

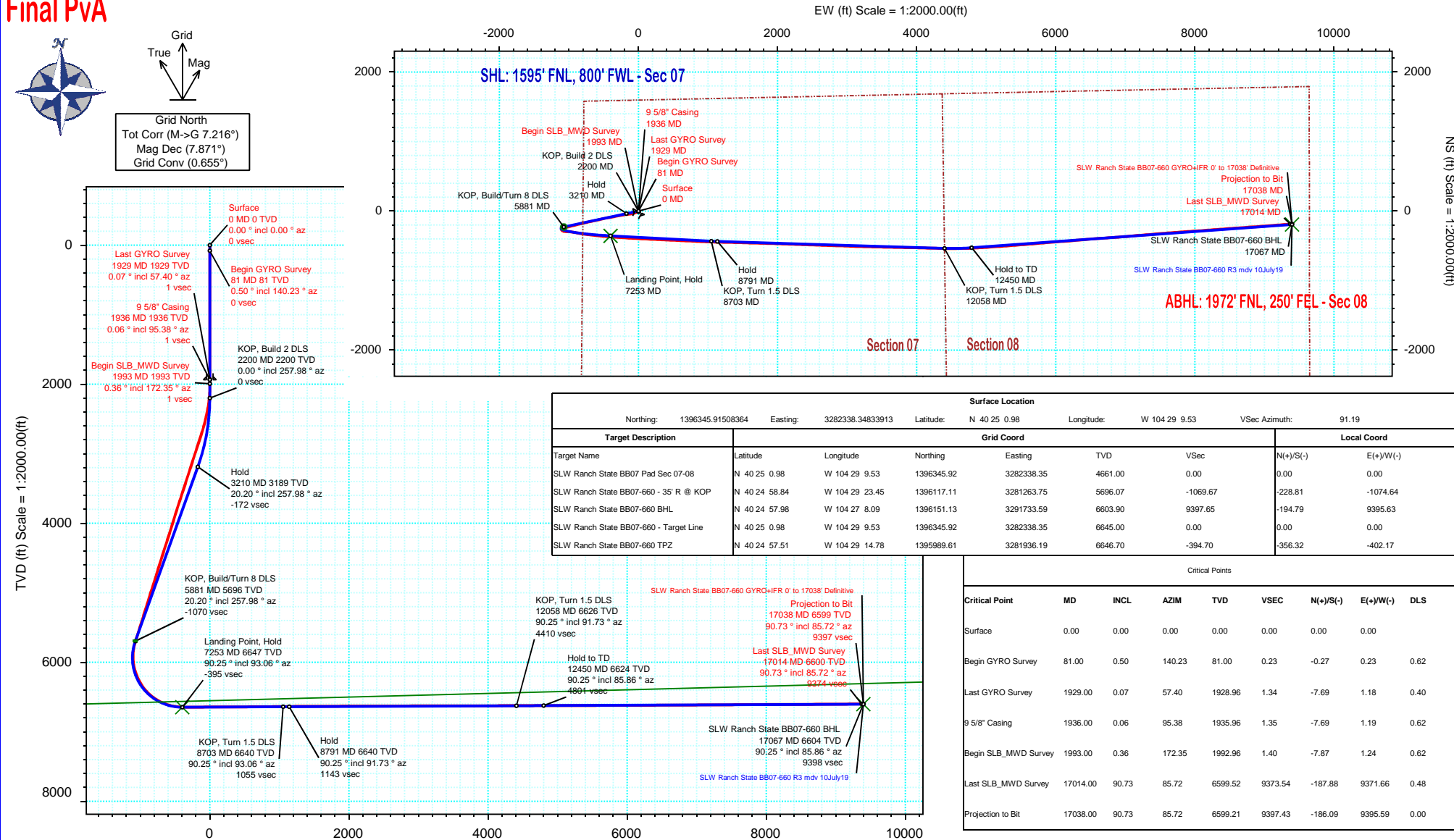
Borehole:	Well:	Field:	Structure:
Original Hole	SLW Ranch State BB07-660 - SLB	CO, Weld County (NAD 83 NZ)	Noble 07-05N-63W (SLW Ranch State BB07 Pad North)

Gravity & Magnetic Parameters			Surface Location			Miscellaneous		
Model:	HDGM 2019	Dip: 66.869°	Date:	12-Jul-2019		Slot:	SLW Ranch State BB07-660	TVD Ref: KB 30ft(4661ft above MSL)
MagDec:	7.871°	FS: 52112.658nT	Gravity FS:	999.054mgn (9.80665 Based)		Plan:	SLW Ranch State BB07-660 GYRO+IFR 0' to 17038' Definitive	
			NAD83 Colorado State Plane, Northern Zone, US Feet					
			Lat: N 40 25 0.98	Northing: 1396345.92ftUS	Grid Conv: 0.6552°			
			Lon: W 104 29 9.53	Easting: 3282338.35ftUS	Scale Fact: 0.99996104			

Final Pva



Grid North
Tot Corr (M->G 7.216°)
Mag Dec (7.871°)
Grid Conv (0.655°)



Vertical Section (ft) Azim = 91.19° Scale = 1:2000.00(ft) Origin = 0N/-S, 0E/-W

SLW Ranch State BB07-660 GYRO+IFR 0' to 17038' Definitive Survey

Geodetic Report

(Def Survey)

Report Date: August 12, 2019 - 10:37 AM
Client: Noble Energy
Field: CO, Weld County (NAD 83 NZ)
Structure / Slot: Noble 07-05N-63W (SLW Ranch State BB07 Pad North) / SLW Ranch State BB07-660
Well: SLW Ranch State BB07-660 - SLB
Borehole: Original Hole
UWI / API#: Unknown / 05-123-47007
Survey Name: SLW Ranch State BB07-660 GYRO+IFR 0' to 17038' Definitive
Survey Date: July 12, 2019
Tort / AHD / DDI / ERD Ratio: 224.540 ° / 11695.400 ft / 6.828 / 1.760
Coordinate Reference System: NAD83 Colorado State Plane, Northern Zone, US Feet
Location Lat / Long: N 40° 25' 0.98400", W 104° 29' 9.52800"
Location Grid N/E Y/X: N 1396345.915 ftUS, E 3282338.348 ftUS
CRS Grid Convergence Angle: 0.6552 °
Grid Scale Factor: 0.99996104
Version / Patch: 2.10.760.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 91.188 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: KB 30ft
TVD Reference Elevation: 4661.000 ft above MSL
Seabed / Ground Elevation: 4631.000 ft above MSL
Magnetic Declination: 7.871 °
Total Gravity Field Strength: 999.0539mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 52112.658 nT
Magnetic Dip Angle: 66.869 °
Declination Date: July 12, 2019
Magnetic Declination Model: HDGM 2019
North Reference: Grid North
Grid Convergence Used: 0.6552 °
Total Corr Mag North->Grid North: 7.2162 °
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 (°)	Longitude (°)
Surface	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	1396345.92	3282338.35	40.416940	-104.485980
Begin GYRO	81.00	0.50	140.23	81.00	0.23	-0.27	0.23	0.62	1396345.64	3282338.57	40.416939	-104.485979
Survey	176.00	0.31	93.72	176.00	0.76	-0.61	0.75	0.38	1396345.31	3282339.10	40.416938	-104.485977
	268.00	0.12	14.40	268.00	1.03	-0.53	1.02	0.34	1396345.39	3282339.37	40.416939	-104.485976
	363.00	0.38	192.70	363.00	0.99	-0.74	0.98	0.53	1396345.17	3282339.32	40.416938	-104.485977
	458.00	0.60	176.26	457.99	0.97	-1.54	0.94	0.27	1396344.37	3282339.29	40.416936	-104.485977
	552.00	0.37	209.67	551.99	0.87	-2.30	0.82	0.38	1396343.62	3282339.17	40.416934	-104.485977
	647.00	0.67	157.81	646.99	0.94	-3.08	0.88	0.56	1396342.84	3282339.23	40.416932	-104.485977
	742.00	0.25	92.50	741.98	1.37	-3.60	1.30	0.64	1396342.31	3282339.64	40.416930	-104.485975
	836.00	0.35	105.29	835.98	1.85	-3.69	1.78	0.13	1396342.23	3282340.13	40.416930	-104.485974
	931.00	0.15	136.00	930.98	2.22	-3.85	2.14	0.25	1396342.06	3282340.49	40.416929	-104.485972
	1026.00	0.19	180.10	1025.98	2.31	-4.10	2.23	0.14	1396341.81	3282340.58	40.416929	-104.485972
	1120.00	0.25	220.70	1119.98	2.19	-4.41	2.10	0.17	1396341.50	3282340.44	40.416928	-104.485973
	1215.00	0.46	226.79	1214.98	1.78	-4.83	1.68	0.22	1396341.08	3282340.03	40.416927	-104.485974
	1310.00	0.23	175.26	1309.98	1.53	-5.28	1.42	0.38	1396340.63	3282339.77	40.416925	-104.485975
	1405.00	0.10	194.01	1404.98	1.53	-5.55	1.42	0.15	1396340.36	3282339.76	40.416925	-104.485975
	1500.00	0.20	119.44	1499.98	1.66	-5.71	1.54	0.21	1396340.20	3282339.89	40.416924	-104.485975
	1594.00	0.56	152.85	1593.97	2.02	-6.20	1.89	0.43	1396339.71	3282340.24	40.416923	-104.485973
	1689.00	0.70	188.88	1688.97	2.16	-7.19	2.02	0.43	1396338.73	3282340.36	40.416920	-104.485973
	1784.00	0.43	254.37	1783.96	1.74	-7.86	1.58	0.69	1396338.06	3282339.93	40.416918	-104.485975
	1878.00	0.21	340.25	1877.96	1.35	-7.79	1.18	0.49	1396338.12	3282339.53	40.416919	-104.485976
Last GYRO	1929.00	0.07	57.40	1928.96	1.34	-7.69	1.18	0.40	1396338.23	3282339.53	40.416919	-104.485976
Survey	1936.00	0.06	95.38	1935.96	1.35	-7.69	1.19	0.62	1396338.23	3282339.53	40.416919	-104.485976
9 5/8" Casing												
Begin												
SLB_MWD	1993.00	0.36	172.35	1992.96	1.40	-7.87	1.24	0.62	1396338.05	3282339.59	40.416918	-104.485976
Survey	2088.00	1.30	249.41	2087.95	0.45	-8.54	0.27	1.34	1396337.37	3282338.62	40.416917	-104.485979
	2182.00	5.28	256.77	2181.78	-4.73	-9.91	-4.94	4.25	1396336.01	3282333.41	40.416913	-104.485998
	2277.00	9.22	248.36	2276.00	-15.99	-13.71	-16.28	4.28	1396332.20	3282322.07	40.416903	-104.486039
	2372.00	11.99	248.08	2369.37	-32.08	-20.21	-32.51	2.92	1396325.71	3282305.84	40.416886	-104.486098
	2467.00	13.24	250.44	2462.08	-51.33	-27.53	-51.91	1.42	1396318.38	3282286.44	40.416866	-104.486168
	2562.00	14.70	253.55	2554.27	-72.99	-34.59	-73.73	1.73	1396311.33	3282264.63	40.416847	-104.486246
	2656.00	16.65	259.35	2644.77	-97.54	-40.46	-98.40	2.66	1396305.46	3282239.95	40.416832	-104.486335
	2751.00	18.42	264.73	2735.36	-125.78	-44.35	-126.73	2.52	1396301.57	3282211.63	40.416822	-104.486437
	2846.00	18.59	262.63	2825.45	-155.67	-47.67	-156.69	0.72	1396298.25	3282181.66	40.416814	-104.486545
	2941.00	17.81	260.17	2915.70	-184.91	-52.09	-186.03	1.15	1396293.82	3282152.33	40.416803	-104.486650
	3035.00	18.04	261.46	3005.13	-213.36	-56.71	-214.58	0.49	1396289.21	3282123.77	40.416791	-104.486753
	3130.00	18.49	260.47	3095.35	-242.66	-61.39	-243.99	0.58	1396284.53	3282094.37	40.416779	-104.486859
	3225.00	17.91	261.35	3185.60	-271.86	-66.08	-273.28	0.68	1396279.84	3282065.07	40.416767	-104.486964
	3319.00	18.42	259.07	3274.91	-300.62	-71.07	-302.16	0.93	1396274.85	3282036.20	40.416754	-104.487068
	3414.00	18.24	258.07	3365.09	-329.77	-76.99	-331.44	0.38	1396268.93	3282006.92	40.416739	-104.487173
	3509.00	18.60	259.46	3455.22	-359.09	-82.83	-360.88	0.60	1396263.09	3281977.48	40.416724	-104.487279
	3604.00	18.26	260.95	3545.35	-388.57	-87.95	-390.47	0.61	1396257.97	3281947.89	40.416711	-104.487386
	3699.00	18.30	260.29	3635.56	-417.86	-92.80	-419.87	0.22	1396253.12	3281918.49	40.416698	-104.487492
	3793.00	18.11	259.79	3724.85	-446.67	-97.88	-448.80	0.26	1396248.04	3281889.57	40.416685	-104.487596
	3888.00	18.41	258.11	3815.07	-475.76	-103.59	-478.01	0.64	1396242.33	3281860.36	40.416671	-104.487701
	3983.00	17.39	258.15	3905.47	-504.20	-109.59	-506.58	1.07	1396236.32	3281831.79	40.416655	-104.487804
	4078.00	17.60	256.48	3996.08	-531.92	-115.87	-534.44	0.57	1396230.05	3281803.93	40.416639	-104.487904
	4173.00	18.28	257.21	4086.46	-560.27	-122.52	-562.94	0.75	1396223.40	3281775.44	40.416621	-104.488007
	4267.00	18.24	256.09	4175.72	-588.78	-129.32	-591.59	0.38	1396216.60	3281746.78	40.416604	-104.488110
	4362.00	18.51	258.32	4265.88	-617.84	-135.95	-620.79	0.79	1396209.97	3281717.58	40.416586	-104.488215
	4457.00	18.01	258.90	4356.10	-646.89	-141.83	-649.97	0.56	1396204.09	3281688.41	40.416571	-104.488320
	4552.00	18.02	257.70	4446.44	-675.53	-147.79	-678.74	0.39	1396198.13	3281659.64	40.416556	-104.488423
	4646.00	18.08	256.34	4535.81	-703.77	-154.33	-707.12	0.45	1396191.59	3281631.26	40.416539	-104.488526
	4741.00	17.61	256.88	4626.24	-731.94	-161.07	-735.44	0.52	1396184.85	3281602.94	40.416521	-104.488628
	4836.00	17.41	255.99	4716.84	-759.58	-167.78	-763.22	0.35	1396178.14	3281575.16	40.416503	-104.488728
	4930.00	18.67	257.64	4806.22	-787.78	-174.40	-791.56	1.45	1396171.52	3281546.82	40.416486	-104.488830
	5025.00	18.02	256.96	4896.39	-816.81	-180.97	-820.73	0.72	1396164.95	3281517.65	40.416469	-104.488935
	5120.00	17.83	257.35	4986.78	-845.17	-187.47	-849.24	0.24	1396158.45	3281489.14	40.416452	-104.489037
	5215.00	17.91	255.43	5077.20	-873.35	-194.33	-877.57	0.63	1396151.59	3281460.82	40.416434	-104.489139
	5310.00	17.66	255.58	5167.66	-901.29	-201.60	-905.66	0.27	1396144.33	3281432.72	40.416415	-104.489241
	5404.00	18.32	256.62	5257.06	-929.32	-208.57	-933.84	0.78	1396137.36	3281404.54	40.416397	-104.489342
	5499.00	17.65	256.40	5347.42	-957.70	-215.41	-962.37	0.71	1396130.52	3281376.02	40.416379	-104.489444
	5594.00	18.21	256.70	5437.80	-985.99	-222.21	-990.81	0.60	1396123.72	3281347.58	40.416361	-104.489547
	5689.00	17.80	254.87	5528.15	-1014.30	-229.41	-1019.28	0.74	1396116.51	3281319.11	40.416342	-104.489650
	5783.00	18.12	256.36	5617.57	-1042.22	-236.61	-1047.35	0.60	1396109.31	3281291.04	40.416323	-104.489751
	5878.00	18.01	256.27	5707.89	-1070.69	-243.58	-1075.97	0.12	1396102.34	3281262.42	40.416305	-104.489854
	5973.00	11.19	239.30	5799.81	-1092.75	-251.79	-1098.20	8.40	1396094.14	3281240.19	40.416283	-104.489934
	6067.00	7.86	197.38	5892.60	-1102.30	-262.59	-1107.98	7.94	1396083.33	3281230.42	40.416254	-104.489970
	6162.00	8.89	148.32	5986.70	-1100.12	-275.05	-1106.06	7.37	1396070.87	3281232.33	40.416220	-104.489963
	6257.00	15.14	114.43	6079.68	-1084.71	-286.45	-1090.88	9.66	1396059.47	3281247.51	40.416188	-104.489909
	6352.00	20.54	97.31	6170.14	-1056.70	-293.72	-1063.01	7.87	1396052.21	3281275.38	40.416167	-104.489809
	6446.00	26.21	91.12	6266.41	-1019.51	-296.22	-1025.87	6.57	1396049.70	3281312.52	40.416159	-104.489766
	6541.00	33.87	96.42	6338.60	-972.09	-299.60	-978.51	8.53	1396046.33	3281359.88	40.416148	-104.489506
	6636.00	42.82	99.94	6413.04	-913.69	-308.15	-920.27	9.69	1396037.78	3281418.11	40.416123	-104.489297
	6731.00	50.51	100.45	6478.19	-845.50	-320.39	-852.32	8.10	1396025.54	32		

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
	6825.00	57.42	98.28	6533.46	-770.30	-332.69	-777.36	7.58	1396013.24	3281561.02	40.416051	-104.488785
	6920.00	65.38	96.25	6578.90	-687.43	-343.17	-694.69	8.59	1396002.76	3281643.69	40.416020	-104.488489
	7015.00	73.25	96.15	6612.43	-598.96	-352.76	-606.40	8.28	1395993.17	3281731.97	40.415991	-104.488172
	7109.00	80.07	95.80	6634.10	-507.87	-362.27	-515.49	7.26	1395983.66	3281822.88	40.415962	-104.487846
	7204.00	87.19	93.88	6644.64	-413.71	-370.22	-421.48	7.76	1395975.71	3281916.89	40.415937	-104.487509
	7299.00	90.57	93.87	6646.50	-318.85	-376.64	-326.73	3.56	1395969.29	3282011.64	40.415916	-104.487169
	7394.00	90.31	93.80	6645.77	-223.95	-382.99	-231.94	0.28	1395962.94	3282106.42	40.415896	-104.486829
	7488.00	90.54	93.50	6645.07	-130.04	-388.98	-138.13	0.40	1395956.95	3282200.22	40.415877	-104.486492
	7583.00	90.13	93.01	6644.51	-35.11	-394.37	-43.29	0.67	1395951.56	3282295.06	40.415859	-104.486152
	7677.00	89.94	92.81	6644.46	58.85	-399.14	50.59	0.29	1395946.79	3282388.93	40.415843	-104.485815
	7772.00	90.11	92.78	6644.41	153.81	-403.78	145.48	0.18	1395942.16	3282483.82	40.415827	-104.485474
	7867.00	90.76	92.84	6643.69	248.77	-408.43	240.36	0.69	1395937.50	3282578.70	40.415811	-104.485134
	7962.00	90.23	92.52	6642.87	343.74	-412.87	335.25	0.65	1395933.06	3282673.58	40.415796	-104.484793
	8056.00	90.32	93.05	6642.42	437.70	-417.44	429.14	0.57	1395928.49	3282767.47	40.415781	-104.484456
	8151.00	90.90	92.23	6641.41	532.66	-421.82	524.03	1.06	1395924.12	3282862.36	40.415766	-104.484116
	8245.00	90.71	92.63	6640.09	626.63	-425.80	617.94	0.47	1395920.13	3282956.26	40.415752	-104.483778
	8340.00	90.22	92.82	6639.32	721.59	-430.32	712.83	0.55	1395915.61	3283051.14	40.415736	-104.483438
	8435.00	90.48	92.50	6638.74	816.56	-434.73	807.72	0.43	1395911.21	3283146.04	40.415721	-104.483097
	8529.00	90.55	93.12	6637.89	910.52	-439.34	901.60	0.66	1395906.60	3283239.91	40.415706	-104.482760
	8624.00	90.16	91.51	6637.30	1005.49	-443.17	996.52	1.74	1395902.76	3283334.83	40.415692	-104.482420
	8719.00	90.93	91.71	6636.40	1100.48	-445.84	1091.48	0.84	1395900.09	3283429.78	40.415682	-104.482079
	8814.00	91.08	91.10	6634.73	1195.47	-448.17	1186.43	0.66	1395897.76	3283524.73	40.415673	-104.481738
	8909.00	90.11	91.10	6633.75	1290.46	-449.99	1281.41	1.02	1395895.94	3283619.71	40.415665	-104.481397
	9003.00	89.75	91.72	6633.86	1384.46	-452.31	1375.38	0.76	1395893.63	3283713.67	40.415655	-104.481060
	9098.00	89.84	91.55	6634.20	1479.46	-455.02	1470.34	0.20	1395890.92	3283808.63	40.415645	-104.480719
	9193.00	90.26	91.81	6634.12	1574.45	-457.80	1565.30	0.52	1395888.13	3283903.59	40.415634	-104.480378
	9288.00	90.62	91.54	6633.39	1669.45	-460.58	1660.26	0.47	1395885.35	3283998.54	40.415624	-104.480037
	9382.00	90.56	91.74	6632.42	1763.44	-463.27	1754.21	0.22	1395882.66	3284092.49	40.415613	-104.479700
	9477.00	90.50	91.26	6631.54	1858.43	-465.76	1849.18	0.51	1395880.18	3284187.45	40.415603	-104.479359
	9572.00	89.97	91.37	6631.15	1953.43	-467.94	1944.15	0.57	1395878.00	3284282.42	40.415594	-104.479018
	9667.00	90.14	92.35	6631.06	2048.42	-471.02	2039.10	1.05	1395874.91	3284377.36	40.415583	-104.478677
	9761.00	90.29	91.88	6630.71	2142.41	-474.49	2133.03	0.52	1395871.45	3284471.30	40.415570	-104.478340
	9856.00	89.77	92.12	6630.66	2237.40	-477.80	2227.98	0.60	1395868.13	3284566.23	40.415558	-104.477999
	9951.00	90.20	92.42	6630.69	2332.38	-481.57	2322.90	0.55	1395864.37	3284661.15	40.415545	-104.477658
	10046.00	90.25	91.65	6630.31	2427.37	-484.94	2417.84	0.81	1395860.99	3284756.09	40.415533	-104.477318
	10140.00	90.42	91.93	6629.76	2521.37	-487.88	2511.79	0.35	1395858.06	3284850.04	40.415522	-104.476980
	10235.00	90.34	91.92	6629.13	2616.36	-491.07	2606.74	0.08	1395854.87	3284944.98	40.415510	-104.476639
	10330.00	89.59	92.06	6629.19	2711.35	-494.37	2701.68	0.80	1395851.57	3285039.92	40.415498	-104.476299
	10424.00	90.71	91.65	6628.94	2805.34	-497.41	2795.63	1.27	1395848.53	3285133.86	40.415487	-104.475961
	10519.00	90.44	91.49	6627.99	2900.33	-500.01	2890.59	0.33	1395845.92	3285228.82	40.415476	-104.475621
	10614.00	90.13	92.80	6627.52	2995.31	-503.57	2985.52	1.42	1395842.37	3285323.74	40.415464	-104.475280
	10709.00	90.06	91.75	6627.36	3090.29	-507.34	3080.44	1.11	1395838.60	3285418.66	40.415450	-104.474939
	10803.00	90.12	91.62	6627.21	3184.29	-510.10	3174.40	0.15	1395835.83	3285512.62	40.415440	-104.474602
	10898.00	89.64	91.96	6627.41	3279.29	-513.07	3269.35	0.62	1395832.87	3285607.57	40.415429	-104.474261
	10993.00	90.38	90.84	6627.40	3374.28	-515.39	3364.32	1.41	1395830.54	3285702.53	40.415419	-104.473920
	11088.00	90.04	91.63	6627.05	3469.28	-517.44	3459.30	0.91	1395828.50	3285797.51	40.415411	-104.473579
	11182.00	90.35	90.58	6626.73	3563.28	-519.25	3553.28	1.16	1395826.68	3285891.48	40.415403	-104.473242
	11277.00	89.74	91.94	6626.65	3658.28	-521.34	3648.25	1.57	1395824.60	3285986.45	40.415394	-104.472901
	11372.00	90.52	90.92	6626.44	3753.27	-523.71	3743.22	1.35	1395822.23	3286081.42	40.415384	-104.472560
	11466.00	90.30	91.11	6625.76	3847.27	-525.38	3837.20	0.31	1395820.56	3286175.40	40.415377	-104.472222
	11561.00	90.48	91.16	6625.12	3942.27	-527.26	3932.18	0.20	1395818.68	3286270.37	40.415369	-104.471881
	11655.00	89.72	91.33	6624.95	4036.27	-529.30	4026.16	0.83	1395816.64	3286364.34	40.415360	-104.471544
	11750.00	90.51	91.43	6624.76	4131.27	-531.59	4121.13	0.84	1395814.35	3286459.31	40.415351	-104.471203
	11845.00	90.11	91.07	6624.25	4226.26	-533.66	4216.11	0.57	1395812.28	3286554.28	40.415342	-104.470862
	11939.00	89.64	91.81	6624.45	4320.26	-536.02	4310.08	0.93	1395809.91	3286648.25	40.415332	-104.470525
	12034.00	90.34	91.09	6624.47	4415.26	-538.43	4405.05	1.06	1395807.51	3286743.21	40.415323	-104.470184
	12129.00	90.79	89.95	6623.53	4510.25	-539.29	4500.04	1.29	1395806.65	3286838.20	40.415317	-104.469843
	12223.00	89.73	88.61	6623.11	4604.19	-538.11	4594.02	1.82	1395807.83	3286932.18	40.415318	-104.469505
	12318.00	89.69	89.72	6623.59	4699.13	-536.72	4689.01	1.17	1395809.21	3287027.17	40.415318	-104.469164
	12413.00	90.25	87.79	6623.64	4794.04	-534.66	4783.98	2.12	1395811.28	3287122.14	40.415321	-104.468823
	12507.00	90.43	86.67	6623.08	4887.81	-530.12	4877.87	1.21	1395815.82	3287216.02	40.415331	-104.468486
	12602.00	90.02	86.45	6622.71	4982.50	-524.42	4972.70	0.49	1395821.52	3287310.84	40.415343	-104.468145
	12697.00	90.28	86.00	6622.46	5077.14	-518.16	5067.49	0.55	1395827.77	3287405.63	40.415357	-104.467804
	12791.00	90.05	86.14	6622.19	5170.77	-511.72	5161.27	0.29	1395834.22	3287499.41	40.415372	-104.467467
	12886.00	89.70	85.33	6622.40	5265.34	-504.65	5256.01	0.93	1395841.28	3287594.14	40.415388	-104.467127
	12981.00	90.20	85.68	6622.48	5359.87	-497.21	5350.71	0.64	1395848.73	3287688.84	40.415406	-104.466786
	13075.00	90.37	85.25	6622.01	5453.40	-489.78	5444.42	0.49	1395856.16	3287782.54	40.415423	-104.466449
	13170.00	90.35	85.66	6621.41	5547.92	-482.25	5539.12	0.43	1395863.69	3287877.24	40.415441	-104.466109
	13264.00	90.04	85.22	6621.09	5641.45	-474.78	5632.82	0.57	1395871.16	3287970.94	40.415458	-104.465772
	13359.00	90.50	85.38	6620.65	5735.95	-466.99	5727.50	0.51	1395878.94	3288065.61	40.415477	-104.465432
	13454.00	90.22	85.11	6620.05	5830.43	-459.12	5822.17	0.41	1395886.82	3288160.28	40.415495	-104.465092
	13549.00	90.19	85.42	6619.71	5924.93	-451.27	5916.84	0.33	1395894.66	3288254.95	40.415514	-104.464751
	13644.00	90.04	85.16	6619.52	6019.42	-443.47	6011.52	0.32	1395902.46	3288349.62	40.415532	-104.464411
	13738.00	90.12	85.69	6619.39	6112.95	-435.98	6105.22	0.57	1395909.96	3288443.32	40.415550	-104.464074
	13833.00	90.11	85.78	6619.20	6207.52	-428.91	6199.96	0.10	1395917.02	3288538.05	40.415566	-104.463734
	13928.00	90.28	84.97	6618.87	6302.03	-421.25	6294.65	0.87	1395924.68	3288632.74	40.415584	-104.463393
	14022.00	90.58	84.95	6618.17	6395.47	-412.99	6388.28	0.32	1395932.94	3288726.37	40.415604	-104.463057
	14117.00	90.31	85.72	6617.43	6489.97	-405.27	6482.96	0.86	1395940.66	3288821.05	40.415622	-104.462716
	14212.00	90.24	85.55	6616.								

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
Last SLB_MWD Survey	17014.00	90.73	85.72	6599.52	9373.54	-187.88	9371.66	0.48	1396158.04	3291709.62	40.416125	-104.452334
Projection to Bit	17038.00	90.73	85.72	6599.21	9397.43	-186.09	9395.59	0.00	1396159.83	3291733.55	40.416129	-104.452248

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
	1	0.000	30.000	1/98.425	13.500	9.625	NAL_NSG+MSHOT-Depth Only	Original Hole / SLW Ranch State BB07-660 GYRO+IFR 0' to 17038' Definitive
	1	30.000	30.000	Act Stns	13.500	9.625	NAL_NSG+MSHOT-Depth Only	Original Hole / SLW Ranch State BB07-660 GYRO+IFR 0' to 17038' Definitive
	1	30.000	1936.000	Act Stns	13.500	9.625	NAL_NSG+MSHOT	Original Hole / SLW Ranch State BB07-660 GYRO+IFR 0' to 17038'
	1	1936.000	17038.000	Act Stns	8.500	5.500	NAL_MWD_IFR1+MS	Original Hole / SLW Ranch State BB07-660 GYRO+IFR 0' to 17038'

...Original Hole\SLW Ranch State BB07-660 GYRO+IFR 0' to 17038' Definitive