Noble Energy

CO, Weld County (NAD 83 NZ)
Sec 10 Twn 2 N Rng 64 W
Oscar Y10-73-1HN Original Hole
05-123-37945
H&P 277

PATHFINDER

A Schlumberger Company

Final Survey Report

7-Nov-2014

Well Coordinates:	**NAD83 CO State Plane, N Zone, US Ft**	
	N 40° 9' 7.99200"	**W 104° 31' 51.27600"**
	1299777.27 usFt	**3270882.66 usFt**
Ground Level:	**4928.00 ft MSL**	
TVD Reference:	**KB 24ft @ 4952.00 ft MSL**	
Local Coordinate Origin:	**Oscar Y10-73-1HN well head**	
Vertical Section Azimuth:	**358.270 ° (Grid North)**	
North Reference:	**Grid North**	
DOX Version:	**2.8**	

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PATHFINDER
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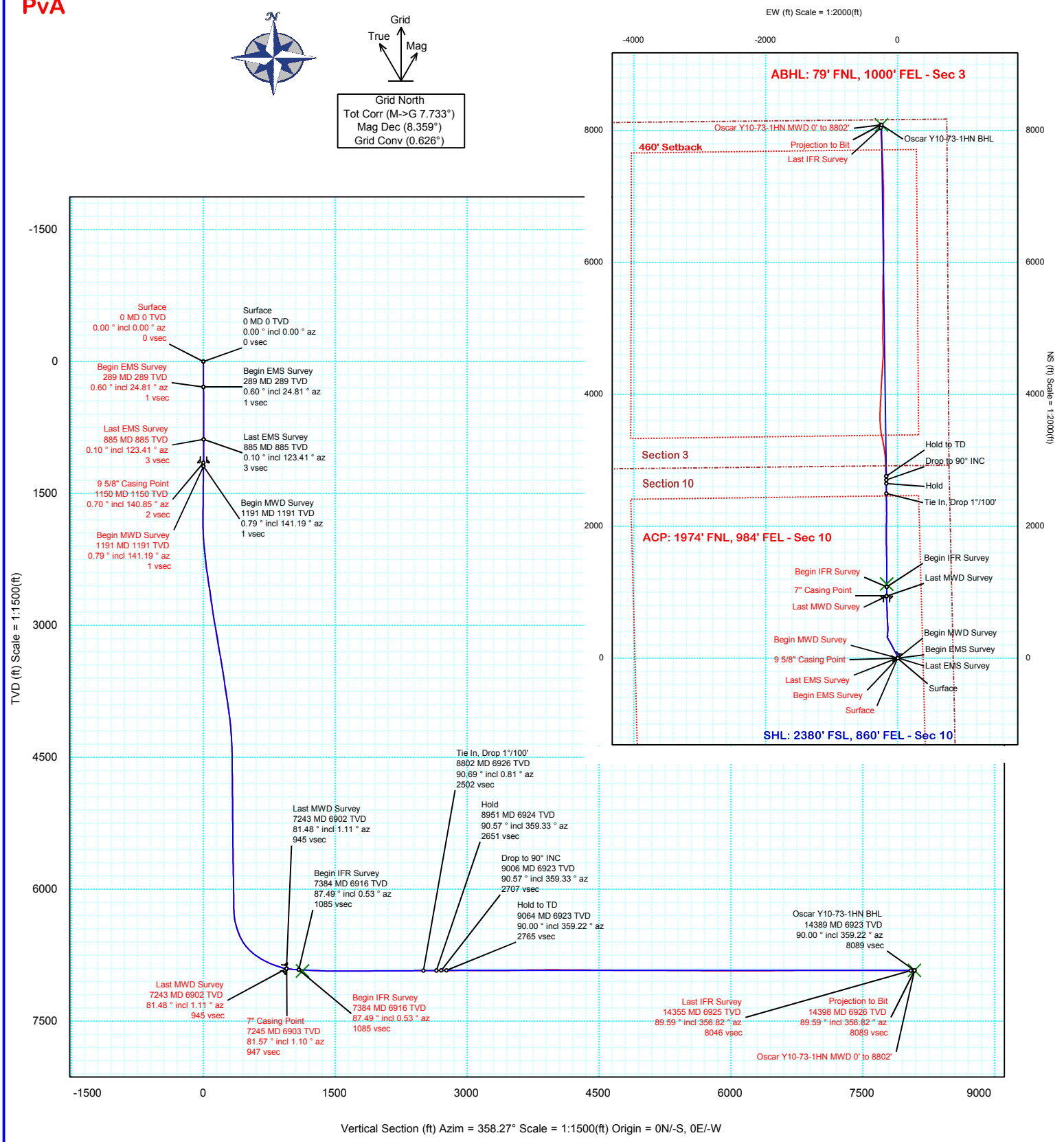
Borehole:	Well:	Field:	Structure:
Original Hole	Oscar Y10-73-1HN	CO, Weld County (NAD 83 NZ)	10-2N-64W (Oscar Y10-73HN Pad) - H&P 277

Gravity & Magnetic Parameters					Surface Location	NAD83 Colorado State Plane, Northern Zone, US Feet				Miscellaneous			
Model:	BGGM 2014	Dip: 66.765°	Date:	03-Nov-2014	Lat:	N 40 9 7.99	Northing:	1299776.44ftUS	Grid Conv: 0.626°	Slot:	Oscar Y10-73-1HN	TVD Ref:	KB 24ft(4952ft above MSL)
MagDec:	8.359°	FS: 52557.218nT	Gravity FS:	999.008mgn (9.80665 Based)	Lon:	W 104 31 52.25	Easting:	3270807.19ftUS	Scale Fact: 0.99995832	Plan:	Oscar Y10-73-1HN MWD 0' to 14398' Definitive		

PvA



Oscar Y10-73-1HN MWD 0' to 14398' Definitive Survey Geodetic Report

(Def Survey)

Report Date:	November 07, 2014 - 02:47 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Noble Energy	**Vertical Section Azimuth:**	358.270 ° (Grid North)
Field:	CO, Weld County (NAD 83 NZ)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Noble 10-2N-64W (Oscar Y10-73HN Pad) - H&P 277 / Oscar Y10-73-1HN	**TVD Reference Datum:**	KB 24ft
Well:	Oscar Y10-73-1HN	**TVD Reference Elevation:**	4952.000 ft above MSL
Borehole:	Original Hole	**Seabed / Ground Elevation:**	4928.000 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	8.359 °
Survey Name:	Oscar Y10-73-1HN MWD 0' to 14398' Definitive	**Total Gravity Field Strength:**	999.0079mgn (9.80665 Based)
Survey Date:	November 03, 2014	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	217.358 ° / 8162.278 ft / 6.566 / 1.178	**Total Magnetic Field Strength:**	52557.218 nT
Coordinate Reference System:	NAD83 Colorado State Plane, Northern Zone, US Feet	**Magnetic Dip Angle:**	66.765 °
Location Lat / Long:	N 40° 9' 7.99200", W 104° 31' 52.24800"	**Declination Date:**	November 03, 2014
Location Grid N/E Y/X:	N 1299776.445 ftUS, E 3270807.190 ftUS	**Magnetic Declination Model:**	BGGM 2014
CRS Grid Convergence Angle:	0.6260 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99995832	**Grid Convergence Used:**	0.6260 °
Version / Patch:	2.8.572.0	**Total Corr Mag North->Grid North:**	7.7328 °
		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 ° ' ")
Surface	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	1299776.44	3270807.19	N 40 9 7.99	W 104 31 52.25
Begin EMS Survey	289.00	0.60	24.81	288.99	1.35	1.37	0.63	0.21	1299777.82	3270807.83	N 40 9 8.01	W 104 31 52.24
	602.00	0.20	62.11	601.99	3.06	3.12	1.81	0.15	1299779.56	3270809.00	N 40 9 8.02	W 104 31 52.22
Last EMS Survey	885.00	0.10	123.41	884.99	3.14	3.21	2.45	0.06	1299779.66	3270809.64	N 40 9 8.02	W 104 31 52.22
9 5/8" Casing Point	*1150.00*	*0.70*	*140.85*	*1149.98*	*1.72*	*1.83*	*3.66*	*0.23*	*1299778.27*	*3270810.85*	*N 40 9 8.01*	*W 104 31 52.20*
Begin MWD Survey	1191.00	0.79	141.19	1190.97	1.29	1.41	4.00	0.23	1299777.86	3270811.19	N 40 9 8.01	W 104 31 52.20
	1317.00	0.76	133.25	1316.96	0.01	0.16	5.15	0.09	1299776.61	3270812.34	N 40 9 7.99	W 104 31 52.18
	1412.00	0.79	127.02	1411.95	-0.84	-0.66	6.13	0.09	1299775.79	3270813.32	N 40 9 7.98	W 104 31 52.17
	1506.00	0.82	129.42	1505.95	-1.69	-1.48	7.16	0.05	1299774.97	3270814.35	N 40 9 7.98	W 104 31 52.16
	1600.00	0.73	125.34	1599.94	-2.49	-2.25	8.17	0.11	1299774.20	3270815.36	N 40 9 7.97	W 104 31 52.14
	1694.00	0.76	122.64	1693.93	-3.20	-2.93	9.18	0.05	1299773.52	3270816.37	N 40 9 7.96	W 104 31 52.13
	1789.00	0.70	114.31	1788.92	-3.81	-3.50	10.24	0.13	1299772.94	3270817.43	N 40 9 7.96	W 104 31 52.12
	1884.00	1.69	49.08	1883.90	-3.18	-2.83	11.82	1.61	1299773.62	3270819.01	N 40 9 7.96	W 104 31 52.10
	1978.00	2.96	356.67	1977.83	0.12	0.50	12.72	2.50	1299776.95	3270819.91	N 40 9 8.00	W 104 31 52.08
	2072.00	4.57	349.69	2071.63	6.25	6.61	11.91	1.77	1299783.05	3270819.10	N 40 9 8.06	W 104 31 52.09
	2166.00	6.29	343.89	2165.20	14.93	15.24	9.82	1.92	1299791.68	3270817.01	N 40 9 8.14	W 104 31 52.12
	2262.00	6.86	326.10	2260.58	24.88	25.05	5.16	2.19	1299801.49	3270812.35	N 40 9 8.24	W 104 31 52.18
	2356.00	9.41	329.56	2353.63	36.37	36.33	-1.86	2.76	1299812.78	3270805.33	N 40 9 8.35	W 104 31 52.27
	2450.00	9.57	328.90	2446.34	49.92	49.65	-9.79	0.21	1299826.09	3270797.40	N 40 9 8.48	W 104 31 52.37
	2543.00	9.53	329.59	2538.05	63.42	62.91	-17.69	0.13	1299839.35	3270789.50	N 40 9 8.62	W 104 31 52.47
	2638.00	9.38	329.91	2631.76	77.13	76.40	-25.55	0.17	1299852.84	3270781.64	N 40 9 8.75	W 104 31 52.57
	2827.00	9.55	329.97	2818.19	104.49	103.29	-41.12	0.09	1299879.73	3270766.07	N 40 9 9.02	W 104 31 52.76
	3017.00	10.71	333.50	3005.23	134.39	132.73	-56.88	0.69	1299909.17	3270750.31	N 40 9 9.31	W 104 31 52.96
	3207.00	10.65	332.16	3191.94	166.18	164.06	-72.95	0.13	1299940.49	3270734.24	N 40 9 9.62	W 104 31 53.16
	3301.00	10.51	332.41	3284.34	181.70	179.34	-80.98	0.16	1299955.77	3270726.21	N 40 9 9.77	W 104 31 53.27
	3396.00	10.52	332.02	3377.74	197.27	194.67	-89.06	0.07	1299971.11	3270718.13	N 40 9 9.93	W 104 31 53.37
	3585.00	9.91	331.66	3563.75	227.28	224.22	-104.88	0.32	1300000.65	3270702.32	N 40 9 10.22	W 104 31 53.57
	3680.00	9.93	331.56	3657.33	241.90	238.61	-112.66	0.03	1300015.05	3270694.54	N 40 9 10.36	W 104 31 53.67
	3775.00	9.67	331.29	3750.94	256.33	252.81	-120.39	0.28	1300029.25	3270686.81	N 40 9 10.50	W 104 31 53.76
	3870.00	9.52	330.09	3844.61	270.37	266.62	-128.14	0.26	1300043.05	3270679.06	N 40 9 10.64	W 104 31 53.86
	3964.00	9.50	328.47	3937.32	283.95	279.97	-136.07	0.29	1300056.41	3270671.12	N 40 9 10.77	W 104 31 53.96
	4059.00	8.35	332.72	4031.17	296.98	292.79	-143.34	1.40	1300069.22	3270663.86	N 40 9 10.90	W 104 31 54.05
	4154.00	6.43	327.59	4125.38	307.78	303.41	-149.35	2.13	1300079.84	3270657.85	N 40 9 11.01	W 104 31 54.13
	4249.00	4.52	335.15	4219.94	315.80	311.30	-153.78	2.15	1300087.74	3270653.42	N 40 9 11.08	W 104 31 54.18
	4343.00	3.40	338.52	4313.71	321.83	317.26	-156.36	1.22	1300093.69	3270650.84	N 40 9 11.14	W 104 31 54.22
	4438.00	1.84	340.75	4408.61	325.94	321.32	-157.89	1.64	1300097.75	3270649.31	N 40 9 11.18	W 104 31 54.24
	4533.00	0.57	21.93	4503.59	327.83	323.20	-158.22	1.54	1300099.63	3270648.98	N 40 9 11.20	W 104 31 54.24
	4627.00	0.65	39.70	4597.59	328.65	324.04	-157.70	0.22	1300100.47	3270649.49	N 40 9 11.21	W 104 31 54.23
	4816.00	0.69	24.36	4786.57	330.48	325.90	-156.55	0.10	1300102.33	3270650.65	N 40 9 11.23	W 104 31 54.22
	4911.00	0.70	39.86	4881.57	331.42	326.86	-155.94	0.20	1300103.30	3270651.25	N 40 9 11.24	W 104 31 54.21
	5006.00	0.74	42.69	4976.56	332.30	327.76	-155.16	0.06	1300104.19	3270652.04	N 40 9 11.25	W 104 31 54.20
	5100.00	0.85	53.29	5070.55	333.13	328.63	-154.18	0.20	1300105.06	3270653.02	N 40 9 11.26	W 104 31 54.19
	5195.00	0.77	46.91	5165.54	333.96	329.49	-153.15	0.13	1300105.92	3270654.05	N 40 9 11.26	W 104 31 54.17
	5290.00	1.00	54.36	5260.53	334.84	330.40	-152.01	0.27	1300106.84	3270655.19	N 40 9 11.27	W 104 31 54.16
	5384.00	0.76	53.02	5354.52	335.66	331.26	-150.84	0.26	1300107.69	3270656.35	N 40 9 11.28	W 104 31 54.14
	5479.00	0.47	29.52	5449.51	336.35	331.97	-150.15	0.40	1300108.40	3270657.05	N 40 9 11.29	W 104 31 54.13
	5574.00	0.61	354.03	5544.51	337.19	332.82	-150.01	0.38	1300109.25	3270657.18	N 40 9 11.30	W 104 31 54.13
	5669.00	0.91	358.38	5639.50	338.45	334.08	-150.09	0.31	1300110.51	3270657.11	N 40 9 11.31	W 104 31 54.13
	5764.00	1.01	345.92	5734.49	340.03	335.64	-150.31	0.24	1300112.07	3270656.88	N 40 9 11.32	W 104 31 54.14
	5858.00	0.88	351.73	5828.47	341.55	337.16	-150.62	0.17	1300113.59	3270656.58	N 40 9 11.34	W 104 31 54.14
	5953.00	0.82	349.64	5923.46	342.95	338.55	-150.85	0.06	1300114.98	3270656.35	N 40 9 11.35	W 104 31 54.14
	6047.00	0.80	336.85	6017.45	344.23	339.82	-151.23	0.19	1300116.25	3270655.97	N 40 9 11.37	W 104 31 54.15
	6142.00	0.71	326.18	6112.45	345.35	340.92	-151.81	0.18	1300117.35	3270655.38	N 40 9 11.38	W 104 31 54.16
	6237.00	0.59	339.90	6207.44	346.31	341.87	-152.31	0.20	1300118.30	3270654.89	N 40 9 11.39	W 104 31 54.16
	6332.00	5.87	344.60	6302.25	351.50	347.02	-153.77	5.56	1300123.45	3270653.43	N 40 9 11.44	W 104 31 54.18
	6426.00	14.42	5.63	6394.72	367.82	363.34	-153.90	9.76	1300139.77	3270653.30	N 40 9 11.60	W 104 31 54.18
	6521.00	19.82	8.13	6485.48	395.44	391.08	-150.46	5.74	1300167.50	3270656.74	N 40 9 11.87	W 104 31 54.13
	6616.00	29.02	2.58	6571.90	434.38	430.13	-147.14	9.97	1300206.56	3270660.06	N 40 9 12.26	W 104 31 54.08
	6710.00	39.03	355.24	6649.74	486.83	482.56	-148.57	11.50	1300258.99	3270658.62	N 40 9 12.78	W 104 31 54.09
	6805.00	49.43	356.14	6717.72	552.94	548.55	-153.50	10.96	1300324.97	3270653.70	N 40 9 13.43	W 104 31 54.15
	6899.00	57.39	358.86	6773.71	628.33	623.89	-156.70	8.79	1300400.30	3270650.50	N 40 9 14.17	W 104 31 54.18
	6994.00	63.30	358.01	6820.70	710.85	706.37	-158.97	6.27	1300482.79	3270648.23	N 40 9 14.99	W 104 31 54.20
	7089.00	68.79	357.28	6859.25	797.63	793.08	-162.55	5.82	1300569.49	3270644.65	N 40 9 15.85	W 104 31 54.23
	7184.00	73.79	358.09	6889.72	887.57	882.96	-166.17	5.33	1300659.37	3270641.03	N 40 9 16.73	W 104 31 54.26
Last MWD Survey	7243.00	81.48	1.11	6902.34	945.14	940.54	-166.55	13.95	1300716.94	3270640.65	N 40 9 17.30	W 104 31 54.26
7" Casing Point	*7245.00*	*81.57*	*1.10*	*6902.64*	*947.12*	*942.52*	*-166.51*	*4.28*	*1300718.92*	*3270640.69*	*N 40 9 17.32*	*W 104 31 54.26*
Begin IFR Survey	7384.00	87.49	0.53	6915.89	1085.28	1080.81	-164.54	4.28	1300857.21	3270642.65	N 40 9 18.69	W 104 31 54.21
	7573.00	87.42	0.21	6924.28	1273.97	1269.62	-163.33	0.17	1301046.01	3270643.87	N 40 9 20.56	W 104 31 54.17
	7668.00	87.97	359.38	6928.10	1368.86	1364.54	-163.67	1.05	1301140.92	3270643.53	N 40 9 21.49	W 104 31 54.16
	7763.00	89.45	359.29	6930.24	1463.82	1459.51	-164.77	1.56	1301235.89	3270642.43	N 40 9 22.43	W 104 31 54.16
	7857.00	89.86	358.64	6930.81	1557.81	1553.49	-166.47	0.82	1301329.87	3270640.73	N 40 9 23.36	W 104 31 54.17
	7952.00	90.03	358.89	6930.90	1652.80	1648.47	-168.51	0.32	1301424.84	3270638.68	N 40 9 24.30	W 104 31 54.19

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 ° ' ")
	8142.00	90.69	0.41	6929.70	1842.74	1838.45	-169.67	0.87	1301614.82	3270637.52	N 40 9 26.18	W 104 31 54.17
	8236.00	90.58	359.49	6928.66	1936.69	1932.45	-169.76	0.99	1301708.81	3270637.44	N 40 9 27.11	W 104 31 54.16
	8330.00	90.82	1.16	6927.51	2030.62	2026.43	-169.22	1.79	1301802.79	3270637.97	N 40 9 28.03	W 104 31 54.14
	8425.00	89.86	1.75	6926.95	2125.47	2121.40	-166.81	1.19	1301897.75	3270640.39	N 40 9 28.97	W 104 31 54.10
	8519.00	89.59	359.19	6927.40	2219.39	2215.39	-166.04	2.74	1301991.74	3270641.16	N 40 9 29.90	W 104 31 54.07
	8613.00	90.76	359.36	6927.11	2313.37	2309.38	-167.23	1.26	1302085.72	3270639.97	N 40 9 30.83	W 104 31 54.08
	8707.00	90.24	357.45	6926.29	2407.37	2403.33	-169.85	2.11	1302179.67	3270637.35	N 40 9 31.76	W 104 31 54.10
	8802.00	90.69	0.81	6925.52	2502.34	2498.31	-171.29	3.57	1302274.64	3270635.91	N 40 9 32.70	W 104 31 54.10
	8992.00	90.21	358.00	6924.03	2692.28	2688.27	-173.26	1.50	1302464.60	3270633.94	N 40 9 34.57	W 104 31 54.10
	9086.00	89.69	356.54	6924.11	2786.26	2782.16	-177.74	1.65	1302558.48	3270629.46	N 40 9 35.50	W 104 31 54.15
	9179.00	90.45	359.24	6924.00	2879.25	2875.09	-181.16	3.02	1302651.41	3270626.04	N 40 9 36.42	W 104 31 54.18
	9274.00	89.83	358.65	6923.77	2974.24	2970.07	-182.91	0.90	1302746.39	3270624.29	N 40 9 37.36	W 104 31 54.19
	9463.00	89.66	350.99	6924.61	3162.75	3158.16	-199.96	4.05	1302934.46	3270607.24	N 40 9 39.22	W 104 31 54.38
	9651.00	90.34	347.51	6924.61	3348.40	3342.83	-235.02	1.89	1303119.13	3270572.18	N 40 9 41.05	W 104 31 54.80
	9746.00	90.17	351.51	6924.18	3442.27	3436.22	-252.31	4.21	1303212.51	3270554.89	N 40 9 41.97	W 104 31 55.01
	9840.00	91.31	356.03	6922.97	3535.95	3529.63	-262.51	4.96	1303305.92	3270544.69	N 40 9 42.90	W 104 31 55.13
	9935.00	91.89	358.27	6920.32	3630.89	3624.47	-267.23	2.43	1303400.76	3270539.97	N 40 9 43.84	W 104 31 55.18
	10029.00	90.93	2.05	6918.00	3724.79	3718.42	-266.97	4.15	1303494.71	3270540.23	N 40 9 44.76	W 104 31 55.16
	10219.00	90.17	3.80	6916.18	3914.14	3908.16	-257.28	1.00	1303684.43	3270549.93	N 40 9 46.64	W 104 31 55.01
	10313.00	89.90	2.40	6916.12	4007.81	4002.02	-252.19	1.52	1303778.29	3270555.01	N 40 9 47.57	W 104 31 54.93
	10408.00	89.55	2.52	6916.58	4102.55	4096.93	-248.12	0.39	1303873.20	3270559.09	N 40 9 48.50	W 104 31 54.87
	10502.00	89.59	3.43	6917.28	4196.23	4190.80	-243.24	0.97	1303967.06	3270563.96	N 40 9 49.43	W 104 31 54.79
	10597.00	89.59	4.11	6917.96	4290.79	4285.59	-236.99	0.72	1304061.85	3270570.21	N 40 9 50.37	W 104 31 54.70
	10692.00	89.52	3.19	6918.70	4385.37	4380.39	-230.94	0.97	1304156.65	3270576.26	N 40 9 51.30	W 104 31 54.61
	10786.00	89.18	3.70	6919.77	4478.98	4474.22	-225.29	0.65	1304250.47	3270581.91	N 40 9 52.23	W 104 31 54.52
	10881.00	89.62	3.74	6920.76	4573.54	4569.01	-219.13	0.47	1304345.26	3270588.07	N 40 9 53.16	W 104 31 54.43
	10975.00	89.52	359.43	6921.47	4667.36	4662.95	-216.53	4.59	1304439.19	3270590.67	N 40 9 54.09	W 104 31 54.38
	11070.00	90.03	356.58	6921.84	4762.35	4757.88	-219.84	3.05	1304534.12	3270587.36	N 40 9 55.03	W 104 31 54.41
	11165.00	90.21	358.78	6921.64	4857.34	4852.80	-223.68	2.32	1304629.03	3270583.52	N 40 9 55.97	W 104 31 54.45
	11259.00	89.93	0.67	6921.53	4951.31	4946.79	-224.14	2.03	1304723.02	3270583.06	N 40 9 56.90	W 104 31 54.44
	11354.00	89.86	1.24	6921.70	5046.20	5041.78	-222.55	0.60	1304818.00	3270584.65	N 40 9 57.84	W 104 31 54.40
	11543.00	89.14	359.66	6923.35	5235.05	5230.76	-221.07	0.92	1305006.98	3270586.13	N 40 9 59.70	W 104 31 54.36
	11638.00	89.73	359.12	6924.29	5330.03	5325.75	-222.08	0.84	1305101.96	3270585.12	N 40 10 0.64	W 104 31 54.36
	11733.00	89.76	359.96	6924.71	5425.00	5420.74	-222.84	0.88	1305196.95	3270584.36	N 40 10 1.58	W 104 31 54.36
	11922.00	89.55	0.36	6925.85	5613.89	5609.74	-222.31	0.24	1305385.94	3270584.89	N 40 10 3.45	W 104 31 54.32
	12017.00	89.38	0.80	6926.74	5708.81	5704.73	-221.35	0.50	1305480.93	3270585.85	N 40 10 4.39	W 104 31 54.30
	12112.00	89.66	1.50	6927.53	5803.69	5799.71	-219.45	0.79	1305575.90	3270587.75	N 40 10 5.33	W 104 31 54.26
	12206.00	89.97	1.96	6927.84	5897.52	5893.66	-216.61	0.59	1305669.85	3270590.59	N 40 10 6.25	W 104 31 54.21
	12301.00	89.86	1.80	6927.98	5992.33	5988.61	-213.49	0.20	1305764.79	3270593.71	N 40 10 7.19	W 104 31 54.16
	12490.00	89.90	359.80	6928.37	6181.13	6177.58	-210.85	1.06	1305953.76	3270596.35	N 40 10 9.06	W 104 31 54.09
	12585.00	90.41	359.15	6928.11	6276.11	6272.58	-211.72	0.87	1306048.75	3270595.48	N 40 10 10.00	W 104 31 54.09
	12680.00	90.45	359.48	6927.40	6371.09	6367.57	-212.86	0.35	1306143.74	3270594.34	N 40 10 10.94	W 104 31 54.09
	12775.00	90.58	359.77	6926.55	6466.06	6462.56	-213.48	0.33	1306238.73	3270593.72	N 40 10 11.87	W 104 31 54.09
	12869.00	90.55	359.97	6925.62	6560.02	6556.56	-213.69	0.22	1306332.72	3270593.51	N 40 10 12.80	W 104 31 54.08
	12964.00	90.52	359.56	6924.73	6654.98	6651.55	-214.08	0.43	1306427.71	3270593.12	N 40 10 13.74	W 104 31 54.07
	13059.00	91.10	0.97	6923.39	6749.91	6746.54	-213.64	1.60	1306522.69	3270593.56	N 40 10 14.68	W 104 31 54.05
	13248.00	89.93	359.29	6921.69	6938.80	6935.52	-213.22	1.08	1306711.66	3270593.98	N 40 10 16.55	W 104 31 54.02
	13342.00	89.93	0.37	6921.81	7032.76	7029.52	-213.49	1.15	1306805.66	3270593.70	N 40 10 17.48	W 104 31 54.01
	13437.00	89.83	358.59	6922.01	7127.74	7124.51	-214.36	1.88	1306900.64	3270592.84	N 40 10 18.42	W 104 31 54.01
	13532.00	89.38	357.43	6922.66	7222.73	7219.45	-217.66	1.31	1306995.58	3270589.54	N 40 10 19.35	W 104 31 54.04
	13626.00	90.00	358.55	6923.17	7316.73	7313.39	-220.95	1.36	1307089.51	3270586.25	N 40 10 20.28	W 104 31 54.06
	13721.00	90.17	358.95	6923.03	7411.72	7408.37	-223.02	0.46	1307184.49	3270584.18	N 40 10 21.22	W 104 31 54.08
	13816.00	89.76	357.04	6923.09	7506.72	7503.30	-226.35	2.06	1307279.42	3270580.85	N 40 10 22.16	W 104 31 54.11
	13911.00	90.00	358.16	6923.29	7601.71	7598.22	-230.33	1.21	1307374.33	3270576.87	N 40 10 23.10	W 104 31 54.15
	14006.00	89.86	357.00	6923.40	7696.70	7693.13	-234.34	1.23	1307469.24	3270572.86	N 40 10 24.04	W 104 31 54.18
	14100.00	89.73	357.01	6923.74	7790.68	7787.00	-239.25	0.14	1307563.11	3270567.95	N 40 10 24.96	W 104 31 54.23
	14290.00	89.62	356.49	6924.82	7980.61	7976.69	-250.02	0.28	1307752.79	3270557.18	N 40 10 26.84	W 104 31 54.35
Last IFR Survey	14355.00	89.59	356.82	6925.26	8045.58	8041.58	-253.81	0.51	1307817.67	3270553.39	N 40 10 27.48	W 104 31 54.39
Projection to Bit	14398.00	89.59	356.82	6925.57	8088.56	8084.51	-256.20	0.00	1307860.61	3270551.00	N 40 10 27.91	W 104 31 54.41

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
Surface	1	0.000	24.000	Act Stns	13.750	9.625	SLB_EMS-STD-Depth Only	Original Hole / Oscar Y10-73-1HN MWD 0' to 14398' Definitive
Surface	1	24.000	885.000	Act Stns	13.750	9.625	SLB_EMS-STD	Original Hole / Oscar Y10-73-1HN MWD 0' to 14398' Definitive
Intermediate	1	885.000	7243.000	1/98.425	8.750	7.000	SLB_MWD-STD	Original Hole / Oscar Y10-73-1HN MWD 0' to 14398' Definitive
* Lateral	1	7243.000	14355.000	Act Stns	6.125	4.500	SLB_MWD+IFR1+MS	Original Hole / Oscar Y10-73-1HN MWD 0' to 14398' Definitive
Bit Projection	1	14355.000	14398.000	Act Stns	6.125	4.500	SLB_BLIND+TREND	Original Hole / Oscar Y10-73-1HN MWD 0' to 14398' Definitive

* SLB_MWD+IFR+MS = MWD+IFR1+MS_WY