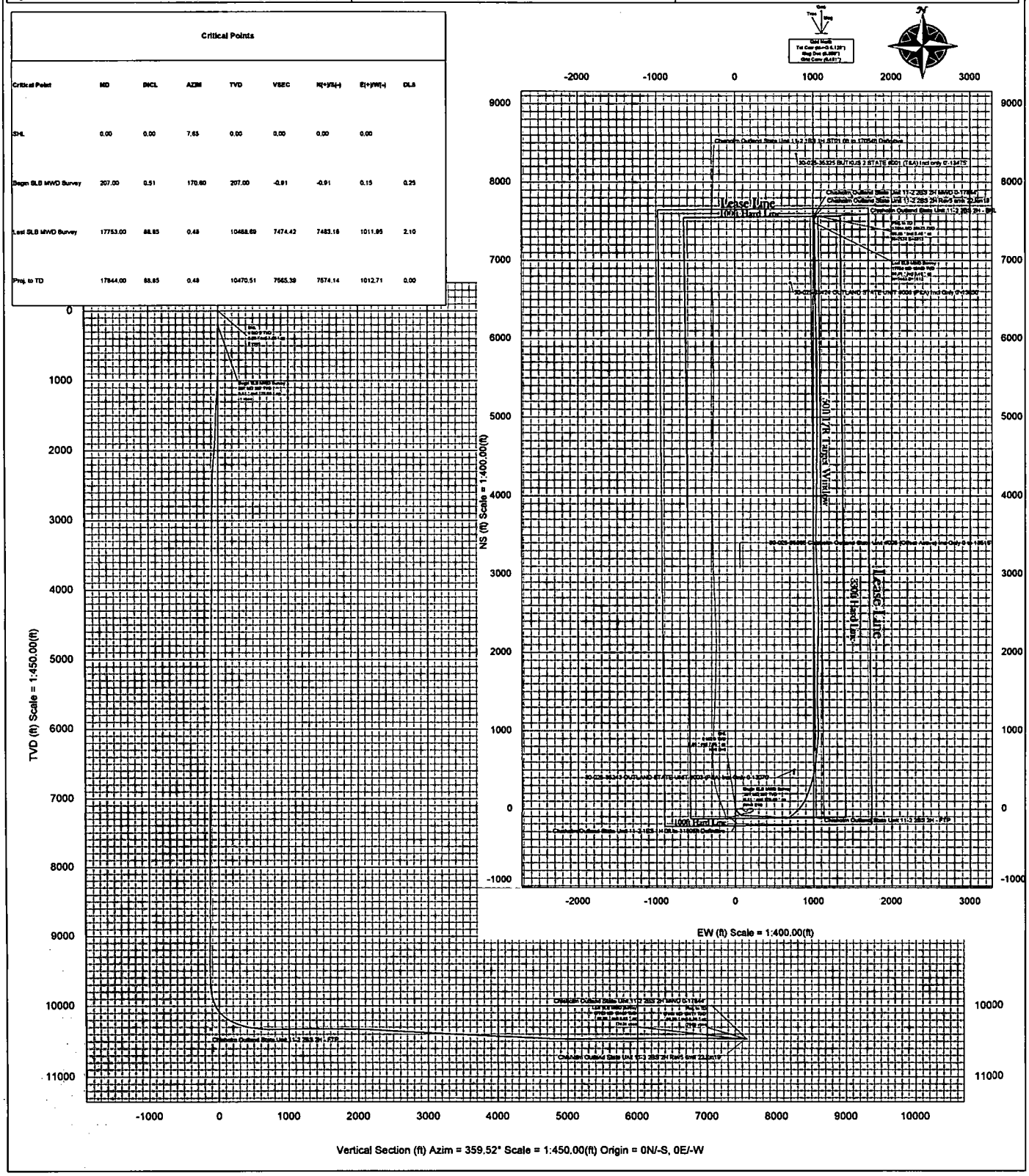
Final PvA - Rev5

Borehole:	Well:	Field:	Structure:
Original Borehole	Chisholm Outland State Unit 11-2 2BS 2H	NM Lea County (NAD 83)	Chisholm Outland State Unit 11-2 2BS 2H

Gravity & Magnetic Parameters						Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet					Miscellaneous			
Model:	HDGM 2019	Dip:	60.349°	Date:	17-Jun-2019	Lat:	N 32 29 12.82	Northing:	642022.83ftUS	Grid Conv:	0.4911°	Slot:	Chisholm Outland State Unit 11-2	TVD Ref:	RKB(3702.6ft above MSL)
MagDec:	6.609°	FS:	48038.338nT	Gravity FS:	998.482mgn (9.80665 Based)	Lon:	W 103 28 16.80	Easting:	617493.71ftUS	Scale Fact:	0.99999643	Plan:	Chisholm Outland State Unit 11-2 2BS 2H MWD 0-17844'		

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL	0.00	0.00	7.65	0.00	0.00	0.00	0.00	
Begin SLB MWD Survey	207.00	0.51	170.60	207.00	-0.91	-0.91	0.15	0.25
Last SLB MWD Survey	17753.00	88.85	0.48	10468.69	7474.42	7483.16	1011.95	2.10
Proj. to TD	17844.00	88.85	0.48	10470.51	7565.39	7574.14	1012.71	0.00



Schlumberger

CHISHOLM ENERGY

Chisholm Outland State Unit 11-2 2BS 2H MWD 0-17844' MD Survey
Geodetic Report
(Def Survey)

Report Date:	June 26, 2019 - 10:08 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Chisholm	**Vertical Section Azimuth:**	359.520 ° (Grid North)
Field:	NM Lea County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Chisholm Outland State Unit 11-2 2BS 2H / Chisholm Outland State Unit 11-2 2BS 2H	**TVD Reference Datum:**	RKB
Well:	Chisholm Outland State Unit 11-2 2BS 2H	**TVD Reference Elevation:**	3702.600 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3671.600 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.609 °
Survey Name:	Chisholm Outland State Unit 11-2 2BS 2H MWD 0-17844'	**Total Gravity Field Strength:**	998.4927mgn (9.80665 Based)
Survey Date:	May 30, 2019	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	236.302 ° / 8522.910 ft / 6.538 / 0.814	**Total Magnetic Field Strength:**	48038.336 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	60.348 °
Location Lat / Long:	N 32° 29' 12.82498", W 103° 26' 15.80235"	**Declination Date:**	June 17, 2019
Location Grid N/E Y/X:	N 542022.830 ftUS, E 817493.710 ftUS	**Magnetic Declination Model:**	HDGM 2019
CRS Grid Convergence Angle:	0.4811 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99999643	**Grid Convergence Used:**	0.4811 °
Version / Patch:	2.10.760.0	**Total Corr Mag North->Grid North:**	6.1278 °
		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	7.65	0.00	0.00	0.00	0.00	N/A	542022.83	817493.71	N 32 29 12.82	W 103 26 15.80
Begin SLB MWD Survey	207.00	0.51	170.60	207.00	-0.91	-0.91	0.15	0.25	542021.92	817493.86	N 32 29 12.82	W 103 26 15.80
	276.00	0.30	187.44	276.00	-1.39	-1.39	0.18	0.35	542021.44	817493.89	N 32 29 12.81	W 103 26 15.80
	335.00	0.17	145.39	335.00	-1.62	-1.62	0.21	0.35	542021.21	817493.92	N 32 29 12.81	W 103 26 15.80
	396.00	0.30	156.89	395.99	-1.84	-1.84	0.32	0.23	542020.99	817494.03	N 32 29 12.81	W 103 26 15.80
	456.00	0.08	113.94	455.99	-2.00	-2.00	0.42	0.41	542020.83	817494.13	N 32 29 12.81	W 103 26 15.80
	577.00	0.43	118.91	576.99	-2.27	-2.26	0.89	0.29	542020.57	817494.60	N 32 29 12.80	W 103 26 15.79
	732.00	0.36	131.53	731.99	-2.89	-2.87	1.76	0.07	542019.96	817495.47	N 32 29 12.80	W 103 26 15.78
	827.00	0.48	102.35	826.99	-3.18	-3.16	2.37	0.25	542019.67	817496.08	N 32 29 12.79	W 103 26 15.77
	921.00	0.96	138.89	920.98	-3.86	-3.83	3.27	0.68	542019.00	817496.98	N 32 29 12.79	W 103 26 15.76
	1016.00	2.09	138.95	1015.94	-5.78	-5.74	4.94	1.19	542017.09	817498.65	N 32 29 12.77	W 103 26 15.75
	1110.00	3.21	146.37	1109.84	-9.29	-9.22	7.52	1.24	542013.61	817501.23	N 32 29 12.73	W 103 26 15.72
	1205.00	4.47	143.70	1204.63	-14.51	-14.42	11.18	1.34	542008.41	817504.89	N 32 29 12.68	W 103 26 15.67
	1299.00	4.64	142.78	1298.33	-20.53	-20.40	15.65	0.20	542002.43	817509.36	N 32 29 12.62	W 103 26 15.62
	1394.00	4.16	143.12	1393.05	-26.38	-26.22	20.04	0.51	541996.61	817513.75	N 32 29 12.56	W 103 26 15.57
	1489.00	3.29	139.53	1487.85	-31.25	-31.05	23.88	0.95	541991.78	817517.59	N 32 29 12.52	W 103 26 15.53
	1583.00	2.31	143.05	1581.74	-34.84	-34.61	26.77	1.06	541988.22	817520.48	N 32 29 12.48	W 103 26 15.49
	1678.00	2.09	138.94	1676.67	-37.69	-37.45	29.06	0.28	541985.38	817522.77	N 32 29 12.45	W 103 26 15.47
	1772.00	2.57	134.26	1770.59	-40.48	-40.21	31.70	0.55	541982.62	817525.41	N 32 29 12.42	W 103 26 15.44
	1867.00	4.85	137.09	1865.38	-44.94	-44.64	35.96	2.41	541978.19	817529.67	N 32 29 12.38	W 103 26 15.39
	1961.00	7.01	135.53	1958.87	-52.00	-51.65	42.68	2.30	541971.18	817536.39	N 32 29 12.31	W 103 26 15.31
	2056.00	6.23	135.02	2053.24	-59.85	-59.43	50.39	0.82	541963.40	817544.09	N 32 29 12.23	W 103 26 15.22
	2150.00	6.28	135.41	2146.68	-67.18	-66.70	57.60	0.07	541956.13	817551.31	N 32 29 12.16	W 103 26 15.14
	2245.00	7.70	130.11	2240.97	-75.05	-74.50	66.12	1.64	541948.33	817559.82	N 32 29 12.08	W 103 26 15.04
	2339.00	7.16	120.54	2334.19	-82.17	-81.53	75.98	1.43	541941.30	817569.69	N 32 29 12.01	W 103 26 14.92
	2434.00	6.33	104.09	2428.54	-86.54	-85.82	86.16	2.20	541937.01	817579.87	N 32 29 11.97	W 103 26 14.80
	2528.00	6.80	84.28	2521.93	-87.33	-86.52	96.72	2.45	541936.31	817590.43	N 32 29 11.96	W 103 26 14.68
	2623.00	6.88	85.79	2616.26	-86.45	-85.55	107.99	0.21	541937.28	817601.70	N 32 29 11.97	W 103 26 14.55
	2717.00	7.06	93.15	2709.56	-86.45	-85.45	119.38	0.97	541937.38	817613.09	N 32 29 11.97	W 103 26 14.42
	2812.00	7.20	95.02	2803.83	-87.39	-86.29	131.14	0.29	541936.54	817624.85	N 32 29 11.96	W 103 26 14.28
	2906.00	7.33	92.81	2897.07	-88.30	-87.10	142.99	0.33	541935.73	817636.70	N 32 29 11.95	W 103 26 14.14
	3001.00	7.32	92.54	2991.30	-88.96	-87.67	155.09	0.04	541935.16	817648.80	N 32 29 11.94	W 103 26 14.00
	3095.00	7.40	95.60	3084.53	-89.92	-88.52	167.10	0.43	541934.31	817660.81	N 32 29 11.94	W 103 26 13.86
	3190.00	7.33	93.14	3178.74	-90.95	-89.45	179.24	0.34	541933.38	817672.95	N 32 29 11.93	W 103 26 13.72
	3284.00	7.20	91.70	3271.99	-91.55	-89.96	191.11	0.24	541932.88	817684.82	N 32 29 11.92	W 103 26 13.58
	3379.00	7.11	90.86	3366.25	-91.92	-90.22	202.94	0.15	541932.61	817696.65	N 32 29 11.92	W 103 26 13.44
	3473.00	7.27	92.70	3459.51	-92.38	-90.59	214.70	0.30	541932.24	817708.41	N 32 29 11.91	W 103 26 13.30
	3568.00	7.55	91.33	3553.71	-92.91	-91.02	226.95	0.35	541931.82	817720.65	N 32 29 11.91	W 103 26 13.16
	3662.00	7.29	93.34	3646.93	-93.51	-91.51	239.07	0.39	541931.32	817732.78	N 32 29 11.90	W 103 26 13.02
	3757.00	6.32	92.30	3741.26	-94.16	-92.07	250.31	1.03	541930.76	817744.02	N 32 29 11.89	W 103 26 12.89
	3851.00	5.51	93.14	3834.76	-94.70	-92.52	259.99	0.87	541930.31	817753.70	N 32 29 11.89	W 103 26 12.78
	3946.00	5.69	93.81	3929.30	-95.34	-93.08	269.24	0.20	541929.75	817762.95	N 32 29 11.88	W 103 26 12.67
	4040.00	4.98	94.05	4022.89	-96.01	-93.68	277.96	0.76	541929.15	817771.67	N 32 29 11.87	W 103 26 12.57
	4135.00	5.10	95.22	4117.53	-96.75	-94.36	286.28	0.17	541928.47	817779.99	N 32 29 11.87	W 103 26 12.47
	4229.00	5.06	102.21	4211.16	-98.08	-95.61	294.49	0.66	541927.22	817788.20	N 32 29 11.85	W 103 26 12.37
	4323.00	5.01	95.10	4304.80	-99.39	-96.86	302.63	0.67	541925.97	817796.34	N 32 29 11.84	W 103 26 12.28
	4418.00	4.85	91.68	4399.44	-99.85	-97.35	310.86	0.32	541925.49	817804.57	N 32 29 11.84	W 103 26 12.18
	4512.00	4.69	91.37	4493.11	-100.22	-97.56	318.76	0.28	541925.27	817812.47	N 32 29 11.83	W 103 26 12.09
	4607.00	4.73	93.05	4587.79	-100.59	-97.86	326.55	0.15	541924.97	817820.26	N 32 29 11.83	W 103 26 12.00
	4701.00	4.65	94.20	4681.47	-101.14	-98.34	334.22	0.13	541924.49	817827.93	N 32 29 11.82	W 103 26 11.91
	4796.00	4.30	90.28	4776.18	-101.50	-98.64	341.62	0.49	541924.19	817835.33	N 32 29 11.82	W 103 26 11.82
	4890.00	4.15	88.24	4869.93	-101.47	-98.55	348.55	0.23	541924.28	817842.26	N 32 29 11.82	W 103 26 11.74
	4984.00	4.47	89.06	4963.66	-101.37	-98.39	355.61	0.35	541924.44	817849.32	N 32 29 11.82	W 103 26 11.66
	5078.00	3.96	85.92	5057.41	-101.13	-98.10	362.51	0.60	541924.73	817856.22	N 32 29 11.82	W 103 26 11.58
	5172.00	4.18	84.75	5151.17	-100.84	-97.55	369.16	0.25	541925.28	817862.87	N 32 29 11.83	W 103 26 11.50
	5267.00	4.12	81.83	5245.92	-99.90	-96.75	375.99	0.23	541926.08	817869.69	N 32 29 11.84	W 103 26 11.42
	5361.00	4.50	89.28	5339.65	-99.43	-96.23	383.01	0.72	541926.60	817876.72	N 32 29 11.84	W 103 26 11.34
	5436.00	5.08	90.36	5414.39	-99.47	-96.21	389.28	0.78	541926.62	817882.99	N 32 29 11.84	W 103 26 11.27
	5507.00	4.65	91.24	5485.14	-99.60	-96.29	395.30	0.61	541926.54	817889.01	N 32 29 11.84	W 103 26 11.20
	5601.00	4.78	90.68	5578.82	-99.79	-96.42	403.02	0.15	541926.41	817896.73	N 32 29 11.84	W 103 26 11.11
	5696.00	4.91	90.17	5673.48	-99.92	-96.48	411.05	0.14	541926.35	817904.75	N 32 29 11.84	W 103 26 11.01
	5790.00	4.72	93.78	5767.15	-100.25	-96.75	418.93	0.38	541926.08	817912.64	N 32 29 11.83	W 103 26 10.92
	5885.00	4.90	98.30	5861.81	-101.16	-97.59	426.84	0.44	541925.24	817920.55	N 32 29 11.82	W 103 26 10.83
	5980.00	5.04	98.87	5956.46	-102.46	-98.82	434.98	0.16	541924.01	817928.69	N 32 29 11.81	W 103 26 10.73
	6074.00	4.70	97.12	6050.12	-103.64	-99.93	442.88	0.39	541922.90	817936.59	N 32 29 11.80	W 103 26 10.64
	6169.00	4.72	98.42	6144.80	-104.76	-100.99	450.61	0.11	541921.84	817944.32	N 32 29 11.79	W 103 26 10.55
	6263.00	4.80	98.22	6238.47	-105.95	-102.12	458.33	0.09	541920.71	817952.04	N 32 29 11.78	W 103 26 10.46
	6358.00	4.84	94.97	6333.14	-106.94	-103.03	466.26	0.29	541919.80	817959.96	N 32 29 11.77	W 103 26 10.37
	6452.00	5.13	93.05	6426.78	-107.57	-103.60	474.40	0.36	541919.23	817968.11	N 32 29 11.76	W 103 26 10.27
	6547.00	4.96	100.50	6521.41	-108.61	-104.57	482.68	0.71	541918.26	817976.39	N 32 29 11.75	W 103 26 10.18
	6641.00	5.45	103.00	6615.02	-110.43	-106.32	491.03	0.57	541916.51	817984.74	N 32 29 11.73	W 103 26 10.08
	6735.00	5.55	101.52	6708.59	-112.41	-108.23	499.83	0.18	541914.60	817993.54	N 32 29 11.71	W 103 26 9.98
	6830.00	5.22	97.49	6803.17	-113.97	-109.71	508.62	0.53	541913.12	818002.32	N 32 29 11.70	W 103 26 9.88
	6925.00	5.31	99.64	6897.77	-115.34	-111.01	517.24	0.23	541911.82	818010.94	N 32 29 11.68	W 103 26 9.78
	7020.00	4.78	105.34	6992.40	-117.19	-112.79	525.39	0.77	541910.04	818019.09	N 32 29 11.67	W 103 26 9.68
	7115.00	4.57	100.01	7087.09	-118.96	-114.50	532.93	0.51	541908.33	818026.64	N 32 29 11.65	W 103 26 9.59

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 ° ' ")
	7209.00	4.72	91.06	7180.78	-119.75	-115.22	540.49	0.79	541907.61	818034.19	N 32 29 11.64	W 103 26 9.50
	7304.00	4.26	92.93	7275.49	-120.06	-115.47	547.92	0.51	541907.36	818041.62	N 32 29 11.64	W 103 26 9.42
	7399.00	3.97	95.39	7370.24	-120.61	-115.96	554.72	0.38	541906.87	818048.42	N 32 29 11.63	W 103 26 9.34
	7493.00	3.83	103.21	7464.03	-121.68	-116.99	561.01	0.58	541905.84	818054.72	N 32 29 11.62	W 103 26 9.26
	7588.00	3.99	83.83	7558.81	-122.11	-117.36	567.39	1.39	541905.47	818061.09	N 32 29 11.62	W 103 26 9.19
	7682.00	4.38	88.52	7652.56	-121.72	-116.91	574.23	0.55	541905.92	818067.93	N 32 29 11.62	W 103 26 9.11
	7777.00	4.10	93.36	7747.30	-121.86	-117.02	581.24	0.48	541905.81	818074.95	N 32 29 11.62	W 103 26 9.03
	7871.00	3.54	95.75	7841.09	-122.42	-117.51	587.49	0.62	541905.32	818081.19	N 32 29 11.61	W 103 26 8.96
	7966.00	3.04	95.01	7935.93	-122.98	-118.02	592.91	0.53	541904.81	818086.62	N 32 29 11.61	W 103 26 8.89
	8061.00	3.15	93.51	8030.80	-123.41	-118.40	598.03	0.14	541904.43	818091.73	N 32 29 11.60	W 103 26 8.83
	8155.00	3.65	103.93	8124.63	-124.33	-119.28	603.51	0.84	541903.55	818097.22	N 32 29 11.59	W 103 26 8.77
	8250.00	2.29	86.43	8219.50	-124.98	-119.89	608.34	1.70	541902.94	818102.05	N 32 29 11.59	W 103 26 8.71
	8344.00	2.86	81.62	8313.41	-124.56	-119.43	612.53	0.65	541903.40	818106.24	N 32 29 11.59	W 103 26 8.66
	8439.00	2.62	87.65	8408.30	-124.16	-118.99	617.05	0.39	541903.84	818110.75	N 32 29 11.60	W 103 26 8.61
	8533.00	1.71	100.73	8502.23	-124.36	-119.17	620.57	1.10	541903.66	818114.28	N 32 29 11.59	W 103 26 8.57
	8628.00	1.77	113.87	8597.19	-125.24	-120.03	623.31	0.42	541902.81	818117.01	N 32 29 11.59	W 103 26 8.54
	8722.00	2.79	78.93	8691.12	-125.42	-120.17	626.88	1.79	541902.66	818120.59	N 32 29 11.58	W 103 26 8.50
	8816.00	2.69	85.18	8785.01	-124.83	-119.55	631.32	0.33	541903.28	818125.03	N 32 29 11.59	W 103 26 8.44
	8911.00	1.60	99.35	8879.94	-124.89	-119.58	634.85	1.27	541903.25	818128.56	N 32 29 11.59	W 103 26 8.40
	9005.00	1.97	110.40	8973.90	-125.69	-120.35	637.66	0.54	541902.48	818131.37	N 32 29 11.58	W 103 26 8.37
	9100.00	2.12	124.21	9068.84	-127.27	-121.91	640.65	0.54	541900.92	818134.35	N 32 29 11.57	W 103 26 8.34
	9194.00	1.56	164.06	9162.79	-129.50	-124.12	642.44	1.45	541898.71	818136.14	N 32 29 11.54	W 103 26 8.31
	9289.00	0.83	147.35	9257.77	-131.33	-125.94	643.16	0.84	541896.89	818136.87	N 32 29 11.53	W 103 26 8.31
	9383.00	3.46	69.75	9351.71	-130.94	-125.53	646.19	3.60	541897.30	818139.90	N 32 29 11.53	W 103 26 8.27
	9478.00	5.16	67.34	9446.44	-128.36	-122.89	652.82	1.80	541899.94	818146.53	N 32 29 11.55	W 103 26 8.19
	9572.00	4.40	69.76	9540.11	-125.54	-120.02	660.11	0.84	541902.81	818153.81	N 32 29 11.58	W 103 26 8.11
	9651.00	3.26	82.61	9618.93	-124.25	-118.68	665.18	1.80	541904.15	818158.89	N 32 29 11.60	W 103 26 8.05
	9685.00	3.39	81.89	9652.87	-124.00	-118.41	667.13	0.40	541904.42	818160.84	N 32 29 11.60	W 103 26 8.03
	9779.00	10.58	63.15	9746.12	-119.79	-114.12	677.60	7.92	541908.71	818171.30	N 32 29 11.64	W 103 26 7.90
	9826.00	15.29	61.19	9791.92	-114.93	-109.18	686.88	10.06	541913.65	818180.59	N 32 29 11.69	W 103 26 7.79
	9873.00	18.50	55.30	9836.89	-107.80	-101.95	698.45	7.73	541920.88	818192.15	N 32 29 11.76	W 103 26 7.66
	9968.00	28.72	49.27	9923.83	-84.51	-78.41	728.22	11.04	541944.42	818221.92	N 32 29 11.98	W 103 26 7.31
	10062.00	36.53	46.65	10002.94	-50.83	-44.41	765.74	8.44	541978.42	818259.44	N 32 29 12.32	W 103 26 6.87
	10157.00	48.09	42.74	10073.09	-5.67	1.12	810.45	12.47	542023.95	818304.15	N 32 29 12.77	W 103 26 6.34
	10251.00	53.77	34.75	10132.37	50.89	58.06	855.88	8.94	542080.89	818349.58	N 32 29 13.33	W 103 26 5.81
	10346.00	60.33	25.34	10184.09	119.52	127.03	895.49	10.80	542149.86	818389.19	N 32 29 14.01	W 103 26 5.34
	10439.00	66.33	20.56	10225.84	195.75	203.53	927.78	7.92	542226.36	818421.48	N 32 29 14.76	W 103 26 4.95
	10533.00	71.97	17.97	10259.29	278.40	288.42	956.71	6.53	542309.25	818450.42	N 32 29 15.58	W 103 26 4.61
	10628.00	74.30	16.12	10286.85	365.08	373.33	983.35	3.08	542396.16	818477.05	N 32 29 16.44	W 103 26 4.29
	10722.00	82.52	10.47	10305.73	454.42	462.85	1004.43	10.54	542485.68	818498.14	N 32 29 17.32	W 103 26 4.03
	10817.00	84.00	6.93	10316.88	547.54	556.09	1018.70	4.02	542578.92	818512.40	N 32 29 18.24	W 103 26 3.86
	10911.00	85.04	6.30	10325.86	640.39	649.04	1029.48	1.29	542671.86	818523.18	N 32 29 19.16	W 103 26 3.72
	11006.00	88.83	6.02	10330.94	734.60	743.34	1039.65	4.00	542766.16	818533.36	N 32 29 20.09	W 103 26 3.59
	11100.00	91.75	6.40	10330.46	827.95	836.77	1049.82	3.13	542859.60	818543.52	N 32 29 21.02	W 103 26 3.46
	11199.00	92.21	2.44	10327.04	926.51	935.40	1057.44	4.02	542958.22	818551.15	N 32 29 21.99	W 103 26 3.37
	11389.00	90.43	357.49	10322.66	1116.38	1125.28	1057.32	2.77	543148.11	818551.03	N 32 29 23.87	W 103 26 3.35
	11483.00	90.43	357.46	10321.96	1210.32	1219.19	1053.18	0.03	543242.01	818548.89	N 32 29 24.80	W 103 26 3.39
	11578.00	90.26	358.70	10321.38	1305.29	1314.13	1050.00	1.32	543336.95	818543.70	N 32 29 25.74	W 103 26 3.42
	11672.00	89.43	359.53	10321.64	1399.28	1408.12	1048.55	1.25	543430.94	818542.25	N 32 29 26.67	W 103 26 3.42
	11767.00	89.51	0.44	10322.52	1494.28	1503.11	1048.52	0.98	543525.93	818542.23	N 32 29 27.61	W 103 26 3.41
	11861.00	89.11	0.11	10323.65	1588.26	1597.10	1048.98	0.55	543619.93	818542.68	N 32 29 28.54	W 103 26 3.40
	11956.00	89.51	1.06	10324.79	1683.24	1692.09	1049.95	1.08	543714.91	818543.65	N 32 29 29.48	W 103 26 3.38
	12050.00	89.46	1.23	10325.64	1777.19	1786.07	1051.82	0.19	543808.89	818545.53	N 32 29 30.41	W 103 26 3.35
	12145.00	89.54	1.14	10326.47	1872.15	1881.04	1053.79	0.13	543903.86	818547.49	N 32 29 31.35	W 103 26 3.32
	12240.00	89.20	1.02	10327.51	1967.11	1976.02	1055.58	0.38	543998.84	818549.28	N 32 29 32.29	W 103 26 3.29
	12334.00	88.40	1.06	10329.48	2061.05	2069.98	1057.28	0.85	544092.80	818550.99	N 32 29 33.22	W 103 26 3.26
	12429.00	87.31	1.07	10333.04	2155.95	2164.90	1059.05	1.15	544187.72	818552.75	N 32 29 34.16	W 103 26 3.23
	12523.00	86.51	1.30	10338.10	2249.78	2258.74	1060.99	0.89	544281.56	818554.69	N 32 29 35.09	W 103 26 3.19
	12618.00	86.36	1.25	10344.01	2344.55	2353.54	1063.10	0.17	544376.35	818556.80	N 32 29 36.02	W 103 26 3.16
	12712.00	86.42	1.29	10349.93	2438.32	2447.33	1065.18	0.08	544470.14	818558.88	N 32 29 36.95	W 103 26 3.13
	12807.00	87.11	358.21	10355.29	2533.15	2542.16	1064.76	3.32	544564.98	818558.47	N 32 29 37.89	W 103 26 3.12
	12901.00	86.91	357.39	10360.19	2626.98	2635.96	1061.16	0.90	544658.78	818554.86	N 32 29 38.82	W 103 26 3.15
	12995.00	87.08	357.33	10365.12	2720.79	2729.73	1056.84	0.19	544752.55	818550.54	N 32 29 39.75	W 103 26 3.20
	13091.00	86.88	358.16	10370.18	2816.61	2825.53	1053.06	0.89	544848.34	818546.77	N 32 29 40.69	W 103 26 3.23
	13184.00	87.08	358.38	10375.08	2909.45	2918.35	1050.26	0.32	544941.17	818543.97	N 32 29 41.61	W 103 26 3.25
	13279.00	86.99	358.20	10379.99	3004.30	3013.19	1047.43	0.21	545036.00	818541.13	N 32 29 42.55	W 103 26 3.28
	13373.00	86.96	356.38	10384.96	3098.10	3106.95	1042.99	1.93	545129.76	818536.70	N 32 29 43.48	W 103 26 3.32
	13468.00	86.88	357.99	10390.06	3192.88	3201.69	1038.33	1.69	545224.50	818532.04	N 32 29 44.42	W 103 26 3.37
	13562.00	86.96	358.34	10395.11	3286.72	3295.51	1035.33	0.38	545318.32	818529.03	N 32 29 45.35	W 103 26 3.39
	13657.00	86.91	357.36	10400.19	3381.54	3390.30	1031.77	1.03	545413.11	818525.47	N 32 29 46.28	W 103 26 3.42
	13751.00	87.51	1.06	10404.77	3475.41	3484.17	1030.48	3.98	545506.98	818524.18	N 32 29 47.21	W 103 26 3.43
	13846.00	87.42	0.82	10408.97	3570.29	3579.06	1032.03	0.27	545601.87	818525.74	N 32 29 48.15	W 103 26 3.40
	13940.00	87.51	1.44	10413.13	3664.16	3672.95	1033.88	0.67	545695.76	818527.59	N 32 29 49.08	W 103 26 3.37
	14035.00	87.45	1.37	10417.30	3759.02	3767.83	1036.21	0.10	545790.64	818529.92	N 32 29 50.02	W 103 26 3.33
	14129.00	87.48	0.97	10421.46	3852.88	3861.72	1038.13	0.43	545884.53	818531.83	N 32 29 50.95	W 103 26 3.30
	14223.00	87.42	0.91	10425.64	3946.76	3955.61	1039.67	0.09	545978.42	818533.37	N 32 29 51.88	W 103 26 3.28
	14318.00	87.42	0.61	10429.92	4041.64	4050.51	1040.93	0.32	546073.31	818534.63	N 32 29 52.82	W 103 26 3.25
	14412.00	87.57	1.19	10434.03	4135.53	4144.40	1042.40	0.64	546167.21	818536.11	N 32 29 53.74	W 103 26 3.23
	14507.00	87.59	0.45	10438.04	4230.42	4239.31	1043.76	0.78	546262.12	818537.47	N 32 29 54.68	W 103 26 3.20
	14601.00	87.48	358.47	10442.08	4324.32	4333.21	1042.88	2.11	546356.02	818536.58	N 32 29 55.61	W 103 26 3.20
	14695.00	87.45	1.48	10446.24	4418.22	4427.11	1042.84	3.20	546449.92	818536.54	N 32 29 56.54	W 103 26 3.19
	14790.00	87.37	1.03	10450.53	4513.08	4521.99	1044.91	0.48	546544.80	818538.62	N 32 29 57.48	W 103 26 3.16
	14884.00	87.33	1.13	10454.88	4606.94	4615.87	1046.68	0.11	546638.68	818540.39	N 32 29 58.41	W 103 26 3.13
	14979.00	87.77	1.55	10458.94	4701.81	4710.76	1048.90	0.64	546733.56	818542.61	N 32 29 59.35	W 103 26 3.09
	15075.00	87.31	0.50	10463.06	4797.68	4806.65	1050.62	1.19	546829.46	818544.32	N 32 30 0.30	W 103 26 3.06
	15170.00	87.36	0.05	10467.48	4892.57	4901.55	1051.08	0.48	546924.35	818544.78	N 32 30 1.24	W 103 26 3.05
	15264.00	88.94	359.42	10470.51	4986.52	4995.50	1050.64	1.81	547018.30	818544.34	N 32 30 2.16	W 103 26 3.05
	15359.00	89.97	357.76	10471.42	5081.50	5090.46	1048.30	2.06	547113.26	818542.01	N 32 30 3.10	W 103 26 3.06
	15454.00	90.34	0.89	10471.16	5176.49	5185.44	1047.18	3.32	547208.24	818540.89	N 32 30 4.04	W 103 26 3.07
	15548.00	90.46	0.89	10470.50	5270.48	5279.43	1048.64	0.13	547302.23	818542.35	N 32 30 4.97	W 103 26 3.04
	15643.00	90.57	1.37	10469.65	5365.41	5374.40	1050.52	0.52	547397.20	818544.22	N 32 30 5.91	W 103 26 3.01
	15737.00	90.40	1.01	10468.85	5459.37	5468.38	1052.47	0.42	547491.18	818546.17	N 32 30 6.84	W 103 26 2.98
	15832.00	90.63	0.96	10468.00	5554.34	5563.36	1054.10	0.25	547586.16	818547.81	N 32 30 7.78	W 103 26 2.95
	15926.00	90.57	1.29	10467.02	5648.29	5657.34	1055.95	0.36	547680.14	818549.65	N 32 30 8.71	W 103 26 2.92
	16021.00	90.74	359.03	10465.93	5743.28	5752.33	1056.21	2.39	547775.12	818549.92	N 32 30 9.65	W 103 26 2.91
	16115.00	90.43	356.39	10464.97	5837.22	5846.24	1052.46	2.83	547869.04	818546.16	N 32 30 10.58	W 103 26 2.94
	16210.00	90.54	357.39	10464.17	5932.11	5941.09	1047.30	1.06	547963.89	818541.01	N 32 30 11.52	W 103 26 2.99
	16304.00	90.37	355.50	10463.42	6025.97	6034.91	1041.48	2.02	548057.70	818535.18	N 32 30 12.45	W 103 26 3.05
	16398.00	90.52	357.90	10462.69	6119.84	6128.74	1036.07	2.56	548151.54	818529.77	N 32 30 13.38	W 103 26 3.10
	16493.00	90.43	358.01	10461.90	6214.81	6223.68	1032.68	0.15	548246.47	818526.38	N 32 30 14.32	W 103 26 3.13
	16587.00	90.49	357.84	10461.15	6308.77	6317.61	1029.27	0.19	548340.41	818522.98	N 32 30 15.25	W 103 26 3.16
	16682.00	90.32	358.32	10460.48	6403.73	6412.56	1026.09	0.54	548435.35	818519.79	N 32 30 16.19	W 103 26 3.19
	16776.00	90.37	358.18	10459.91	6497.71	6506.51	1023.22	0.16	548529.30	818516.92	N 32 30 17.12	W 103 26 3.22
	16871.00	90.57	358.37	10459.13	6592.68	6601.46	1020.36	0.29	548624.26	818514.06	N 32 30 18.06	W 103 26 3.24
	16965.00	90.43	357.71	10458.31	6686.65	6695.40	1017.14	0.72	548718.20	818510.85	N 32 30 18.99	W 103 26 3.27
	17060.00	89.97	358.03	10457.98	6781.61	6790.34	1013.61	0.59	548813.13	818507.32	N 32 30 19.93	W 103 26 3.30
	17155.00	89.48	358.27	10458.43	6876.58	6885.29	1010.55	0.57	548908.08	818504.25	N 32 30 20.87	W 103 26 3.33
	17249.00	88.71	359.38	10459.92	6970.56	6979.25	1008.62	1.44	549002.04	818502.32	N 32 30 21.80	W 103 26 3.34
	17344.00	89.05	0.76	10461.78	7065.53	7074.23	1008.74	1.50	549097.02	818502.44	N 32 30 22.74	W 103 26 3.33

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 ° ' ")
	17438.00	88.85	0.66	10463.50	7159.50	7168.21	1009.90	0.24	549191.00	818503.60	N 32 30 23.67	W 103 26 3.31
	17533.00	89.03	0.56	10465.26	7254.46	7263.19	1010.91	0.22	549285.98	818504.62	N 32 30 24.61	W 103 26 3.29
	17627.00	89.03	0.24	10466.85	7348.44	7357.17	1011.57	0.34	549379.96	818505.27	N 32 30 25.54	W 103 26 3.27
	17722.00	89.34	0.05	10468.20	7443.42	7452.16	1011.81	0.38	549474.95	818505.51	N 32 30 26.48	W 103 26 3.26
Last SLB MWD Survey	17753.00	88.85	0.48	10468.69	7474.42	7483.16	1011.95	2.10	549505.95	818505.66	N 32 30 26.78	W 103 26 3.25
Proj. to TD	17844.00	88.85	0.48	10470.51	7565.39	7574.14	1012.71	0.00	549596.92	818506.42	N 32 30 27.68	W 103 26 3.23

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	31.000	1/98.425	30.000	30.000	NAL_MWD_1.0_DEG-Depth Only	Original Borehole / Chisholm Outland State Unit 11-2 2BS 2H MWD 0-17844'
	1	31.000	31.000	Act Stns	30.000	30.000	NAL_MWD_1.0_DEG-Depth Only	Original Borehole / Chisholm Outland State Unit 11-2 2BS 2H MWD 0-17844'
	1	31.000	17844.000	Act Stns	30.000	30.000	NAL_MWD_1.0_DEG	Original Borehole / Chisholm Outland State Unit 11-2 2BS 2H