

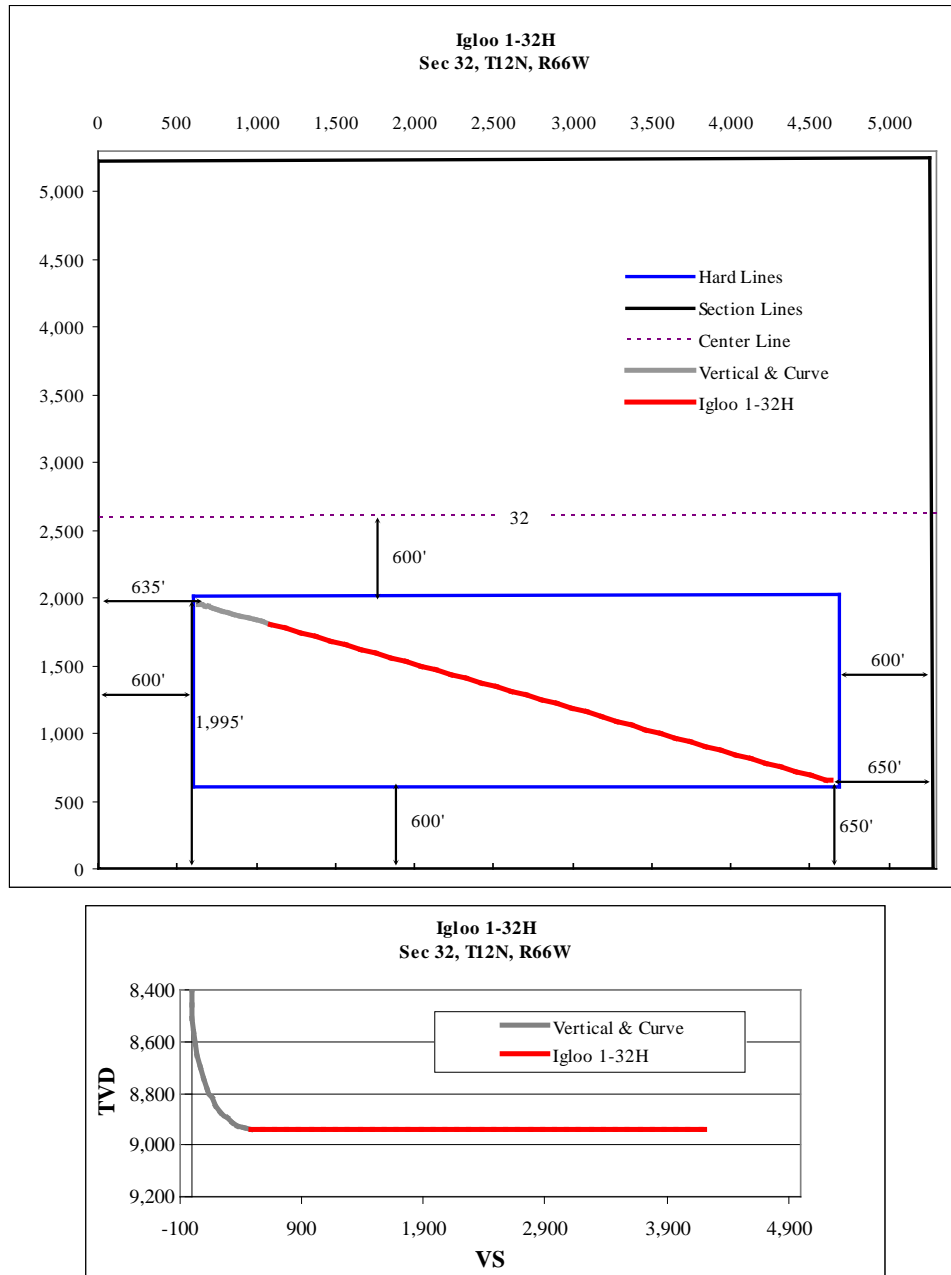
Igloo 1-32H

KB = 6,019'

KOP = 8,462'

TARGET = 8,939' TVD

MD	Incl.	Azi.	TVD	Based on True North		DLS	Vertical Section	UTM N	UTM E
				North	East				
0.00	0.00	108.08	0.00	0.00	0.00	0.00	0.00	1,955.00	635.00
8,400.00	0.00	108.08	8,400.00	0.00	0.00	0.00	0.00	1,955.00	635.00
8,461.50	0.00	108.08	8,461.50	0.00	0.00	0.00	0.00	1,955.00	635.00 KOP
8,511.50	6.00	108.08	8,511.36	-0.81	2.48	12.00	2.61	1,954.19	637.48
8,561.50	12.00	108.08	8,560.68	-3.23	9.91	12.00	10.42	1,951.77	644.91
8,611.50	18.00	108.08	8,608.91	-7.24	22.19	12.00	23.34	1,947.76	657.19
8,661.50	24.00	108.08	8,655.53	-12.79	39.20	12.00	41.23	1,942.21	674.20
8,711.50	30.00	108.08	8,700.02	-19.83	60.75	12.00	63.90	1,935.17	695.75
8,761.50	36.00	108.08	8,741.90	-28.27	86.60	12.00	91.10	1,926.73	721.60
8,811.50	42.00	108.08	8,780.70	-38.02	116.47	12.00	122.52	1,916.98	751.47
8,861.50	48.00	108.08	8,816.01	-48.98	150.03	12.00	157.82	1,906.02	785.03
8,911.50	54.00	108.08	8,847.43	-61.02	186.92	12.00	196.63	1,893.98	821.92
8,961.50	60.00	108.08	8,874.62	-74.02	226.73	12.00	238.51	1,880.98	861.73
9,011.50	66.00	108.08	8,897.29	-87.83	269.02	12.00	282.99	1,867.17	904.02
9,061.50	72.00	108.08	8,915.18	-102.30	313.33	12.00	329.61	1,852.70	948.33
9,111.50	78.00	108.08	8,928.10	-117.27	359.18	12.00	377.84	1,837.73	994.18
9,161.50	84.00	108.08	8,935.91	-132.58	406.06	12.00	427.16	1,822.42	1,041.06
9,211.00	90.00	108.08	8,938.50	-147.90	452.99	12.12	476.52	1,807.10	1,087.99 7" Csg Shoe
9,211.00	90.00	108.08	8,938.50	-147.90	452.99	12.12	476.52	1,807.10	1,087.99 7" Csg Shoe
9,311.00	90.00	108.08	8,938.50	-178.94	548.05	0.00	576.52	1,776.06	1,183.05
9,411.00	90.00	108.08	8,938.50	-209.98	643.11	0.00	676.52	1,745.02	1,278.11
9,511.00	90.00	108.08	8,938.50	-241.02	738.17	0.00	776.52	1,713.98	1,373.17
9,611.00	90.00	108.08	8,938.50	-272.06	833.23	0.00	876.52	1,682.94	1,468.23
9,711.00	90.00	108.08	8,938.50	-303.10	928.29	0.00	976.52	1,651.90	1,563.29
9,811.00	90.00	108.08	8,938.50	-334.14	1,023.35	0.00	1,076.52	1,620.86	1,658.35
9,911.00	90.00	108.08	8,938.50	-365.18	1,118.41	0.00	1,176.52	1,589.82	1,753.41
10,011.00	90.00	108.08	8,938.50	-396.22	1,213.47	0.00	1,276.52	1,558.78	1,848.47
10,111.00	90.00	108.08	8,938.50	-427.26	1,308.53	0.00	1,376.52	1,527.74	1,943.53
10,211.00	90.00	108.08	8,938.50	-458.30	1,403.59	0.00	1,476.52	1,496.70	2,038.59
10,311.00	90.00	108.08	8,938.50	-489.34	1,498.65	0.00	1,576.52	1,465.66	2,133.65
10,411.00	90.00	108.08	8,938.50	-520.38	1,593.71	0.00	1,676.52	1,434.62	2,228.71
10,511.00	90.00	108.08	8,938.50	-551.42	1,688.77	0.00	1,776.52	1,403.58	2,323.77
10,611.00	90.00	108.08	8,938.50	-582.46	1,783.83	0.00	1,876.52	1,372.54	2,418.83
10,711.00	90.00	108.08	8,938.50	-613.50	1,878.89	0.00	1,976.51	1,341.50	2,513.89
10,811.00	90.00	108.08	8,938.50	-644.54	1,973.95	0.00	2,076.51	1,310.46	2,608.95
10,911.00	90.00	108.08	8,938.50	-675.58	2,069.01	0.00	2,176.51	1,279.42	2,704.01
11,011.00	90.00	108.08	8,938.50	-706.62	2,164.07	0.00	2,276.51	1,248.38	2,799.07
11,111.00	90.00	108.08	8,938.50	-737.66	2,259.13	0.00	2,376.51	1,217.34	2,894.13
11,211.00	90.00	108.08	8,938.50	-768.70	2,354.19	0.00	2,476.51	1,186.30	2,989.19
11,311.00	90.00	108.08	8,938.50	-799.74	2,449.25	0.00	2,576.51	1,155.26	3,084.25
11,411.00	90.00	108.08	8,938.50	-830.78	2,544.31	0.00	2,676.51	1,124.22	3,179.31
11,511.00	90.00	108.08	8,938.50	-861.82	2,639.37	0.00	2,776.51	1,093.18	3,274.37
11,611.00	90.00	108.08	8,938.50	-892.86	2,734.43	0.00	2,876.51	1,062.14	3,369.43
11,711.00	90.00	108.08	8,938.50	-923.90	2,829.49	0.00	2,976.51	1,031.10	3,464.49
11,811.00	90.00	108.08	8,938.50	-954.94	2,924.55	0.00	3,076.51	1,000.06	3,559.55
11,911.00	90.00	108.08	8,938.50	-985.98	3,019.61	0.00	3,176.51	969.02	3,654.61
12,011.00	90.00	108.08	8,938.50	-1,017.02	3,114.67	0.00	3,276.51	937.98	3,749.67
12,111.00	90.00	108.08	8,938.50	-1,048.06	3,209.73	0.00	3,376.51	906.94	3,844.73
12,211.00	90.00	108.08	8,938.50	-1,079.10	3,304.79	0.00	3,476.51	875.90	3,939.79
12,311.00	90.00	108.08	8,938.50	-1,110.14	3,399.85	0.00	3,576.51	844.86	4,034.85
12,411.00	90.00	108.08	8,938.50	-1,141.18	3,494.91	0.00	3,676.50	813.82	4,129.91
12,511.00	90.00	108.08	8,938.50	-1,172.22	3,589.97	0.00	3,776.50	782.78	4,224.97
12,611.00	90.00	108.08	8,938.50	-1,203.26	3,685.03	0.00	3,876.50	751.74	4,320.03
12,711.00	90.00	108.08	8,938.50	-1,234.30	3,780.09	0.00	3,976.50	720.70	4,415.09
12,811.00	90.00	108.08	8,938.50	-1,265.34	3,875.15	0.00	4,076.50	689.66	4,510.15
12,911.00	90.00	108.08	8,938.50	-1,296.38	3,970.21	0.00	4,176.50	658.62	4,605.21
12,938.36	90.00	108.08	8,938.50	-1,304.87	3,996.22	0.00	4,203.86	650.13	4,631.22 End Lateral



The SHL is 1,995' FSL & 635' FWL (NWSW), Section 32, T12N, R66W, Weld County, CO. The state setback is 600' from the section lines.

7" Casing: 8-3/4" hole: KOP at 8,462'. Build curve at **12°/100'** to 90° inclination at 9,211' MD (**8,939' TVD**) at an azimuth of 108.08° and set 7" casing (1,807' FSL & 1,088' FWL, NWSW, Section 32, T12N, R66W).

North Lateral: Drill a 6" horizontal well holding an azimuth of 108.08° to TD at a depth of 12,938' MD (**8,939' TVD**), 650' FSL & 650' FEL (SESE) Section 32, T12N, R66W. Expect an inclination of 90.00°. Total 6" lateral is 3,727'.



Igloo 1-32H

<u>Formation</u>	<u>TVD</u>
Pierre Shale	2,299'
Parkman	4,139'
Richard	4,739'
Hygiene	5,389'
Sussex	5,589'
Shannon	6,314'
Sharon Springs	7,189'
Niobrara	8,839'
Niobrara B Chalk	8,929'
Top of Target	8,934'
Target	8,939'
Base of Target	8,944'

Location: 1,995' FSL and 635' FWL
NWSW Sec 32, T12N-R66W
Weld County, Colorado

GL ELEVATION = 5,995'
KB ELEVATION = 6,019'
API#

