

Noble Energy

CO, Weld County (NAD 83 NZ)
Sec 20 Twn 06 N Rng 62 W
Wells Ranch AE19-626 Original Hole
05-123-39634
H&P 330



A Schlumberger Company

Final Survey Report

17-Dec-2014

Well Coordinates: NAD83 Colorado State Plane, Northern Zone, US Feet

N 40° 28' 9.40800"	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 AE19-626 well head
Vertical Section Azimuth:	263.043 ° (Grid North)
North Reference:	Grid North

DOX Version: 2.8

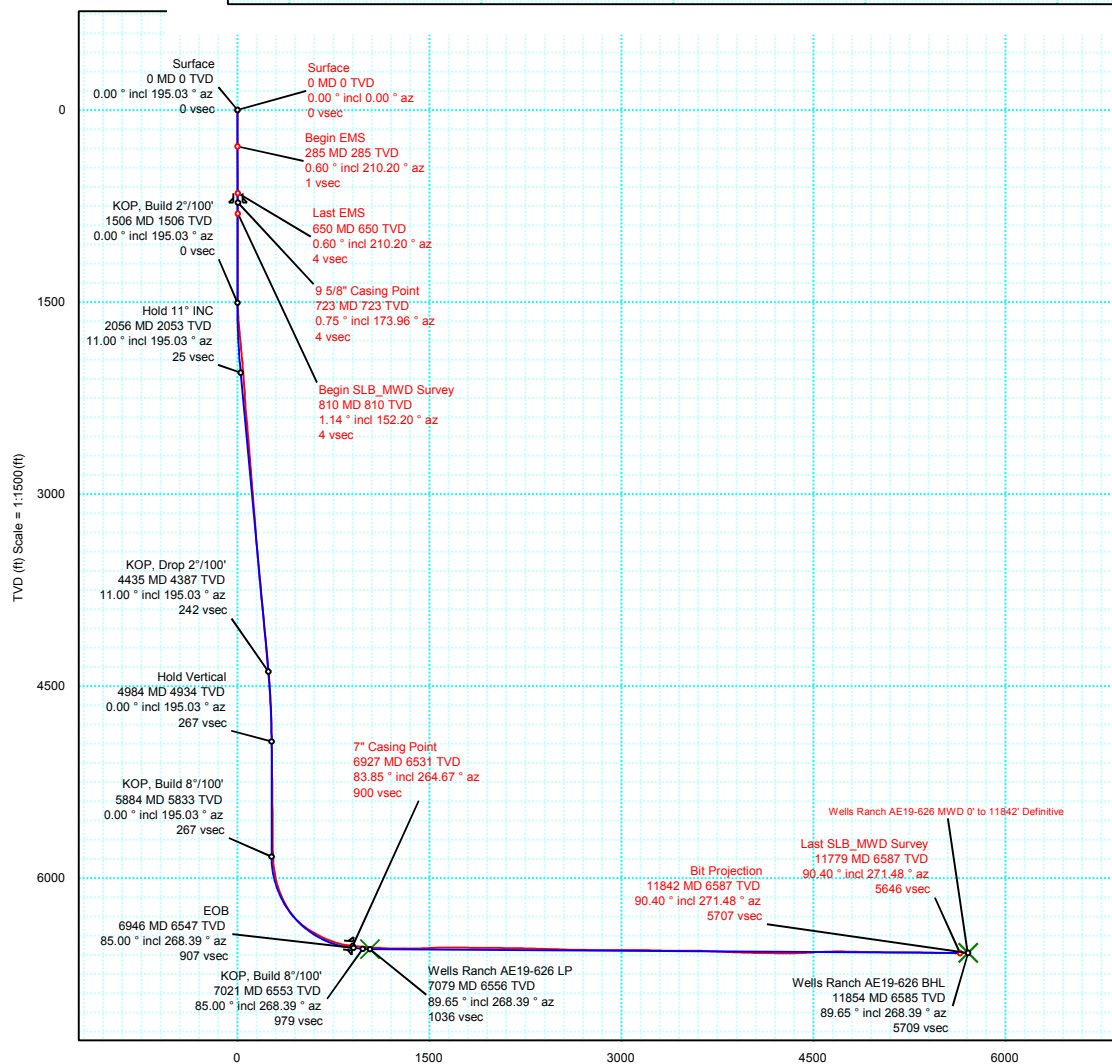
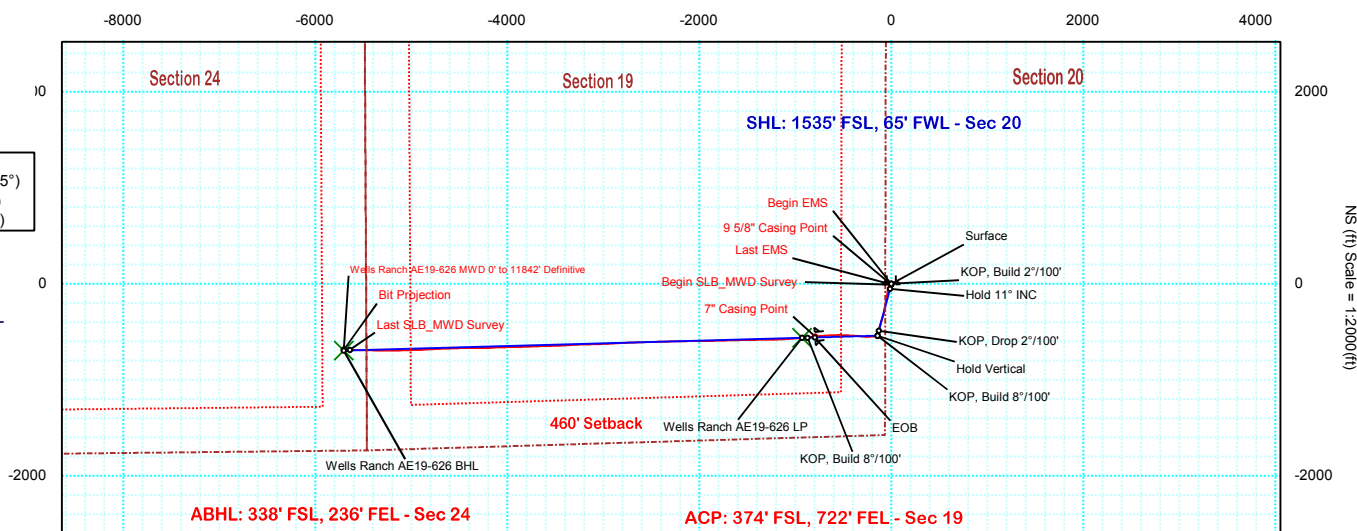
Borehole: Original Hole	Well: Wells Ranch AE19-626	Field: CO, Weld County (NAD 83 NZ)	Structure: Noble 20-06N-62W (Wells Ranch AE19 Pad) - H&P 330
Gravity & Magnetic Parameters Model: BGGM 2014 Dip: 67.041° Date: 17-Dec-2014 MagDec: 8.274° FS: 52727.543nT Gravity FS: 999.058mgn (9.80665 Based)		Surface Location NAD83 Colorado State Plane, Northern Zone, US Feet Lat: N 40 28 9.41 Northing: 1415852.66ftU Grid Conv: 0.7393° Lon: W 104 21 21.13 Easting: 3318317.58ftU Scale Fact: 0.9999641	
		Miscellaneous Slot: Wells Ranch AE19-626 TVD Ref: KB 30ft(4816ft above MSL) Plan: Wells Ranch AE19-626 MWD 0' to 11842' Definitive	

PvA

EW (ft) Scale = 1:2000(ft)

Grid
True
Mag

Grid North
Tot Corr (M->G 7.535°)
Mag Dec (8.274°)
Grid Conv (0.739°)



Vertical Section (ft) Azim = 256.52° Scale = 1:1500(ft) Origin = 0N/-S, 0E/-W

Wells Ranch AE19-626 MWD 0' to 11842' Definitive Survey Report

(Def Survey)

Report Date: December 17, 2014 - 02:29 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 AE19-626
Well: Wells Ranch AE19-626
Borehole: Original Hole
UWI / API#: Unknown / Unknown
Survey Name: Wells Ranch AE19-626 MWD 0' to 11842' Definitive
Survey Date: December 17, 2014
Tort / AHD / DDI / ERD Ratio: 207.155 ° / 6150.764 ft / 6.360 / 0.933
Coordinate Reference System: NAD83 Colorado State Plane, Northern Zone, US Feet
Location Lat / Long: N 40° 28' 9.40800", W 104° 21' 21.13200"
Location Grid N/E Y/X: N 1415852.656 ftUS, E 3318317.578 ftUS
CRS Grid Convergence Angle: 0.7393 °
Grid Scale Factor: 0.9999641
Version / Patch: 2.8.572.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 263.043 ° (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: 8.274 °
Total Gravity Field Strength: 999.0582mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 52727.543 nT
Magnetic Dip Angle: 67.041 °
Declination Date: December 17, 2014
Magnetic Declination Model: BGGM 2014
North Reference: Grid North
Grid Convergence Used: 0.7393 °
Total Corr Mag North->Grid North: 7.5342 °
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	1415852.66	3318317.58	N 40 28 9.41	W 104 21 21.13
Begin EMS	285.00	0.60	210.20	284.99	0.90	-1.29	-0.75	0.21	1415851.37	3318316.83	N 40 28 9.40	W 104 21 21.14
Last EMS	650.00	0.60	210.20	649.97	3.21	-4.59	-2.67	0.00	1415848.06	3318314.91	N 40 28 9.36	W 104 21 21.17
9 5/8" Casing Point	723.00	0.75	173.96	722.97	3.45	-5.40	-2.82	0.60	1415847.26	3318314.76	N 40 28 9.36	W 104 21 21.17
Begin SLB_MWD Survey	810.00	1.14	152.20	809.96	3.15	-6.73	-2.35	0.60	1415845.93	3318315.23	N 40 28 9.34	W 104 21 21.16
	902.00	1.32	154.44	901.94	2.49	-8.49	-1.47	0.20	1415844.17	3318316.11	N 40 28 9.32	W 104 21 21.15
	994.00	1.41	155.59	993.91	1.81	-10.48	-0.54	0.10	1415842.18	3318317.04	N 40 28 9.30	W 104 21 21.14
	1087.00	1.32	162.58	1086.88	1.27	-12.54	0.25	0.20	1415840.12	3318317.83	N 40 28 9.28	W 104 21 21.13
	1180.00	1.14	163.00	1179.86	0.91	-14.45	0.84	0.19	1415838.21	3318318.42	N 40 28 9.27	W 104 21 21.12
	1274.00	1.32	164.72	1273.84	0.60	-16.39	1.40	0.20	1415836.27	3318318.98	N 40 28 9.25	W 104 21 21.12
	1293.00	1.49	164.68	1292.84	0.53	-16.84	1.52	0.89	1415835.82	3318319.10	N 40 28 9.24	W 104 21 21.12
	1387.00	0.53	334.39	1386.83	0.49	-17.62	1.66	2.14	1415835.03	3318319.24	N 40 28 9.23	W 104 21 21.11
	1479.00	2.37	339.98	1478.79	1.05	-15.45	0.82	2.00	1415837.20	3318318.40	N 40 28 9.26	W 104 21 21.12
	1571.00	2.64	279.80	1570.72	3.51	-13.30	-1.92	2.74	1415839.35	3318315.66	N 40 28 9.28	W 104 21 21.16
	1663.00	4.48	244.52	1662.55	8.95	-14.49	-7.25	3.02	1415838.17	3318310.33	N 40 28 9.27	W 104 21 21.23
	1756.00	4.92	240.71	1755.24	16.08	-18.00	-14.01	0.58	1415834.65	3318303.57	N 40 28 9.23	W 104 21 21.32
	1850.00	7.12	229.11	1848.72	24.65	-23.79	-21.93	2.66	1415828.87	3318295.65	N 40 28 9.18	W 104 21 21.42
	1942.00	7.47	205.18	1939.99	32.56	-32.94	-28.78	3.30	1415819.72	3318288.80	N 40 28 9.09	W 104 21 21.51
	2034.00	9.06	198.87	2031.04	38.90	-45.20	-33.67	1.99	1415807.45	3318283.91	N 40 28 8.97	W 104 21 21.58
	2127.00	10.20	190.09	2122.73	44.50	-60.24	-37.48	2.00	1415792.42	3318280.10	N 40 28 8.82	W 104 21 21.63
	2220.00	10.82	187.04	2214.17	49.03	-77.01	-39.99	0.90	1415775.65	3318277.59	N 40 28 8.65	W 104 21 21.66
	2314.00	10.82	184.76	2306.50	52.95	-94.56	-41.81	0.46	1415758.10	3318275.77	N 40 28 8.48	W 104 21 21.69
	2406.00	12.13	191.37	2396.66	57.75	-112.64	-44.43	2.02	1415740.02	3318273.15	N 40 28 8.30	W 104 21 21.73
	2499.00	11.78	191.28	2487.64	63.79	-131.53	-48.21	0.38	1415721.13	3318269.37	N 40 28 8.11	W 104 21 21.78
	2689.00	11.34	190.89	2673.79	75.59	-168.90	-55.54	0.24	1415683.77	3318262.04	N 40 28 7.75	W 104 21 21.88
	2784.00	11.26	190.22	2766.95	81.19	-187.20	-58.95	0.16	1415665.47	3318258.63	N 40 28 7.57	W 104 21 21.93
	2878.00	11.43	190.31	2859.11	86.66	-205.39	-62.24	0.18	1415647.27	3318255.34	N 40 28 7.39	W 104 21 21.97
	2973.00	11.70	189.72	2952.18	92.22	-224.15	-65.55	0.31	1415628.52	3318252.03	N 40 28 7.20	W 104 21 22.02
	3068.00	11.78	189.47	3045.19	97.73	-243.21	-68.77	0.10	1415609.46	3318248.81	N 40 28 7.01	W 104 21 22.06
	3162.00	11.34	189.51	3137.29	103.06	-261.78	-71.88	0.47	1415590.88	3318245.70	N 40 28 6.83	W 104 21 22.11
	3257.00	11.26	188.09	3230.45	108.12	-280.18	-74.73	0.30	1415572.49	3318242.85	N 40 28 6.65	W 104 21 22.15
	3352.00	10.73	186.67	3323.70	112.61	-298.15	-77.06	0.63	1415554.52	3318240.52	N 40 28 6.47	W 104 21 22.18
	3447.00	9.50	199.71	3417.24	118.21	-314.31	-80.73	2.73	1415538.36	3318236.85	N 40 28 6.31	W 104 21 22.23
	3542.00	9.23	198.49	3510.97	125.00	-328.92	-85.79	0.35	1415523.75	3318231.79	N 40 28 6.17	W 104 21 22.30
	3637.00	9.50	198.03	3604.70	131.59	-343.60	-90.64	0.29	1415509.07	3318226.95	N 40 28 6.02	W 104 21 22.36
	3732.00	10.02	198.41	3698.33	138.44	-358.90	-95.67	0.55	1415493.77	3318221.91	N 40 28 5.87	W 104 21 22.43
	3827.00	10.82	198.07	3791.76	145.75	-375.21	-101.05	0.84	1415477.46	3318216.53	N 40 28 5.71	W 104 21 22.50
	3922.00	11.34	196.14	3884.99	153.19	-392.66	-106.41	0.67	1415460.01	3318211.17	N 40 28 5.54	W 104 21 22.57
	4017.00	11.52	195.67	3978.11	160.50	-410.77	-111.57	0.21	1415441.90	3318206.01	N 40 28 5.36	W 104 21 22.64
	4112.00	11.43	195.66	4071.21	167.77	-428.97	-116.67	0.09	1415423.71	3318200.91	N 40 28 5.18	W 104 21 22.71
	4206.00	10.99	194.72	4163.41	174.66	-446.60	-121.46	0.51	1415406.07	3318196.12	N 40 28 5.01	W 104 21 22.78
	4301.00	10.11	195.49	4256.81	181.19	-463.39	-125.99	0.94	1415389.28	3318191.59	N 40 28 4.85	W 104 21 22.84
	4395.00	9.50	197.73	4349.43	187.58	-478.73	-130.56	0.77	1415373.94	3318187.03	N 40 28 4.69	W 104 21 22.90
	4490.00	8.71	197.41	4443.24	193.82	-493.07	-135.10	0.83	1415359.61	3318182.49	N 40 28 4.55	W 104 21 22.96
	4584.00	7.47	194.14	4536.30	198.96	-505.78	-138.72	1.41	1415346.89	3318178.86	N 40 28 4.43	W 104 21 23.01
	4678.00	6.68	190.29	4629.58	202.78	-517.09	-141.19	0.98	1415335.59	3318176.39	N 40 28 4.32	W 104 21 23.04
	4773.00	5.63	190.08	4724.03	205.78	-527.11	-142.99	1.11	1415325.56	3318174.59	N 40 28 4.22	W 104 21 23.07
	4867.00	4.13	191.73	4817.69	208.22	-534.97	-144.49	1.60	1415317.71	3318173.10	N 40 28 4.14	W 104 21 23.09
	4961.00	2.81	193.16	4911.52	210.10	-540.52	-145.70	1.41	1415312.15	3318171.88	N 40 28 4.09	W 104 21 23.11
	5055.00	1.93	193.92	5005.44	211.45	-544.30	-146.60	0.94	1415308.37	3318170.98	N 40 28 4.05	W 104 21 23.12
	5149.00	0.53	220.34	5099.41	212.34	-546.17	-147.27	1.57	1415306.50	3318170.32	N 40 28 4.03	W 104 21 23.13
	5244.00	0.70	246.68	5194.41	213.22	-546.74	-148.08	0.34	1415305.94	3318169.50	N 40 28 4.02	W 104 21 23.14
	5338.00	0.62	232.49	5288.40	214.21	-547.27	-149.02	0.19	1415305.40	3318168.57	N 40 28 4.02	W 104 21 23.15
	5433.00	0.62	232.67	5383.39	215.09	-547.90	-149.83	0.00	1415304.78	3318167.75	N 40 28 4.01	W 104 21 23.16
	5528.00	0.70	228.23	5478.39	216.01	-548.60	-150.67	0.10	1415304.08	3318166.91	N 40 28 4.01	W 104 21 23.17
	5622.00	0.26	186.93	5572.39	216.53	-549.19	-151.13	0.57	1415303.49	3318166.46	N 40 28 4.00	W 104 21 23.18
	5717.00	0.35	261.72	5667.38	216.88	-549.45	-151.44	0.40	1415303.23	3318166.14	N 40 28 4.00	W 104 21 23.18
	5811.00	0.53	272.58	5761.38	217.59	-549.47	-152.16	0.21	1415303.21	3318165.43	N 40 28 4.00	W 104 21 23.19
	5906.00	3.52	276.39	5856.31	220.86	-549.12	-155.50	3.15	1415303.55	3318162.09	N 40 28 4.00	W 104 21 23.24
	6001.00	9.67	275.80	5950.64	231.49	-547.99	-166.34	6.47	1415304.68	3318151.24	N 40 28 4.01	W 104 21 23.38
	6095.00	15.48	266.51	6042.35	251.73	-547.96	-186.74	6.53	1415304.72	3318130.85	N 40 28 4.02	W 104 21 23.64
	6190.00	22.77	265.54	6132.05	282.80	-550.16	-217.76	7.68	1415302.51	3318099.82	N 40 28 4.00	W 104 21 24.04
	6285.00	30.16	271.96	6217.05	324.81	-550.78	-260.01	8.33	1415301.90	3318057.58	N 40 28 4.00	W 104 21 24.59
	6379.00	40.01	275.88	6293.89	377.73	-546.86	-313.81	10.74	1415305.81	3318003.78	N 40 28 4.04	W 104 21 25.28
	6474.00	52.41	274.79	6359.50	444.62	-540.57	-381.96	13.08	1415312.11	3317935.63	N 40 28 4.12	W 104 21 26.16
	6569.00	58.92	273.00	6413.06	521.63	-535.29	-460.18	7.03	1415317.39	3317857.42	N 40 28 4.18	W 104 21 27.17
	6663.00	64.46	269.89	6457.63	603.46	-533.26	-542.87	6.57	1415319.41	3317774.73	N 40 28 4.21	W 104 21 28.24
	6758.00	70.00	267.11	6494.39	690.62	-535.60	-630.39	6.42	1415317.08	3317687.22	N 40 28 4.20	W 104 21 29.38
	6853.00	78.26	265.70	6520.35	781.76	-541.34	-721.50	8.81	1415311.33	3317596.10	N 40 28 4.15	W 104 21 30.56
	6874.00	80.90	265.10	6524.14	802.39	-543.00	-742.09	12.88	1415309.68	3317575.52	N 40 28 4.14	W 104 21 30.82
7" Casing Point	6927.00	83.85	264.67	6531.17	854.89	-547.69	-794.40	5.62	1415304.99	3317523.21	N 40 28 4.10	W 104 21 31.50
	6964.00	85.91	264.37	6534.48	891.73	-551.21	-831.09</					

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 ° ' ")
	7303.00	89.52	268.13	6551.95	1229.84	-579.38	-1168.26	2.39	1415273.29	3317149.36	N 40 28 3.83	W 104 21 36.34
	7397.00	90.66	269.21	6551.80	1323.38	-581.57	-1262.23	1.67	1415271.11	3317055.39	N 40 28 3.82	W 104 21 37.56
	7489.00	92.68	269.36	6549.12	1414.79	-582.71	-1354.18	2.20	1415269.97	3316963.45	N 40 28 3.82	W 104 21 38.75
	7582.00	91.63	268.78	6545.63	1507.21	-584.22	-1447.10	1.29	1415268.46	3316870.53	N 40 28 3.82	W 104 21 39.95
	7677.00	91.19	268.93	6543.29	1601.69	-586.12	-1542.05	0.49	1415266.56	3316775.58	N 40 28 3.81	W 104 21 41.18
	7772.00	88.55	268.67	6543.50	1696.21	-588.11	-1637.02	2.79	1415264.57	3316680.62	N 40 28 3.81	W 104 21 42.41
	7867.00	89.25	268.30	6545.33	1790.76	-590.62	-1731.97	0.83	1415262.06	3316585.67	N 40 28 3.79	W 104 21 43.64
	7961.00	89.34	268.56	6546.48	1884.34	-593.19	-1825.93	0.29	1415259.48	3316491.72	N 40 28 3.78	W 104 21 44.85
	8056.00	88.27	269.38	6547.14	1978.83	-594.90	-1920.91	1.03	1415257.78	3316396.74	N 40 28 3.77	W 104 21 46.08
	8150.00	89.69	269.63	6547.50	2072.23	-595.71	-2014.91	0.33	1415256.96	3316302.75	N 40 28 3.78	W 104 21 47.30
	8245.00	88.99	269.41	6548.59	2166.61	-596.51	-2109.90	0.77	1415256.17	3316207.76	N 40 28 3.78	W 104 21 48.53
	8340.00	88.02	268.95	6551.07	2261.04	-597.87	-2204.85	1.13	1415254.81	3316112.81	N 40 28 3.78	W 104 21 49.76
	8434.00	88.99	268.57	6553.52	2354.54	-599.90	-2298.80	1.11	1415252.78	3316018.87	N 40 28 3.77	W 104 21 50.97
	8529.00	87.85	268.78	6556.14	2449.04	-602.10	-2393.74	1.22	1415250.58	3315923.93	N 40 28 3.76	W 104 21 52.20
	8623.00	88.29	268.62	6559.31	2542.53	-604.23	-2487.66	0.50	1415248.45	3315830.01	N 40 28 3.75	W 104 21 53.42
	8718.00	88.99	267.86	6561.56	2637.11	-607.15	-2582.58	1.09	1415245.53	3315735.09	N 40 28 3.74	W 104 21 54.64
	8812.00	89.78	267.69	6562.57	2730.78	-610.80	-2676.51	0.86	1415241.88	3315641.17	N 40 28 3.71	W 104 21 55.86
	8906.00	88.90	268.09	6563.66	2824.44	-614.26	-2770.44	1.03	1415238.42	3315547.25	N 40 28 3.69	W 104 21 57.08
	9001.00	89.87	266.75	6564.68	2919.15	-618.53	-2865.33	1.74	1415234.15	3315452.36	N 40 28 3.66	W 104 21 58.30
	9095.00	90.92	266.43	6564.03	3012.97	-624.12	-2959.16	1.17	1415228.56	3315358.53	N 40 28 3.62	W 104 21 59.52
	9190.00	90.04	268.58	6563.23	3107.67	-628.26	-3054.06	2.45	1415224.42	3315263.63	N 40 28 3.59	W 104 22 0.75
	9284.00	88.64	268.88	6564.31	3201.20	-630.34	-3148.03	1.52	1415222.34	3315169.67	N 40 28 3.58	W 104 22 1.96
	9379.00	88.20	267.96	6566.93	3295.75	-632.96	-3242.96	1.07	1415219.72	3315074.74	N 40 28 3.57	W 104 22 3.19
	9473.00	89.25	266.97	6569.03	3389.44	-637.12	-3336.84	1.54	1415215.56	3314980.87	N 40 28 3.54	W 104 22 4.41
	9567.00	90.31	266.82	6569.39	3483.23	-642.21	-3430.70	1.14	1415210.47	3314887.01	N 40 28 3.50	W 104 22 5.62
	9662.00	89.96	268.06	6569.16	3577.94	-646.45	-3525.60	1.36	1415206.23	3314792.11	N 40 28 3.47	W 104 22 6.85
	9756.00	87.32	268.72	6571.39	3671.50	-649.09	-3619.53	2.89	1415203.59	3314698.19	N 40 28 3.45	W 104 22 8.07
	9850.00	87.67	268.11	6575.50	3765.00	-651.69	-3713.40	0.75	1415200.99	3314604.32	N 40 28 3.44	W 104 22 9.28
	9944.00	87.41	267.18	6579.54	3858.61	-655.55	-3807.24	1.03	1415197.13	3314510.49	N 40 28 3.41	W 104 22 10.50
	10038.00	88.29	269.32	6583.06	3952.15	-658.42	-3901.12	2.46	1415194.26	3314416.61	N 40 28 3.40	W 104 22 11.71
	10132.00	89.08	268.90	6585.22	4045.60	-659.88	-3995.08	0.95	1415192.80	3314322.65	N 40 28 3.39	W 104 22 12.93
	10226.00	89.43	268.13	6586.44	4139.16	-662.31	-4089.04	0.90	1415190.37	3314228.69	N 40 28 3.38	W 104 22 14.14
	10321.00	88.46	266.47	6588.19	4233.88	-666.79	-4183.92	2.02	1415185.90	3314133.82	N 40 28 3.35	W 104 22 15.37
	10416.00	90.57	270.84	6589.00	4328.39	-669.01	-4278.86	5.11	1415183.67	3314038.88	N 40 28 3.34	W 104 22 16.60
	10510.00	92.42	270.50	6586.54	4421.52	-667.92	-4372.82	2.00	1415184.77	3313944.93	N 40 28 3.36	W 104 22 17.82
	10604.00	93.83	268.40	6581.42	4514.79	-668.82	-4466.66	2.69	1415183.87	3313851.08	N 40 28 3.37	W 104 22 19.03
	10698.00	92.24	267.46	6576.44	4608.31	-672.21	-4560.47	1.96	1415180.47	3313757.28	N 40 28 3.34	W 104 22 20.24
	10793.00	89.96	268.22	6574.62	4702.95	-675.79	-4655.37	2.53	1415176.90	3313662.38	N 40 28 3.32	W 104 22 21.47
	10887.00	88.72	267.39	6575.70	4796.62	-679.39	-4749.30	1.59	1415173.30	3313568.46	N 40 28 3.30	W 104 22 22.69
	10982.00	89.08	266.45	6577.53	4891.38	-684.49	-4844.14	1.06	1415168.19	3313473.62	N 40 28 3.26	W 104 22 23.92
	11076.00	89.16	268.63	6578.97	4985.08	-688.52	-4938.04	2.32	1415164.16	3313379.73	N 40 28 3.23	W 104 22 25.13
	11171.00	89.43	268.53	6580.14	5079.63	-690.88	-5033.00	0.30	1415161.80	3313284.77	N 40 28 3.22	W 104 22 26.36
	11265.00	89.96	267.94	6580.64	5173.24	-693.77	-5126.95	0.84	1415158.91	3313190.82	N 40 28 3.20	W 104 22 27.58
	11360.00	90.40	269.71	6580.34	5267.75	-695.72	-5221.93	1.92	1415156.96	3313095.85	N 40 28 3.19	W 104 22 28.81
	11455.00	88.02	271.15	6581.65	5361.94	-695.01	-5316.91	2.93	1415157.67	3313000.87	N 40 28 3.21	W 104 22 30.03
	11549.00	88.55	271.00	6584.46	5454.98	-693.25	-5410.85	0.59	1415159.44	3312906.93	N 40 28 3.24	W 104 22 31.25
	11644.00	88.99	271.50	6586.50	5548.99	-691.17	-5505.80	0.70	1415161.51	3312811.98	N 40 28 3.27	W 104 22 32.48
	11739.00	89.87	271.40	6587.45	5642.96	-688.77	-5600.77	0.93	1415163.91	3312717.02	N 40 28 3.31	W 104 22 33.71
Last SLB_MWD Survey	11779.00	90.40	271.48	6587.35	5682.53	-687.76	-5640.76	1.34	1415164.92	3312677.04	N 40 28 3.33	W 104 22 34.22
Bit Projection	11842.00	90.40	271.48	6586.91	5744.85	-686.14	-5703.73	0.00	1415166.54	3312614.06	N 40 28 3.35	W 104 22 35.04

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	13.250	9.625	SLB_EMS-STD-Depth Only	Original Hole / Wells Ranch AE19-626 MWD 0' to 11842' Definitive
Surface	1	30.000	650.000	Act Stns	13.250	9.625	SLB_EMS-STD	Original Hole / Wells Ranch AE19-626 MWD 0' to 11842' Definitive
Intermediate	1	650.000	6874.000	Act Stns	8.750	7.000	SLB_MWD-STD	Original Hole / Wells Ranch AE19-626 MWD 0' to 11842' Definitive
Production	1	6874.000	11779.000	Act Stns	6.125	4.500	SLB_MWD-STD	Original Hole / Wells Ranch AE19-626 MWD 0' to 11842' Definitive
Bit Projection	1	11779.000	11842.000	Act Stns	6.125	4.500	SLB_BLIND+TREND	Original Hole / Wells Ranch AE19-626 MWD 0' to 11842' Definitive