

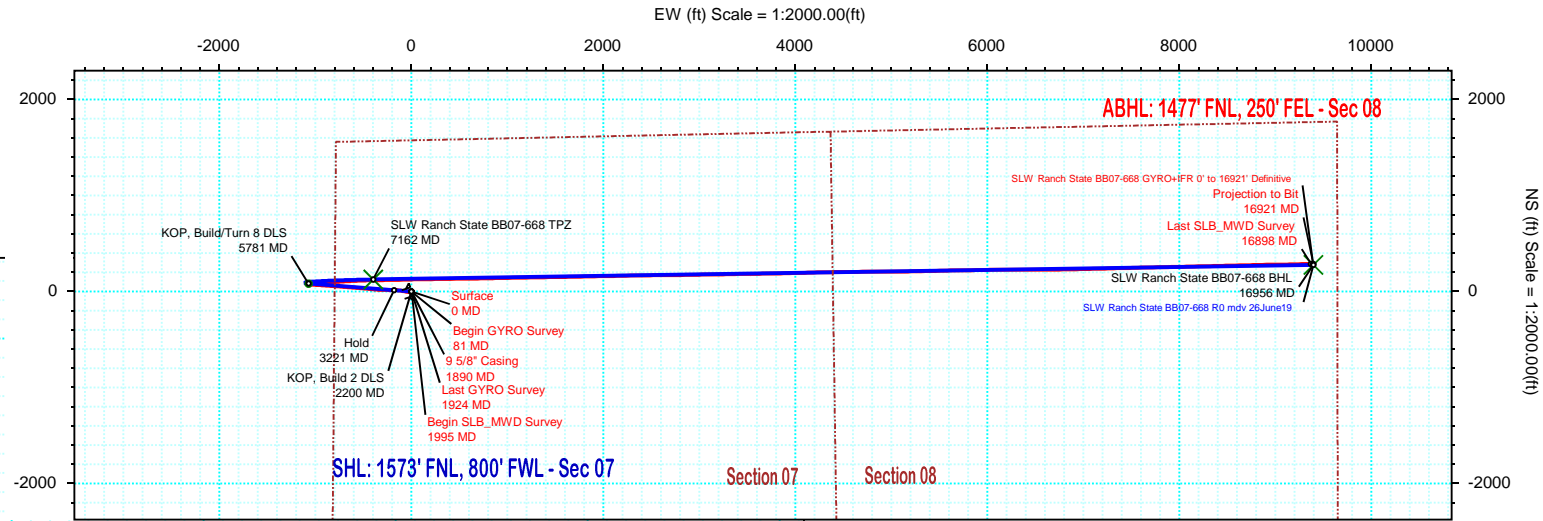
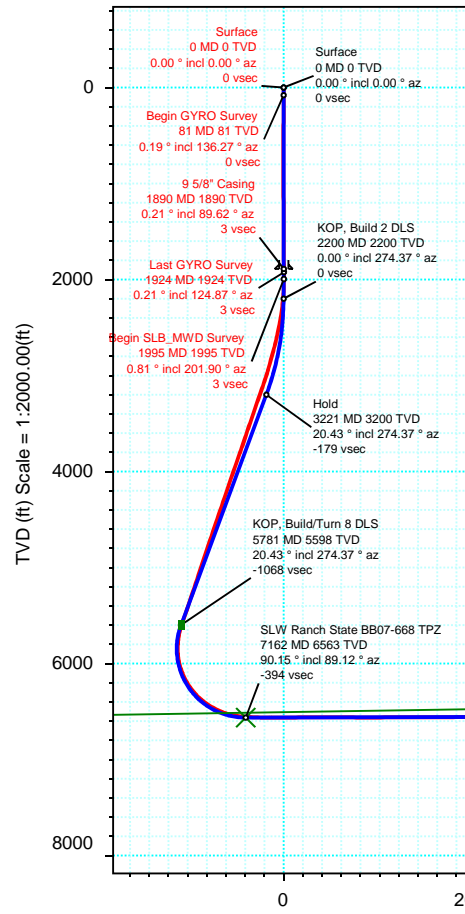
Borehole:	Well:	Field:	Structure:
Original Hole	SLW Ranch State BB07-668 - SLB	CO, Weld County (NAD 83 NZ)	Noble 07-05N-63W (SLW Ranch State BB07 Pad North)

Gravity & Magnetic Parameters					Surface Location					NAD83 Colorado State Plane, Northern Zone, US Feet					Miscellaneous				
Model:	HDGM 2019	Dip:	66.868°	Date:	19-Jul-2019	Lat:	N 40 25 1.20	Northing:	1396367.77ftUS	Grid Conv:	0.6552°	Slot:	SLW Ranch State BB07-668	TVD Ref:	KB 30ft(4661ft above MSL)				
MagDec:	7.87°	FS:	52110.60nT	Gravity FS:	999.054mgn (9.80665 Based)	Lon:	W 104 29 9.53	Easting:	3282338.1ftUS	Scale Fact:	0.99996104	Plan:	SLW Ranch State BB07-668 GYRO+IFR 0' to 16921' Definitive						

Final PVA



Grid North
Tot Corr (M->G 7.214°)
Mag Dec (7.870°)
Grid Conv (0.655°)



Surface Location												
Northing:		1396367.77154983	Easting:		3282338.09839381	Latitude:		N 40 25 1.20	Longitude:	W 104 29 9.53	VSec Azimuth:	88.32
Target Description		Grid Coord							Local Coord			
Target Name	Latitude	Longitude	Northing	Easting	TVD	VSec	N(+)/S(-)	E(+)/W(-)				
SLW Ranch State BB07 Pad Sec 07-08	N 40 25 0.98	W 104 29 9.53	1396345.92	3282338.35	4661.00	-0.39	-21.86	0.25				
SLW Ranch State BB07-668 - 35' R @ KOP	N 40 25 2.13	W 104 29 23.35	1396449.50	3281267.77	5598.45	-1067.52	81.73	-1070.37				
SLW Ranch State BB07-668 BHL	N 40 25 2.84	W 104 27 8.03	1396643.20	3291732.95	6537.39	9399.28	275.44	9395.24				
SLW Ranch State BB07-668 - Target Line	N 40 25 1.20	W 104 29 9.53	1396367.77	3282338.10	6562.00	0.00	0.00	0.00				
SLW Ranch State BB07-668 TPZ	N 40 25 2.48	W 104 29 14.65	1396492.78	3281940.57	6563.00	-393.71	125.01	-397.54				

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
Surface	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Begin GYRO Survey	81.00	0.19	136.27	81.00	0.09	-0.10	0.09	0.23
9 5/8" Casing	1890.00	0.21	89.62	1889.95	3.31	-3.07	3.40	0.37
Last GYRO Survey	1924.00	0.21	124.87	1923.95	3.43	-3.11	3.52	0.37
Begin SLB_MWD Survey	1995.00	0.81	201.90	1994.95	3.33	-3.65	3.44	1.11
Last SLB_MWD Survey	16898.00	89.87	88.74	6535.11	9376.01	286.90	9371.63	2.03
Projection to Bit	16921.00	89.87	88.74	6535.16	9399.01	287.40	9394.62	0.00

SLW Ranch State BB07-668 GYRO+IFR 0' to 16921' Definitive Survey

Geodetic Report

(Def Survey)

Report Date: August 12, 2019 - 10:58 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 BB07-668
Well: SLW Ranch State BB07-668 - SLB
Borehole: Original Hole
UWI / API#: Unknown / 05-123-47110
Survey Name: SLW Ranch State BB07-668 GYRO+IFR 0' to 16921' Definitive
Survey Date: July 19, 2019
Tort / AHD / DDI / ERD Ratio: 215.903 ° / 11637.315 ft / 6.811 / 1.773
Coordinate Reference System: NAD83 Colorado State Plane, Northern Zone, US Feet
Location Lat / Long: N 40° 25' 1.20000", W 104° 29' 9.52800"
Location Grid N/E Y/X: N 1396367.772 ftUS, E 3282338.098 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: 88.321 ° (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: 7.870 °
Total Gravity Field Strength: 999.0539mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 52110.601 nT
Magnetic Dip Angle: 66.868 °
Declination Date: July 19, 2019
Magnetic Declination Model: HDGM 2019
North Reference: Grid North
Grid Convergence Used: 0.6552 °
Total Corr Mag North->Grid North: 7.2144 °
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	1396367.77	3282338.10	40.417000	-104.485980
Begin GYRO	81.00	0.19	136.27	81.00	0.09	-0.10	0.09	0.23	1396367.67	3282338.19	40.417000	-104.485980
Survey	176.00	0.16	30.78	176.00	0.27	-0.10	0.27	0.29	1396367.67	3282338.37	40.417000	-104.485979
	268.00	0.29	228.31	268.00	0.16	-0.14	0.16	0.48	1396367.63	3282338.26	40.417000	-104.485979
	331.00	0.36	221.71	331.00	-0.10	-0.40	-0.09	0.13	1396367.38	3282338.01	40.416999	-104.485980
	426.00	0.66	278.43	425.99	-0.84	-0.54	-0.83	0.58	1396367.23	3282337.27	40.416999	-104.485983
	521.00	0.46	211.59	520.99	-1.59	-0.78	-1.57	0.67	1396366.99	3282336.53	40.416998	-104.485986
	615.00	0.24	235.86	614.99	-1.97	-1.21	-1.93	0.28	1396366.56	3282336.17	40.416997	-104.485987
	710.00	0.68	171.19	709.99	-2.06	-1.88	-2.01	0.65	1396365.89	3282336.09	40.416995	-104.485987
	805.00	0.36	118.03	804.98	-1.73	-2.58	-1.66	0.58	1396365.19	3282336.44	40.416993	-104.485986
	899.00	0.72	147.97	898.98	-1.18	-3.22	-1.09	0.47	1396364.55	3282337.01	40.416991	-104.485984
	994.00	0.26	34.07	993.98	-0.75	-3.55	-0.65	0.90	1396364.22	3282337.45	40.416990	-104.485982
	1089.00	0.13	28.04	1088.98	-0.57	-3.27	-0.48	0.14	1396364.50	3282337.62	40.416991	-104.485982
	1184.00	0.39	56.29	1183.97	-0.24	-3.00	-0.16	0.30	1396364.77	3282337.94	40.416992	-104.485981
	1278.00	0.38	37.76	1277.97	0.22	-2.58	0.30	0.13	1396365.20	3282338.40	40.416993	-104.485979
	1373.00	0.45	27.06	1372.97	0.60	-1.99	0.66	0.11	1396365.78	3282338.76	40.416995	-104.485978
	1468.00	0.64	77.85	1467.97	1.31	-1.55	1.35	0.52	1396366.22	3282339.45	40.416996	-104.485975
	1563.00	0.46	138.59	1562.96	2.07	-1.72	2.12	0.61	1396366.05	3282340.22	40.416995	-104.485972
	1657.00	0.65	165.29	1656.96	2.43	-2.52	2.51	0.34	1396365.25	3282340.61	40.416993	-104.485971
	1752.00	0.26	120.18	1751.96	2.74	-3.15	2.83	0.53	1396364.62	3282340.93	40.416991	-104.485970
	1847.00	0.30	58.89	1846.95	3.14	-3.13	3.23	0.30	1396364.64	3282341.33	40.416991	-104.485969
	1890.00	0.21	89.62	1889.95	3.31	-3.07	3.40	0.37	1396364.70	3282341.50	40.416991	-104.485968
9 5/8" Casing	1924.00	0.21	124.87	1923.95	3.43	-3.11	3.52	0.37	1396364.66	3282341.62	40.416991	-104.485967
Last GYRO												
Survey												
Begin												
SLB_MWD	1995.00	0.81	201.90	1994.95	3.33	-3.65	3.44	1.11	1396364.12	3282341.54	40.416990	-104.485968
Survey												
	2090.00	2.02	238.55	2089.92	1.61	-5.15	1.76	1.53	1396362.63	3282339.86	40.416986	-104.485974
	2185.00	4.95	252.87	2184.74	-3.80	-7.23	-3.59	3.19	1396360.54	3282334.51	40.416980	-104.485993
	2279.00	7.14	268.38	2278.22	-13.55	-8.59	-13.30	2.89	1396359.19	3282324.79	40.416977	-104.486028
	2374.00	9.04	276.72	2372.27	-26.84	-7.88	-26.62	2.35	1396359.89	3282311.48	40.416979	-104.486076
	2469.00	11.74	283.45	2465.71	-43.56	-4.76	-43.44	3.11	1396363.01	3282294.66	40.416988	-104.486136
	2564.00	11.46	281.06	2558.77	-62.09	-0.70	-62.10	0.59	1396367.07	3282276.00	40.417000	-104.486203
	2658.00	13.90	279.04	2650.47	-82.30	2.87	-82.42	2.64	1396370.64	3282255.69	40.417010	-104.486276
	2753.00	15.76	282.29	2742.30	-106.03	7.41	-106.29	2.14	1396375.18	3282231.81	40.417024	-104.486361
	2848.00	15.80	277.42	2833.72	-131.32	11.82	-131.73	1.39	1396379.59	3282206.38	40.417037	-104.486453
	2943.00	15.52	277.79	2925.20	-156.63	15.22	-157.14	0.31	1396382.99	3282180.96	40.417047	-104.486544
	3038.00	18.44	264.88	3016.08	-184.18	15.60	-184.72	5.00	1396383.37	3282153.39	40.417049	-104.486643
	3132.00	19.09	270.07	3105.09	-214.39	14.29	-214.90	1.91	1396382.06	3282123.21	40.417046	-104.486751
	3227.00	19.04	272.17	3194.88	-245.38	14.90	-245.92	0.72	1396382.67	3282092.19	40.417049	-104.486862
	3321.00	19.13	269.88	3283.71	-276.07	15.44	-276.64	0.80	1396383.21	3282061.47	40.417051	-104.486973
	3415.00	19.02	271.35	3372.55	-306.76	15.77	-307.36	0.52	1396383.54	3282030.75	40.417053	-104.487083
	3510.00	19.03	273.99	3462.36	-337.64	17.21	-338.28	0.91	1396384.99	3281999.83	40.417058	-104.487194
	3605.00	18.90	272.83	3552.21	-368.39	19.05	-369.10	0.42	1396386.82	3281969.01	40.417064	-104.487305
	3700.00	18.57	276.84	3642.18	-398.69	21.61	-399.49	1.40	1396389.38	3281938.62	40.417072	-104.487414
	3795.00	19.08	278.12	3732.10	-428.95	25.61	-429.88	0.69	1396393.38	3281908.23	40.417084	-104.487523
	3889.00	19.15	274.07	3820.92	-459.43	28.87	-460.47	1.41	1396396.64	3281877.65	40.417094	-104.487632
	3984.00	19.43	274.69	3910.58	-490.64	31.27	-491.76	0.37	1396399.04	3281846.36	40.417101	-104.487745
	4079.00	19.40	274.00	4000.18	-522.04	33.66	-523.25	0.24	1396401.43	3281814.87	40.417109	-104.487858
	4174.00	18.77	274.65	4089.96	-552.93	36.00	-554.22	0.70	1396403.77	3281783.90	40.417116	-104.487969
	4269.00	19.28	274.10	4179.77	-583.73	38.36	-585.10	0.57	1396406.13	3281753.02	40.417124	-104.488080
	4363.00	18.73	274.94	4268.65	-614.16	40.77	-615.62	0.65	1396408.54	3281722.51	40.417131	-104.488189
	4458.00	18.91	274.64	4358.57	-644.61	43.33	-646.16	0.22	1396411.10	3281691.97	40.417139	-104.488299
	4553.00	18.87	274.15	4448.45	-675.19	45.69	-676.82	0.17	1396413.46	3281661.30	40.417147	-104.488409
	4648.00	18.98	274.22	4538.32	-705.84	47.94	-707.55	0.12	1396415.71	3281630.58	40.417154	-104.488519
	4742.00	18.58	274.89	4627.31	-735.93	50.34	-737.72	0.48	1396418.11	3281600.41	40.417161	-104.488627
	4837.00	18.37	274.62	4717.41	-765.84	52.83	-767.72	0.24	1396420.60	3281570.41	40.417169	-104.488735
	4931.00	19.08	274.07	4806.44	-795.85	55.12	-797.81	0.78	1396422.89	3281540.32	40.417176	-104.488843
	5026.00	18.68	274.10	4896.33	-826.44	57.31	-828.47	0.42	1396425.08	3281509.66	40.417183	-104.488953
	5121.00	17.74	273.35	4986.57	-855.99	59.24	-858.09	1.02	1396427.01	3281480.04	40.417189	-104.489059
	5216.00	18.60	273.70	5076.83	-885.49	61.06	-887.66	0.91	1396428.83	3281450.47	40.417195	-104.489165
	5311.00	18.59	273.86	5166.87	-915.65	63.06	-917.89	0.05	1396430.83	3281420.25	40.417202	-104.489274
	5405.00	18.88	273.79	5255.89	-945.70	65.08	-948.01	0.31	1396432.84	3281390.12	40.417208	-104.489382
	5500.00	18.42	273.47	5345.90	-975.95	67.00	-978.33	0.50	1396434.77	3281359.81	40.417215	-104.489490
	5594.00	18.61	273.87	5435.04	-1005.67	68.91	-1008.12	0.24	1396436.68	3281330.02	40.417221	-104.489597
	5689.00	18.71	273.57	5525.04	-1035.93	70.88	-1038.45	0.15	1396438.65	3281299.69	40.417227	-104.489706
	5784.00	18.36	274.81	5615.12	-1065.97	73.09	-1068.57	0.55	1396440.85	3281269.57	40.417234	-104.489814
	5879.00	10.85	288.03	5707.00	-1089.29	77.12	-1092.02	8.60	1396444.88	3281246.12	40.417246	-104.489988
	5973.00	5.00	319.72	5800.10	-1100.19	82.99	-1103.10	7.55	1396450.75	3281235.05	40.417262	-104.489938
	6068.00	5.73	30.98	5894.78	-1100.21	90.22	-1103.33	6.60	1396457.99	3281234.81	40.417282	-104.489938
	6163.00	12.90	95.08	5988.66	-1087.08	93.36	-1090.28	12.20	1396461.12	3281247.86	40.417290	-104.489991
	6258.00	20.72	100.91	6079.54	-1060.10	89.23	-1063.17	8.41	1396457.00	3281274.97	40.417278	-104.489974
	6352.00	27.59	94.59	6165.27	-1022.18	84.33	-1025.10	7.80	1396452.10	3281313.04	40.417264	-104.489958
	6447.00	34.71	89.52	6246.54	-973.20	82.80	-976.05	7.98	1396450.56	3281362.09	40.417258	-104.489942
	6542.00	42.78	84.43	6320.59	-913.86							

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
	6826.00	63.88	86.55	6484.60	-684.45	104.85	-687.82	5.11	1396472.62	3281650.30	40.417309	-104.488446
	6921.00	72.77	87.41	6519.65	-596.28	109.48	-599.75	9.40	1396477.25	3281738.37	40.417319	-104.488129
	7015.00	80.34	87.61	6541.49	-504.94	113.45	-508.48	8.06	1396481.21	3281829.64	40.417327	-104.487801
	7110.00	86.25	89.25	6552.58	-410.63	116.02	-414.21	6.45	1396483.79	3281923.91	40.417331	-104.487463
	7205.00	86.78	89.05	6558.35	-315.82	117.43	-319.40	0.60	1396485.19	3282018.72	40.417332	-104.487122
	7300.00	88.86	88.92	6561.96	-220.90	119.11	-224.48	2.19	1396486.88	3282113.62	40.417334	-104.486781
	7394.00	90.13	88.49	6562.79	-126.91	121.23	-130.51	1.43	1396489.00	3282207.59	40.417337	-104.486444
	7489.00	90.35	88.62	6562.40	-31.91	123.63	-35.55	0.27	1396491.40	3282302.55	40.417340	-104.486103
	7584.00	90.36	88.99	6561.81	63.09	125.61	59.43	0.39	1396493.38	3282397.53	40.417343	-104.485761
	7678.00	90.21	89.33	6561.34	157.08	126.99	153.42	0.40	1396494.76	3282491.51	40.417344	-104.485424
	7773.00	90.10	88.93	6561.08	252.07	128.43	248.41	0.44	1396496.20	3282586.50	40.417345	-104.485083
	7867.00	90.11	89.25	6560.91	346.06	129.92	342.40	0.34	1396497.69	3282680.48	40.417346	-104.484745
	8057.00	89.86	89.13	6560.96	536.03	132.61	532.38	0.15	1396500.38	3282870.45	40.417347	-104.484063
	8151.00	90.18	89.38	6560.93	630.02	133.83	626.37	0.43	1396501.60	3282964.44	40.417348	-104.483725
	8246.00	89.50	89.40	6561.19	725.00	134.84	721.36	0.72	1396502.61	3283059.43	40.417347	-104.483384
	8341.00	89.50	88.25	6562.02	820.00	136.79	816.34	1.21	1396504.56	3283154.40	40.417350	-104.483043
	8435.00	90.34	89.20	6562.15	913.99	138.88	910.31	1.35	1396506.65	3283248.37	40.417353	-104.482705
	8530.00	90.33	88.85	6561.60	1008.98	140.50	1005.30	0.37	1396508.27	3283343.35	40.417354	-104.482364
	8625.00	90.46	88.69	6560.94	1103.98	142.54	1100.27	0.22	1396510.30	3283438.33	40.417357	-104.482023
	8719.00	90.07	88.89	6560.51	1197.97	144.52	1194.25	0.47	1396512.29	3283532.30	40.417359	-104.481685
	8814.00	90.21	88.96	6560.28	1292.97	146.31	1289.23	0.16	1396514.07	3283627.28	40.417361	-104.481344
	8909.00	90.19	89.22	6559.94	1387.96	147.82	1384.22	0.27	1396515.58	3283722.26	40.417362	-104.481003
	9004.00	90.41	89.27	6559.45	1482.94	149.07	1479.21	0.24	1396516.83	3283817.23	40.417363	-104.480662
	9098.00	90.12	89.02	6559.01	1576.93	150.47	1573.20	0.41	1396518.24	3283911.23	40.417363	-104.480324
	9193.00	90.34	88.71	6558.63	1671.93	152.35	1668.18	0.40	1396520.12	3284006.21	40.417366	-104.479983
	9288.00	90.20	88.69	6558.18	1766.93	154.51	1763.15	0.15	1396522.27	3284101.18	40.417369	-104.479642
	9383.00	90.36	88.82	6557.72	1861.92	156.57	1858.13	0.22	1396524.34	3284196.15	40.417371	-104.479301
	9478.00	90.23	89.05	6557.23	1956.91	158.34	1953.11	0.28	1396526.10	3284291.13	40.417373	-104.478960
	9572.00	90.27	88.91	6556.82	2050.91	160.01	2047.10	0.15	1396527.77	3284385.11	40.417375	-104.478622
	9667.00	90.10	88.50	6556.51	2145.90	162.16	2142.07	0.47	1396529.92	3284480.08	40.417378	-104.478281
	9762.00	89.97	89.15	6556.45	2240.90	164.10	2237.05	0.70	1396531.87	3284575.06	40.417380	-104.477940
	9857.00	89.75	89.11	6556.69	2335.89	165.55	2332.04	0.24	1396533.31	3284670.04	40.417381	-104.477599
	9951.00	89.10	89.08	6556.81	2429.88	167.03	2426.03	0.37	1396534.80	3284764.03	40.417382	-104.477261
	10046.00	89.40	89.40	6556.73	2524.87	168.29	2521.02	0.36	1396536.06	3284859.02	40.417382	-104.476920
	10141.00	90.29	89.21	6556.50	2619.85	169.44	2616.01	0.37	1396537.21	3284954.00	40.417383	-104.476579
	10236.00	90.12	89.65	6556.16	2714.84	170.39	2711.01	0.50	1396538.15	3285048.99	40.417382	-104.476238
	10330.00	90.13	89.32	6555.96	2808.82	171.23	2805.00	0.35	1396539.00	3285142.99	40.417382	-104.475900
	10425.00	90.02	89.12	6555.83	2903.80	172.53	2899.99	0.24	1396540.29	3285237.97	40.417382	-104.475559
	10519.00	89.79	88.84	6555.99	2997.80	174.20	2993.98	0.39	1396541.97	3285331.95	40.417384	-104.475221
	10614.00	90.24	89.64	6555.96	3092.78	175.46	3088.97	0.97	1396543.23	3285426.94	40.417384	-104.474880
	10709.00	90.36	88.77	6555.47	3187.77	176.78	3183.96	0.92	1396544.54	3285521.93	40.417385	-104.474539
	10804.00	90.61	88.99	6554.66	3282.76	178.64	3278.94	0.35	1396546.40	3285616.90	40.417387	-104.474198
	10899.00	90.17	88.56	6554.02	3377.76	180.67	3373.91	0.65	1396548.43	3285711.87	40.417389	-104.473857
	10993.00	90.48	88.82	6553.48	3471.75	182.82	3467.89	0.43	1396550.58	3285805.84	40.417392	-104.473519
	11088.00	89.97	89.66	6553.11	3566.74	184.08	3562.88	1.03	1396551.84	3285900.83	40.417393	-104.473178
	11183.00	90.22	89.31	6552.95	3661.72	184.93	3657.87	0.45	1396552.69	3285995.82	40.417392	-104.472837
	11277.00	90.40	89.23	6552.44	3755.71	186.13	3751.86	0.21	1396553.89	3286089.81	40.417392	-104.472499
	11372.00	90.19	88.74	6551.95	3850.70	187.81	3846.85	0.56	1396555.57	3286184.79	40.417394	-104.472158
	11467.00	90.40	88.29	6551.47	3945.70	190.27	3941.81	0.52	1396558.04	3286279.75	40.417398	-104.471817
	11562.00	90.20	88.44	6550.97	4040.69	192.98	4036.77	0.26	1396560.75	3286374.71	40.417402	-104.471476
	11656.00	90.57	88.58	6550.34	4134.69	195.43	4130.74	0.42	1396563.19	3286468.67	40.417406	-104.471138
	11751.00	90.26	88.12	6549.65	4229.69	198.16	4225.70	0.58	1396565.93	3286563.62	40.417410	-104.470797
	11845.00	90.08	89.42	6549.37	4323.68	200.18	4319.67	1.40	1396567.94	3286657.58	40.417413	-104.470460
	11940.00	89.83	88.99	6549.44	4418.67	201.50	4414.66	0.52	1396569.26	3286752.58	40.417413	-104.470118
	12035.00	90.24	89.53	6549.39	4513.66	202.72	4509.65	0.71	1396570.49	3286847.57	40.417414	-104.469777
	12129.00	90.18	89.24	6549.04	4607.64	203.73	4603.65	0.32	1396571.50	3286941.56	40.417414	-104.469440
	12224.00	90.23	89.29	6548.70	4702.63	204.95	4698.64	0.07	1396572.72	3287036.55	40.417414	-104.469098
	12319.00	89.83	90.48	6548.65	4797.59	205.14	4793.64	1.32	1396572.91	3287131.54	40.417411	-104.468757
	12413.00	89.82	89.98	6548.94	4891.54	204.77	4887.64	0.53	1396572.53	3287225.53	40.417407	-104.468420
	12508.00	90.04	89.83	6549.05	4986.50	204.92	4982.64	0.28	1396572.69	3287320.53	40.417405	-104.468079
	12603.00	90.34	88.64	6548.74	5081.49	206.19	5077.62	1.29	1396573.95	3287415.52	40.417405	-104.467737
	12697.00	90.08	89.40	6548.40	5175.48	207.80	5171.61	0.85	1396575.56	3287509.50	40.417407	-104.467400
	12792.00	89.84	88.50	6548.46	5270.47	209.54	5266.59	0.98	1396577.30	3287604.48	40.417408	-104.467059
	12887.00	89.81	88.48	6548.75	5365.47	212.04	5361.56	0.04	1396579.81	3287699.44	40.417412	-104.466718
	12981.00	89.98	88.36	6548.92	5459.47	214.64	5455.52	0.22	1396582.40	3287793.40	40.417416	-104.466380
	13076.00	89.96	88.55	6548.97	5554.47	217.20	5550.49	0.20	1396584.96	3287888.36	40.417420	-104.466039
	13170.00	90.10	89.48	6548.92	5648.46	218.81	5644.47	1.00	1396586.58	3287982.34	40.417422	-104.465701
	13265.00	90.33	89.54	6548.57	5743.44	219.63	5739.47	0.25	1396587.39	3288077.33	40.417421	-104.465360
	13360.00	90.02	88.72	6548.28	5838.43	221.07	5834.46	0.92	1396588.83	3288172.32	40.417422	-104.465019
	13455.00	90.06	88.83	6548.21	5933.43	223.10	5929.44	0.12	1396590.86	3288267.29	40.417424	-104.464678
	13549.00	89.71	88.97	6548.40	6027.42	224.90	6023.42	0.40	1396592.67	3288361.27	40.417426	-104.464340
	13644.00	89.66	89.33	6548.92	6122.41	226.31	6118.41	0.38	1396594.07	3288456.25	40.417427	-104.463999
	13739.00	90.03	90.04	6549.18	6217.38	226.83	6213.40	0.84	1396594.60	3288551.25	40.417425	-104.463658
	13834.00	89.90	90.78	6549.24	6312.32	226.15	6308.40	0.79	1396593.92	3288646.24	40.417421	-104.463317
	13928.00	90.07	89.65	6549.26	6406.26	225.80	6402.40	1.22	1396593.56	3288740.23	40.417417	-104.462979
	14023.00	90.07	89.60	6549.15	6501.24	226.42	6497.40	0.05	1396594.19	3288835.23	40.417415	-104.462638
	14118.00	90.08	90.50	6549.02	6596.20	226.34	6592.39	0.95	1396594.10	3288930.22	40.417412	-104.462297
	14212.00	90.23	88.80	6548.77	6690.17	226.92	6686.39	1.82	1396594.68	3289024.21	40.417410	-104.461959
	14307.00	90.26	89.49									

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
Projection to Bit	16921.00	89.87	88.74	6535.16	9399.01	287.40	9394.62	0.00	1396655.16	3291732.33	40.417489	-104.452231

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	30.000	1/98.425	13.000	9.625	NAL_NSG+MSHOT-Depth Only	Original Hole / SLW Ranch State BB07-668 GYRO+IFR 0' to 16921' Definitive
	1	30.000	30.000	Act Stns	13.000	9.625	NAL_NSG+MSHOT-Depth Only	Original Hole / SLW Ranch State BB07-668 GYRO+IFR 0' to 16921' Definitive
	1	30.000	1890.000	Act Stns	13.000	9.625	NAL_NSG+MSHOT	Original Hole / SLW Ranch State BB07-668 GYRO+IFR 0' to 16921'
	1	1890.000	16921.000	Act Stns	8.500	7.000	NAL_MWD_IFR1+MS	Original Hole / SLW Ranch State BB07-668 GYRO+IFR 0' to 16921'

...Original Hole\SLW Ranch State BB07-668 GYRO+IFR 0' to 16921' Definitive