



The SHL is 605' FSL & 2,028' FWL (SESW), Section 16, T10N, R62W, Weld County, CO. The state setback is 600' from the section lines.

Pilot Hole: 8-3/4" hole: Drill to a vertical depth of 8,932' in order to confirm geologic tops and then plug back to KOP.

7" Casing: 8-3/4" hole: KOP at 6,348'. Build curve at **10°/100'** to 90° inclination at 7,248' MD (**6,921' TVD**) at an azimuth of 341.11 ° and set 7" casing (1,147' FSL & 1,843' FWL, SESW, Section 16, T10N, R62W).

North Lateral: Drill a 6" horizontal well holding an azimuth of 341.11° to TD at a depth of 10,932' MD (**6,921' TVD**), 650' FNL & 650' FWL (NWNW) Section 16, T10N, R62W. Expect an inclination of 90.00°. Total 6" lateral is 3,684'.

Smuggler 1-16H

KB = 5,086'

KOP = 6,348'

TARGET = 6,921' TVD

MD	Incl.	Azi.	TVD	Based on True North		DLS	Vertical Section	UTM N	UTM E	
				North	East					
0.00	0.00	341.11	0.00	0.00	0.00	0.00	0.00	605.00	2,028.00	
6,300.00	0.00	341.11	6,300.00	0.00	0.00	0.00	0.00	605.00	2,028.00	
6,348.00	0.00	341.11	6,348.00	0.00	0.00	0.00	0.00	605.00	2,028.00	
8,932.00	0.00	341.11	8,932.00	0.00	0.00	0.00	0.00	605.00	2,028.00	PILOT HOLE TD
Curve										
6,348.00	0.00	341.11	6,348.00	0.00	0.00	0.00	0.00	605.00	2,028.00	KOP
6,398.00	5.00	341.11	6,397.90	2.06	-0.71	10.00	2.18	607.06	2,027.29	
6,448.00	10.00	341.11	6,447.43	8.23	-2.82	10.00	8.70	613.23	2,025.18	
6,498.00	15.00	341.11	6,496.20	18.46	-6.32	10.00	19.51	623.46	2,021.68	
6,548.00	20.00	341.11	6,543.84	32.67	-11.18	10.00	34.53	637.67	2,016.82	
6,598.00	25.00	341.11	6,589.99	50.76	-17.37	10.00	53.65	655.76	2,010.63	
6,648.00	30.00	341.11	6,634.30	72.58	-24.84	10.00	76.71	677.58	2,003.16	
6,698.00	35.00	341.11	6,676.43	97.97	-33.53	10.00	103.55	702.97	1,994.47	
6,748.00	40.00	341.11	6,716.06	126.74	-43.37	10.00	133.96	731.74	1,984.63	
6,798.00	45.00	341.11	6,752.89	158.67	-54.29	10.00	167.70	763.67	1,973.71	
6,848.00	50.00	341.11	6,786.64	193.52	-66.21	10.00	204.53	798.52	1,961.79	
6,898.00	55.00	341.11	6,817.05	231.02	-79.04	10.00	244.17	836.02	1,948.96	
6,948.00	60.00	341.11	6,843.89	270.88	-92.68	10.00	286.30	875.88	1,935.32	
6,998.00	65.00	341.11	6,866.96	312.80	-107.02	10.00	330.60	917.80	1,920.98	
7,048.00	70.00	341.11	6,886.08	356.47	-121.96	10.00	376.76	961.47	1,906.04	
7,098.00	75.00	341.11	6,901.10	401.55	-137.38	10.00	424.40	1,006.55	1,890.62	
7,148.00	80.00	341.11	6,911.91	447.69	-153.17	10.00	473.17	1,052.69	1,874.83	
7,198.00	85.00	341.11	6,918.43	494.55	-169.20	10.00	522.69	1,099.55	1,858.80	
7,248.00	90.00	341.11	6,920.61	541.77	-185.35	10.00	572.60	1,146.77	1,842.65	7" Csg Shoe
Lateral										
7,248.00	90.00	341.11	6,920.61	541.77	-185.35	10.00	572.60	1,146.77	1,842.65	7" Csg Shoe
7,348.00	90.00	341.11	6,920.61	636.39	-217.72	0.00	672.60	1,241.39	1,810.28	
7,448.00	90.00	341.11	6,920.61	731.01	-250.09	0.00	772.61	1,336.01	1,777.91	
7,548.00	90.00	341.11	6,920.61	825.63	-282.46	0.00	872.61	1,430.63	1,745.54	
7,648.00	90.00	341.11	6,920.61	920.25	-314.83	0.00	972.61	1,525.25	1,713.17	
7,748.00	90.00	341.11	6,920.61	1,014.87	-347.20	0.00	1,072.62	1,619.87	1,680.80	
7,848.00	90.00	341.11	6,920.61	1,109.49	-379.57	0.00	1,172.62	1,714.49	1,648.43	
7,948.00	90.00	341.11	6,920.61	1,204.11	-411.94	0.00	1,272.63	1,809.11	1,616.06	
8,048.00	90.00	341.11	6,920.61	1,298.73	-444.31	0.00	1,372.63	1,903.73	1,583.69	
8,148.00	90.00	341.11	6,920.61	1,393.35	-476.68	0.00	1,472.63	1,998.35	1,551.32	
8,248.00	90.00	341.11	6,920.61	1,487.97	-509.05	0.00	1,572.64	2,092.97	1,518.95	
8,348.00	90.00	341.11	6,920.61	1,582.59	-541.42	0.00	1,672.64	2,187.59	1,486.58	
8,448.00	90.00	341.11	6,920.61	1,677.21	-573.79	0.00	1,772.64	2,282.21	1,454.21	
8,548.00	90.00	341.11	6,920.61	1,771.83	-606.16	0.00	1,872.65	2,376.83	1,421.84	
8,648.00	90.00	341.11	6,920.61	1,866.45	-638.53	0.00	1,972.65	2,471.45	1,389.47	
8,748.00	90.00	341.11	6,920.61	1,961.07	-670.90	0.00	2,072.66	2,566.07	1,357.10	
8,848.00	90.00	341.11	6,920.61	2,055.69	-703.27	0.00	2,172.66	2,660.69	1,324.73	
8,948.00	90.00	341.11	6,920.61	2,150.31	-735.64	0.00	2,272.66	2,755.31	1,292.36	
9,048.00	90.00	341.11	6,920.61	2,244.93	-768.01	0.00	2,372.67	2,849.93	1,259.99	
9,148.00	90.00	341.11	6,920.61	2,339.55	-800.38	0.00	2,472.67	2,944.55	1,227.62	
9,248.00	90.00	341.11	6,920.61	2,434.17	-832.75	0.00	2,572.67	3,039.17	1,195.25	
9,348.00	90.00	341.11	6,920.61	2,528.79	-865.12	0.00	2,672.68	3,133.79	1,162.88	
9,448.00	90.00	341.11	6,920.61	2,623.41	-897.49	0.00	2,772.68	3,228.41	1,130.51	
9,548.00	90.00	341.11	6,920.61	2,718.03	-929.86	0.00	2,872.69	3,323.03	1,098.14	
9,648.00	90.00	341.11	6,920.61	2,812.65	-962.23	0.00	2,972.69	3,417.65	1,065.77	
9,748.00	90.00	341.11	6,920.61	2,907.27	-994.60	0.00	3,072.69	3,512.27	1,033.40	
9,848.00	90.00	341.11	6,920.61	3,001.89	-1,026.97	0.00	3,172.70	3,606.89	1,001.03	
9,948.00	90.00	341.11	6,920.61	3,096.51	-1,059.34	0.00	3,272.70	3,701.51	968.66	
10,048.00	90.00	341.11	6,920.61	3,191.13	-1,091.71	0.00	3,372.71	3,796.13	936.29	
10,148.00	90.00	341.11	6,920.61	3,285.75	-1,124.08	0.00	3,472.71	3,890.75	903.92	
10,248.00	90.00	341.11	6,920.61	3,380.37	-1,156.45	0.00	3,572.71	3,985.37	871.55	
10,348.00	90.00	341.11	6,920.61	3,474.99	-1,188.82	0.00	3,672.72	4,079.99	839.18	
10,448.00	90.00	341.11	6,920.61	3,569.61	-1,221.19	0.00	3,772.72	4,174.61	806.81	
10,548.00	90.00	341.11	6,920.61	3,664.23	-1,253.56	0.00	3,872.72	4,269.23	774.44	
10,648.00	90.00	341.11	6,920.61	3,758.85	-1,285.93	0.00	3,972.73	4,363.85	742.07	
10,748.00	90.00	341.11	6,920.61	3,853.47	-1,318.30	0.00	4,072.73	4,458.47	709.70	
10,848.00	90.00	341.11	6,920.61	3,948.09	-1,350.67	0.00	4,172.74	4,553.09	677.33	
10,932.37	90.00	341.11	6,920.61	4,027.92	-1,377.98	0.00	4,257.11	4,632.92	650.02	End Lateral