

Noble Energy

CO, Weld County (NAD 83 NZ)
Sec 20 Twn 6 N Rng 62 W
Wells Ranch AE19-644 Original Hole
05-123-39639
H&P 330



A Schlumberger Company

Final Survey Report

22-Jan-2015

Well Coordinates:	NAD83 Colorado State Plane, NZ, US Feet
	N 40° 28' 10.48800" W 104° 21' 21.13200"
	1415812.59 usFt 3318318.1 usFt
Ground Level:	4786.00 ft MSL
TVD Reference:	KB 30ft @ 4816.00 ft MSL
Local Coordinate Origin:	Wells Ranch AE19-644 well head
Vertical Section Azimuth:	273.939 ° (Grid North)
North Reference:	Grid North

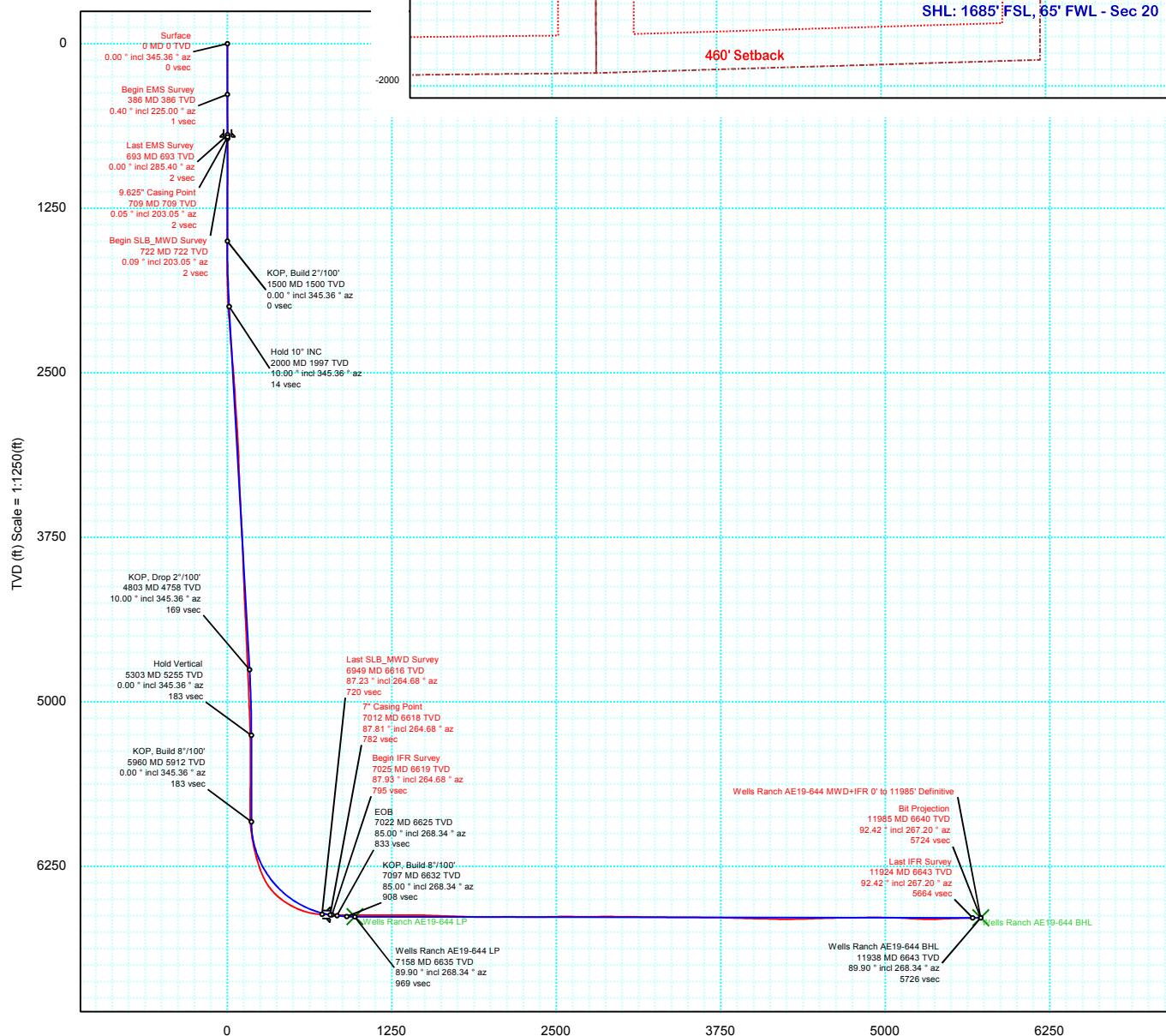
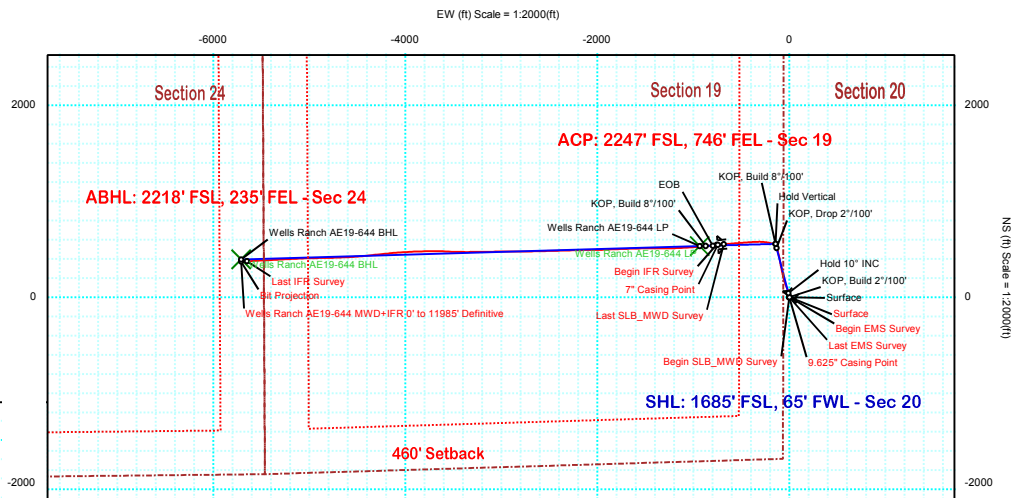
DOX Version: 2.8

Borehole:	Well:	Field:	Structure:
Original Hole	Wells Ranch AE19-644	CO, Weld County	20-06N-62W - H&P 330

Gravity & Magnetic Parameters	Surface Location	Miscellaneous
Model: BGGM 2014 Dip: 67.039° Date: 07-Jan-2015	NAD83 Colorado State Plane, Northern Zone, US Feet	Slot: Wells Ranch AE19-644 TVD Ref: KB 30ft(4816ft above MSL)
MagDec: 8.268° FS: 52719.924nT Gravity FS: 999.058mgn (9.80665 Based)	Lat: N 40 28 10.49 Northing: 1415961.97ftU Grid Conv: 0.7393°	Plan: Wells Ranch AE19-644 MWD+IFR 0' to 11985' Definitive
	Lon: W 104 21 21.10 Easting: 3318318.95ftU Scale Fact: 0.99996412	

PvA

Grid North
Tot Corr (M->G 7.529°)
Mag Dec (8.268°)
Grid Conv (0.739°)



Vertical Section (ft) Azim = 273.94° Scale = 1:1250(ft) Origin = 0N/-S, 0E/-W



Wells Ranch AE19-644 MWD+IFR 0' to 11985' Definitive Survey Geodetic Report (Def Survey)



Report Date: January 21, 2015 - 04:03 PM
Client: Noble Energy
Field: CO, Weld County (NAD 83 NZ)
Structure / Slot: Noble 20-06N-62W (Wells Ranch AE19 Pad) - H&P 330 / Wells Ranch AE19-644
Well: Wells Ranch AE19-644
Borehole: Original Hole
UWI / API#: Unknown / Unknown
Survey Name: Wells Ranch AE19-644 MWD+IFR 0' to 11985' Definitive
Survey Date: January 07, 2015
Tort / AHD / DDI / ERD Ratio: 215.453 ° / 6167.720 ft / 6.379 / 0.927
Coordinate Reference System: NAD83 Colorado State Plane, Northern Zone, US Feet
Location Lat / Long: N 40° 28' 10.48900", W 104° 21' 21.09600"
Location Grid N/E Y/X: N 1415961.97 ftUS, E 3318318.950 ftUS
CRS Grid Convergence Angle: 0.7393 °
Grid Scale Factor: 0.99996412
Version / Patch: 2.8.572.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 273.939 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: KB 30ft
TVD Reference Elevation: 4816.000 ft above MSL
Seabed / Ground Elevation: 4786.000 ft above MSL
Magnetic Declination: 8.268 °
Total Gravity Field Strength: 999.0582mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 52719.924 nT
Magnetic Dip Angle: 67.039 °
Declination Date: January 07, 2015
Magnetic Declination Model: BGGM 2014
North Reference: Grid North
Grid Convergence Used: 0.7393 °
Total Corr Mag North->Grid North: 7.5287 °
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	345.36	0.00	0.00	0.00	0.00	N/A	1415961.97	3318318.95	N 40 28 10.49	W 104 21 21.10
Begin EMS	386.00	0.40	225.00	386.00	0.89	-0.95	-0.95	0.10	1415961.02	3318318.00	N 40 28 10.48	W 104 21 21.11
Survey												
Last EMS	693.00	0.00	285.40	692.99	1.59	-1.71	-1.71	0.13	1415960.26	3318317.24	N 40 28 10.47	W 104 21 21.12
Survey												
9.625" Casing	709.00	0.05	203.05	708.99	1.59	-1.72	-1.71	0.31	1415960.26	3318317.24	N 40 28 10.47	W 104 21 21.12
Point												
Begin												
SLB_MWD	722.00	0.09	203.05	721.99	1.60	-1.73	-1.72	0.31	1415960.24	3318317.23	N 40 28 10.47	W 104 21 21.12
Survey												
	813.00	0.35	189.20	812.99	1.65	-2.07	-1.79	0.29	1415959.90	3318317.16	N 40 28 10.47	W 104 21 21.12
	907.00	0.35	184.98	906.99	1.68	-2.64	-1.86	0.03	1415959.33	3318317.09	N 40 28 10.46	W 104 21 21.12
	999.00	0.26	181.75	998.99	1.67	-3.13	-1.89	0.10	1415958.84	3318317.06	N 40 28 10.46	W 104 21 21.12
	1092.00	0.35	149.91	1091.99	1.51	-3.59	-1.76	0.20	1415958.39	3318317.19	N 40 28 10.45	W 104 21 21.12
	1187.00	0.35	177.97	1186.99	1.31	-4.13	-1.60	0.18	1415957.85	3318317.35	N 40 28 10.45	W 104 21 21.12
	1299.00	0.26	179.39	1298.99	1.26	-4.72	-1.59	0.08	1415957.25	3318317.36	N 40 28 10.44	W 104 21 21.12
	1393.00	0.35	174.31	1392.98	1.19	-5.22	-1.56	0.10	1415956.75	3318317.39	N 40 28 10.44	W 104 21 21.12
	1484.00	1.32	71.16	1483.98	0.18	-5.16	-0.54	1.58	1415956.81	3318318.41	N 40 28 10.44	W 104 21 21.10
	1575.00	2.55	22.01	1574.93	-1.41	-2.94	1.21	2.15	1415959.03	3318320.16	N 40 28 10.46	W 104 21 21.08
	1668.00	3.69	4.23	1667.79	-2.07	1.96	2.21	1.59	1415963.93	3318321.16	N 40 28 10.51	W 104 21 21.07
	1761.00	6.07	348.65	1760.45	-0.79	9.76	1.46	2.91	1415971.74	3318320.41	N 40 28 10.58	W 104 21 21.08
	1855.00	7.83	354.12	1853.76	1.61	21.01	-0.17	2.00	1415982.98	3318318.78	N 40 28 10.70	W 104 21 21.09
	1947.00	8.97	351.10	1944.77	4.28	34.33	-1.92	1.33	1415996.30	3318317.03	N 40 28 10.83	W 104 21 21.12
	2039.00	9.94	337.52	2035.53	9.40	48.75	-6.07	2.64	1416010.72	3318312.88	N 40 28 10.97	W 104 21 21.17
	2132.00	9.41	335.54	2127.21	16.59	63.09	-12.29	0.67	1416025.06	3318306.66	N 40 28 11.11	W 104 21 21.24
	2225.00	9.41	336.85	2218.96	23.67	77.00	-18.42	0.23	1416038.97	3318300.53	N 40 28 11.25	W 104 21 21.32
	2319.00	10.29	337.82	2311.57	30.86	91.84	-24.61	0.95	1416053.81	3318294.34	N 40 28 11.40	W 104 21 21.40
	2412.00	10.11	335.33	2403.10	38.43	106.95	-31.16	0.51	1416068.92	3318287.80	N 40 28 11.55	W 104 21 21.48
	2504.00	9.76	334.74	2493.72	46.10	121.34	-37.85	0.40	1416083.31	3318281.10	N 40 28 11.69	W 104 21 21.57
	2599.00	10.20	344.12	2587.29	52.88	136.71	-43.59	1.77	1416098.68	3318275.36	N 40 28 11.84	W 104 21 21.64
	2694.00	10.20	343.65	2680.79	58.65	152.88	-48.26	0.09	1416114.84	3318270.69	N 40 28 12.00	W 104 21 21.69
	2788.00	10.02	342.19	2773.33	64.57	168.65	-53.11	0.33	1416130.62	3318265.85	N 40 28 12.16	W 104 21 21.75
	2883.00	9.76	342.02	2866.92	70.63	184.18	-58.12	0.28	1416146.14	3318260.83	N 40 28 12.32	W 104 21 21.82
	2978.00	10.02	341.90	2960.50	76.74	199.69	-63.17	0.27	1416161.66	3318255.78	N 40 28 12.47	W 104 21 21.88
	3073.00	9.06	349.94	3054.19	81.65	214.91	-67.05	1.73	1416176.88	3318251.91	N 40 28 12.62	W 104 21 21.93
	3167.00	9.32	349.85	3146.99	85.29	229.69	-69.68	0.28	1416191.66	3318249.27	N 40 28 12.77	W 104 21 21.96
	3262.00	8.44	350.22	3240.85	88.82	244.14	-72.22	0.93	1416206.10	3318246.73	N 40 28 12.91	W 104 21 21.99
	3357.00	9.41	347.46	3334.70	92.68	258.59	-75.09	1.12	1416220.55	3318243.86	N 40 28 13.05	W 104 21 22.02
	3452.00	9.50	347.22	3428.41	97.14	273.81	-78.51	0.10	1416235.78	3318240.44	N 40 28 13.20	W 104 21 22.07
	3642.00	8.97	346.36	3615.94	106.12	303.50	-85.47	0.29	1416265.46	3318233.48	N 40 28 13.50	W 104 21 22.15
	3737.00	10.02	349.89	3709.64	110.36	318.83	-88.67	1.26	1416280.79	3318230.28	N 40 28 13.65	W 104 21 22.19
	3832.00	10.29	350.60	3803.15	114.33	335.34	-91.51	0.31	1416297.30	3318227.45	N 40 28 13.81	W 104 21 22.22
	3927.00	10.11	350.52	3896.65	118.22	351.94	-94.27	0.19	1416313.90	3318224.69	N 40 28 13.98	W 104 21 22.26
	4021.00	9.76	351.09	3989.24	121.91	367.94	-96.86	0.39	1416329.90	3318222.09	N 40 28 14.14	W 104 21 22.29
	4116.00	9.67	351.41	4082.88	125.43	383.79	-99.30	0.11	1416345.75	3318219.66	N 40 28 14.29	W 104 21 22.32
	4211.00	8.88	350.23	4176.64	128.90	398.90	-101.73	0.86	1416360.86	3318217.22	N 40 28 14.44	W 104 21 22.35
	4305.00	9.15	344.38	4269.48	133.12	413.25	-104.98	1.02	1416375.21	3318213.98	N 40 28 14.58	W 104 21 22.39
	4399.00	8.97	345.94	4362.30	137.88	427.56	-108.77	0.32	1416389.52	3318210.18	N 40 28 14.73	W 104 21 22.43
	4494.00	8.88	346.41	4456.15	142.38	441.87	-112.29	0.12	1416403.83	3318206.66	N 40 28 14.87	W 104 21 22.48
	4588.00	8.53	346.89	4549.07	146.61	455.71	-115.58	0.38	1416417.67	3318203.38	N 40 28 15.01	W 104 21 22.52
	4683.00	7.91	346.86	4643.09	150.60	468.94	-118.66	0.65	1416430.90	3318200.29	N 40 28 15.14	W 104 21 22.55
	4777.00	7.74	346.31	4736.22	154.41	481.39	-121.63	0.20	1416443.34	3318197.32	N 40 28 15.26	W 104 21 22.59
	4871.00	7.39	345.15	4829.40	158.28	493.38	-124.68	0.41	1416455.34	3318194.28	N 40 28 15.38	W 104 21 22.63
	4965.00	7.12	344.89	4922.65	162.12	504.85	-127.75	0.29	1416466.80	3318191.21	N 40 28 15.49	W 104 21 22.66
	5060.00	6.16	341.76	5017.01	165.97	515.37	-130.88	1.08	1416477.33	3318188.08	N 40 28 15.60	W 104 21 22.70
	5154.00	5.45	340.84	5110.53	169.63	524.38	-133.92	0.76	1416486.34	3318185.03	N 40 28 15.69	W 104 21 22.74
	5248.00	4.57	341.89	5204.17	172.78	532.16	-136.55	0.94	1416494.11	3318182.41	N 40 28 15.76	W 104 21 22.77
	5343.00	3.43	346.42	5298.93	175.06	538.52	-138.39	1.24	1416500.47	3318180.56	N 40 28 15.83	W 104 21 22.80
	5438.00	1.93	359.98	5393.83	176.02	542.88	-139.06	1.70	1416504.83	3318179.89	N 40 28 15.87	W 104 21 22.80
	5532.00	0.88	37.85	5487.80	175.73	545.03	-138.62	1.43	1416506.99	3318180.34	N 40 28 15.89	W 104 21 22.80
	5627.00	0.62	63.23	5582.79	174.88	545.84	-137.71	0.44	1416507.79	3318181.24	N 40 28 15.90	W 104 21 22.79
	5722.00	0.44	68.16	5677.79	174.11	546.21	-136.92	0.20	1416508.16	3318182.04	N 40 28 15.90	W 104 21 22.78
	5816.00	0.18	80.75	5771.79	173.64	546.37	-136.43	0.28	1416508.32	3318182.52	N 40 28 15.90	W 104 21 22.77
	5910.00	0.35	296.47	5865.79	173.76	546.52	-136.55	0.54	1416508.47	3318182.41	N 40 28 15.91	W 104 21 22.77
	6005.00	5.63	287.08	5960.62	178.57	548.02	-141.26	5.56	1416509.97	3318177.69	N 40 28 15.92	W 104 21 22.83
	6100.00	10.64	284.27	6054.64	191.75	551.55	-154.23	5.29	1416513.50	3318164.73	N 40 28 15.96	W 104 21 23.00
	6195.00	14.42	284.20	6147.36	212.02	556.61	-174.20	3.98	1416518.57	3318144.76	N 40 28 16.01	W 104 21 23.26
	6287.00	17.32	285.91	6235.84	236.70	563.18	-198.48	3.19	1416525.13	3318120.48	N 40 28 16.08	W 104 21 23.57
	6382.00	24.18	278.83	6324.64	269.96	570.05	-231.35	7.68	1416532.00	3318087.61	N 40 28 16.15	W 104 21 23.99
	6476.00	35.88	275.21	6405.89	316.85	575.53	-277.97	12.59	1416537.48	3318040.99	N 40 28 16.21	W 104 21 24.60
	6571.00	48.45	267.16	6476.22	380.28	576.30	-341.50	14.38	1416538.25	3317977.46	N 40 28 16.23	W 104 21 25.42
	6666.00	58.56	265.81	6532.65	455.90	571.56	-417.62	10.70	1416533.52	3317901.34	N 40 28 16.19	W 104 21 26.40
	6760.00	66.92	266.10	6575.66	538.58	565.68	-500.90	8.90	1416527.64	3317818.07	N 40 28 16.14	W 104 21 27.48
	6855.00	78.35	265.33	6603.97	628.16	558.90	-591.17	12.06	1416520.85	3317727.81	N 40 28 16.09	W 104 21 28.65

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 ° ' ")
Begin IFR Survey	7025.00	87.93	264.68	6618.96	795.14	543.74	-759.58	0.92	1416505.70	3317559.40	N 40 28 15.96 W 104 21 30.83	
	7118.00	89.43	263.55	6621.11	886.74	534.21	-852.06	2.02	1416496.16	3317466.92	N 40 28 15.87 W 104 21 32.03	
	7210.00	90.92	264.78	6620.83	977.40	524.86	-943.58	2.10	1416486.81	3317375.41	N 40 28 15.79 W 104 21 33.22	
	7304.00	89.52	266.25	6620.46	1070.38	517.51	-1037.29	2.16	1416479.46	3317281.70	N 40 28 15.73 W 104 21 34.43	
	7397.00	89.96	267.41	6620.89	1162.67	512.37	-1130.14	1.33	1416474.32	3317188.85	N 40 28 15.69 W 104 21 35.63	
	7490.00	89.16	269.01	6621.60	1255.20	509.46	-1223.09	1.92	1416471.41	3317095.91	N 40 28 15.68 W 104 21 36.84	
	7582.00	90.13	268.77	6622.17	1346.84	507.68	-1315.07	1.09	1416469.63	3317003.93	N 40 28 15.67 W 104 21 38.03	
	7677.00	90.13	270.77	6621.95	1441.58	507.30	-1410.06	2.11	1416469.25	3316908.94	N 40 28 15.68 W 104 21 39.25	
	7772.00	87.85	269.44	6623.63	1536.34	507.47	-1505.04	2.78	1416469.43	3316813.97	N 40 28 15.69 W 104 21 40.48	
	7867.00	88.02	268.97	6627.05	1630.96	506.15	-1599.97	0.53	1416468.11	3316719.04	N 40 28 15.69 W 104 21 41.71	
	7961.00	87.76	267.88	6630.51	1724.46	503.57	-1693.87	1.19	1416465.53	3316625.15	N 40 28 15.68 W 104 21 42.93	
	8056.00	88.29	267.73	6633.79	1818.86	499.94	-1788.74	0.58	1416461.89	3316530.28	N 40 28 15.66 W 104 21 44.16	
	8151.00	89.34	267.24	6635.75	1913.23	495.77	-1883.63	1.22	1416457.72	3316435.39	N 40 28 15.63 W 104 21 45.38	
	8245.00	90.22	269.79	6636.11	2006.80	493.33	-1977.59	2.87	1416455.29	3316341.44	N 40 28 15.61 W 104 21 46.60	
	8340.00	91.28	269.12	6634.87	2101.50	492.43	-2072.57	1.32	1416454.38	3316246.46	N 40 28 15.62 W 104 21 47.83	
	8434.00	88.29	267.97	6635.22	2195.07	490.04	-2166.53	3.41	1416452.00	3316152.50	N 40 28 15.61 W 104 21 49.04	
	8529.00	89.96	268.56	6636.67	2289.59	487.17	-2261.47	1.86	1416449.12	3316057.56	N 40 28 15.59 W 104 21 50.27	
	8623.00	90.92	268.31	6635.95	2383.16	484.60	-2355.43	1.06	1416446.55	3315963.61	N 40 28 15.58 W 104 21 51.49	
	8718.00	91.71	268.67	6633.77	2477.70	482.10	-2450.37	0.91	1416444.05	3315868.67	N 40 28 15.56 W 104 21 52.72	
	8813.00	90.13	268.96	6632.25	2572.31	480.13	-2545.34	1.69	1416442.09	3315773.71	N 40 28 15.56 W 104 21 53.95	
	8907.00	88.46	268.19	6633.40	2665.88	477.80	-2639.30	1.96	1416439.75	3315679.75	N 40 28 15.54 W 104 21 55.16	
	9001.00	90.92	269.53	6633.91	2759.50	475.93	-2733.27	2.98	1416437.88	3315585.79	N 40 28 15.54 W 104 21 56.38	
	9095.00	90.75	269.71	6632.54	2853.23	475.30	-2827.26	0.26	1416437.26	3315491.80	N 40 28 15.54 W 104 21 57.60	
	9190.00	88.29	269.51	6633.34	2947.95	474.66	-2922.24	2.60	1416436.61	3315396.82	N 40 28 15.55 W 104 21 58.82	
	9284.00	90.48	269.90	6634.35	3041.68	474.17	-3016.23	2.37	1416436.13	3315302.83	N 40 28 15.56 W 104 22 0.04	
	9379.00	88.37	268.93	6635.30	3136.37	473.20	-3111.21	2.44	1416435.16	3315207.85	N 40 28 15.56 W 104 22 1.27	
	9473.00	89.96	269.65	6636.67	3230.05	472.04	-3205.19	1.86	1416433.99	3315113.88	N 40 28 15.56 W 104 22 2.49	
	9567.00	89.69	268.83	6636.96	3323.73	470.79	-3299.18	0.92	1416432.75	3315019.89	N 40 28 15.56 W 104 22 3.70	
	9662.00	89.52	270.61	6637.61	3418.47	470.33	-3394.18	1.88	1416432.28	3314924.90	N 40 28 15.57 W 104 22 4.93	
	9756.00	89.43	271.90	6638.47	3512.36	472.39	-3488.15	1.38	1416434.34	3314830.93	N 40 28 15.60 W 104 22 6.15	
	9850.00	89.69	272.55	6639.19	3606.31	476.03	-3582.07	0.74	1416437.99	3314737.01	N 40 28 15.65 W 104 22 7.36	
	9944.00	89.25	271.52	6640.06	3700.26	479.37	-3676.01	1.19	1416441.33	3314643.08	N 40 28 15.69 W 104 22 8.58	
	10038.00	88.11	267.99	6642.23	3793.96	478.97	-3769.97	3.95	1416440.93	3314549.13	N 40 28 15.70 W 104 22 9.79	
	10132.00	88.99	268.35	6644.61	3887.46	475.97	-3863.89	1.01	1416437.93	3314455.21	N 40 28 15.68 W 104 22 11.01	
	10227.00	88.55	266.85	6646.65	3981.85	471.99	-3958.78	1.65	1416433.95	3314360.32	N 40 28 15.65 W 104 22 12.24	
	10321.00	88.72	266.16	6648.89	4075.03	466.26	-4052.58	0.76	1416428.22	3314266.53	N 40 28 15.61 W 104 22 13.45	
	10416.00	88.11	264.03	6651.51	4168.86	458.15	-4147.19	2.33	1416420.10	3314171.92	N 40 28 15.54 W 104 22 14.68	
	10510.00	90.57	264.13	6652.60	4261.46	448.45	-4240.67	2.62	1416410.41	3314078.44	N 40 28 15.46 W 104 22 15.89	
	10604.00	91.71	263.79	6650.73	4354.02	438.56	-4334.13	1.27	1416400.52	3313984.98	N 40 28 15.37 W 104 22 17.10	
	10698.00	92.15	264.41	6647.56	4446.58	428.91	-4427.58	0.81	1416390.86	3313891.54	N 40 28 15.29 W 104 22 18.31	
	10793.00	91.19	265.62	6644.79	4540.39	420.66	-4522.18	1.63	1416382.61	3313796.94	N 40 28 15.22 W 104 22 19.53	
	10887.00	90.92	267.75	6643.06	4633.62	415.22	-4616.00	2.28	1416377.18	3313703.13	N 40 28 15.17 W 104 22 20.75	
	10982.00	90.31	267.69	6642.04	4728.05	411.44	-4710.92	0.65	1416373.40	3313608.21	N 40 28 15.15 W 104 22 21.98	
	11076.00	92.15	268.91	6640.02	4821.57	408.65	-4804.85	2.35	1416370.61	3313514.28	N 40 28 15.13 W 104 22 23.19	
	11171.00	89.78	269.40	6638.42	4916.22	407.25	-4899.82	2.55	1416369.21	3313419.32	N 40 28 15.13 W 104 22 24.42	
	11265.00	88.81	268.54	6639.58	5009.86	405.56	-4993.79	1.38	1416367.52	3313325.35	N 40 28 15.13 W 104 22 25.64	
	11360.00	87.76	267.59	6642.42	5104.31	402.36	-5088.69	1.49	1416364.32	3313230.45	N 40 28 15.11 W 104 22 26.87	
	11455.00	86.17	266.63	6647.45	5198.50	397.58	-5183.44	1.95	1416359.53	3313135.71	N 40 28 15.07 W 104 22 28.09	
	11549.00	88.37	267.14	6651.93	5291.68	392.47	-5277.18	2.40	1416354.43	3313041.97	N 40 28 15.03 W 104 22 29.31	
	11644.00	91.80	267.50	6651.79	5386.03	388.03	-5372.07	3.63	1416349.99	3312947.09	N 40 28 15.00 W 104 22 30.53	
	11739.00	92.77	267.15	6648.00	5480.32	383.60	-5466.89	1.09	1416345.56	3312852.27	N 40 28 14.97 W 104 22 31.76	
	11834.00	90.75	266.95	6645.09	5574.59	378.72	-5561.71	2.14	1416340.68	3312757.45	N 40 28 14.93 W 104 22 32.99	
Last IFR Survey	11924.00	92.42	267.20	6642.60	5663.91	374.13	-5651.56	1.88	1416336.08	3312667.61	N 40 28 14.90 W 104 22 34.15	
Bit Projection	11985.00	92.42	267.20	6640.02	5724.43	371.15	-5712.43	0.00	1416333.11	3312606.74	N 40 28 14.88 W 104 22 34.94	

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 Casing Diameter (in)	Survey Tool Type	Borehole / Survey
Surface	1	0.000	30.000	Act Stns	13.750	9.625	SLB_EMS-STD-Depth Only
Surface	1	30.000	693.000	1/98.425	13.750	9.625	SLB_EMS-STD
Surface	1	693.000	709.000	Act Stns	13.750	9.625	SLB_EMS-STD
Intermediate	1	709.000	6949.000	Act Stns	8.750	7.000	SLB_MWD-STD
* Lateral	1	6949.000	11924.000	Act Stns	6.125	4.500	SLB_MWD+IFR1+MS
Bit Projection	1	11924.000	11985.000	Act Stns	6.125	4.500	SLB_BLIND+TREND

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