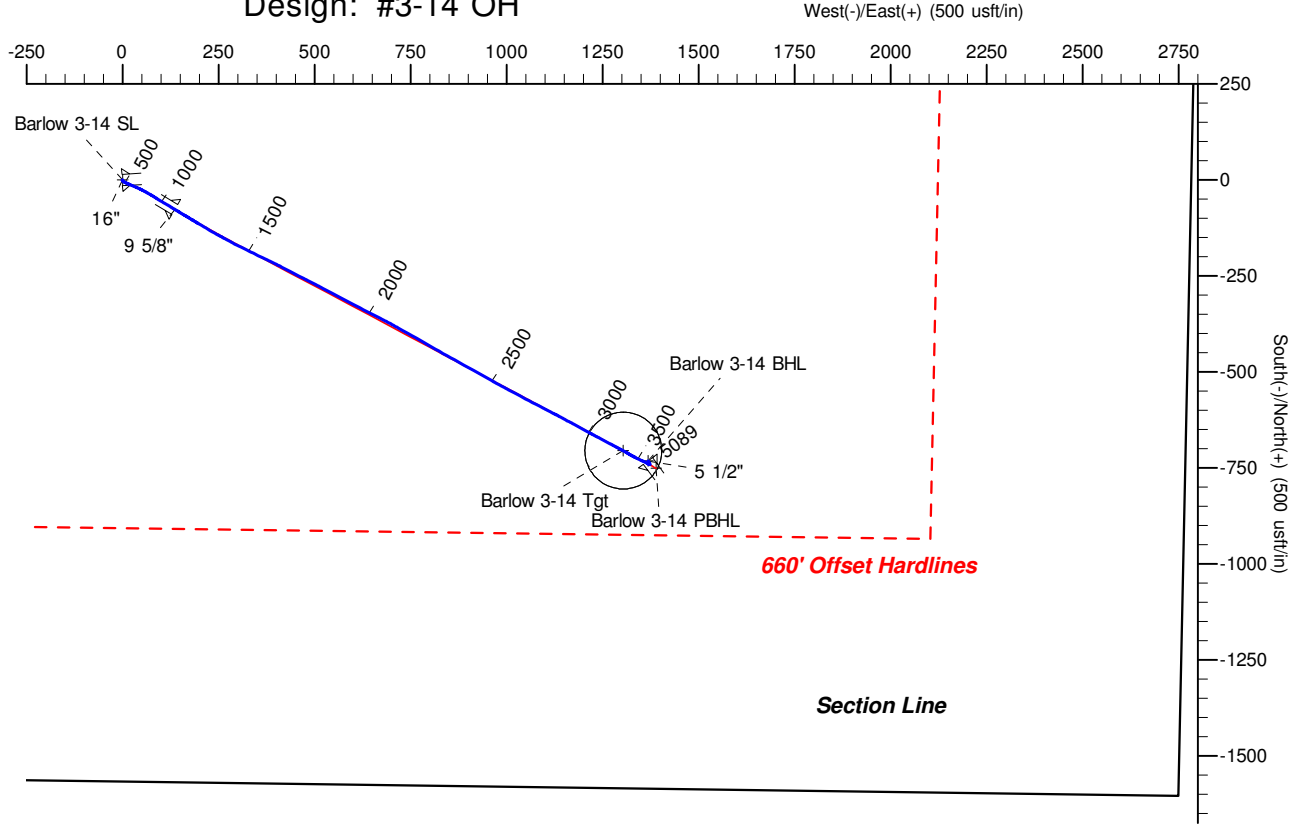


RECEIVED
 By *jthum* at 11:37 am, Jan 20, 2023

CASING DETAILS

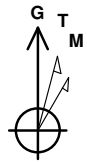
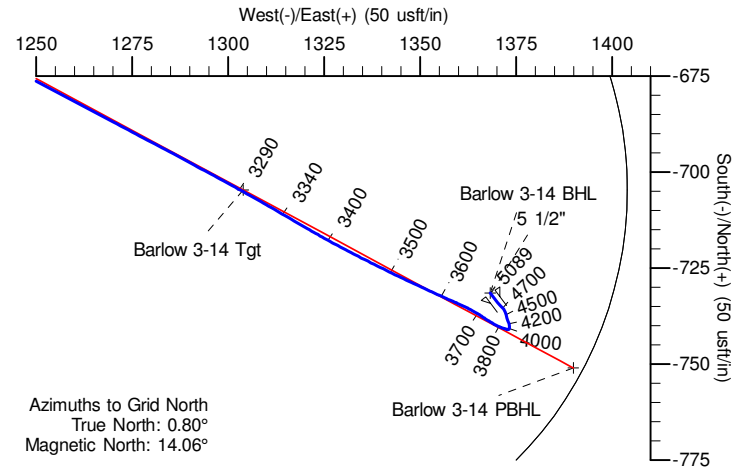
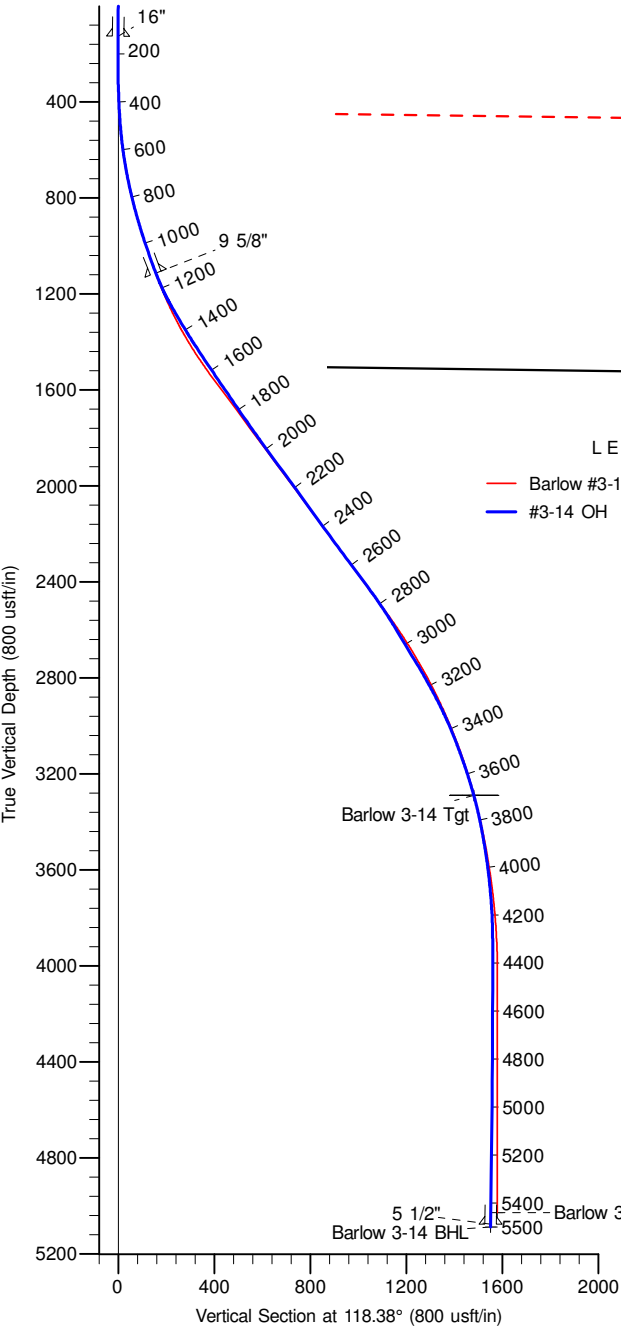
TVD	MD	Size
127.00	127.00	16
1113.91	1134.00	9-5/8
5076.83	5488.00	5-1/2

TIGHT HOLE



LEGEND

- Barlow #3-14, #3-14 OH, Plan #4 V0
- #3-14 OH



Azimuths to Grid North
 True North: 0.80°
 Magnetic North: 14.06°

Magnetic Field
 Strength: 52095.5snT
 Dip Angle: 67.31°
 Date: 11/01/2022
 Model: IGRF2020

US State Plane 1927 (Exact solution)
 Idaho West 1103
 44° 1' 47.561 N
 116° 54' 10.827 W

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Barlow 3-14 SL	0.00	0.00	0.00	863365.70	196757.00	44° 1' 47.561 N	116° 54' 10.827 W	Point
Barlow 3-14 Tgt	3290.00	-704.67	1303.95	862661.00	198061.00	44° 1' 40.782 N	116° 53' 52.847 W	Circle (Radius: 100.00)
Barlow 3-14 PBHL	5028.00	-751.00	1389.87	862614.67	198146.93	44° 1' 40.337 N	116° 53' 51.662 W	Point
Barlow 3-14 BHL	5088.83	-731.47	1368.25	862634.20	198125.30	44° 1' 40.527 N	116° 53' 51.962 W	Point

Titan Directional Drilling

Survey Report

Company: Snake River Oil and Gas	Local Co-ordinate Reference: Well Barlow #3-14
Project: Payette County, ID W'27	TVD Reference: est.GL+KB @ 2178.00usft (Paul Graham 4)
Site: Barlow Pad	MD Reference: est.GL+KB @ 2178.00usft (Paul Graham 4)
Well: Barlow #3-14	North Reference: Grid
Wellbore: #3-14 OH	Survey Calculation Method: Minimum Curvature
Design: #3-14 OH	Database: EDM 5k-14

Project Payette County, ID W'27		
Map System: US State Plane 1927 (Exact solution)	System Datum: Mean Sea Level	
Geo Datum: NAD 1927 (NADCON CONUS)		
Map Zone: Idaho West 1103	Using geodetic scale factor	

Site Barlow Pad, Centered on 2017 prelim #2 stake			
Site Position:	Northing: 863,411.00 usft	Latitude: 44° 1' 48.003 N	
From: Map	Easting: 196,717.00 usft	Longitude: 116° 54' 11.383 W	
Position Uncertainty: 0.00 usft	Slot Radius: 13-3/16 "	Grid Convergence: -0.80 °	

Well Barlow #3-14			
Well Position	+N/-S 0.00 usft	Northing: 863,365.70 usft	Latitude: 44° 1' 47.561 N
	+E/-W 0.00 usft	Easting: 196,757.00 usft	Longitude: 116° 54' 10.827 W
Position Uncertainty	0.00 usft	Wellhead Elevation: usft	Ground Level: 2,164.00 usft

Wellbore #3-14 OH					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	11/01/22	13.26	67.31	52,095.47436334

Design #3-14 OH				
Audit Notes:				
Version: 1.0	Phase: ACTUAL	Tie On Depth: 0.00		
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	118.38

Survey Program		Date 11/18/22		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
140.00	5,271.00	Survey #1 (#3-14 OH)	MWD	MWD - Standard
5,500.00	5,500.00	Survey #2 (#3-14 OH)	INC-ONLY	Inclination Only Surveys

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
127.00	0.73	266.30	127.00	-0.05	-0.80	-0.68	0.57	0.57	0.00	
16"										
140.00	0.80	266.30	140.00	-0.06	-0.98	-0.83	0.57	0.57	0.00	
232.00	0.40	192.00	231.99	-0.42	-1.68	-1.28	0.86	-0.43	-80.76	
325.00	1.40	136.90	324.98	-1.57	-0.97	-0.11	1.31	1.08	-59.25	
417.00	2.80	123.00	416.92	-3.61	1.68	3.19	1.61	1.52	-15.11	
509.00	4.90	116.70	508.70	-6.60	7.07	9.36	2.33	2.28	-6.85	
601.00	7.70	113.20	600.14	-10.79	16.25	19.43	3.07	3.04	-3.80	
695.00	10.70	112.10	692.92	-16.56	30.13	34.38	3.20	3.19	-1.17	

Titan Directional Drilling

Survey Report

Company:	Snake River Oil and Gas	Local Co-ordinate Reference:	Well Barlow #3-14
Project:	Payette County, ID W'27	TVD Reference:	est.GL+KB @ 2178.00usft (Paul Graham 4)
Site:	Barlow Pad	MD Reference:	est.GL+KB @ 2178.00usft (Paul Graham 4)
Well:	Barlow #3-14	North Reference:	Grid
Wellbore:	#3-14 OH	Survey Calculation Method:	Minimum Curvature
Design:	#3-14 OH	Database:	EDM 5k-14

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
790.00	13.20	116.20	785.86	-24.67	48.03	53.99	2.78	2.63	4.32	
885.00	15.70	120.40	877.85	-35.96	68.86	77.67	2.85	2.63	4.42	
980.00	18.30	121.50	968.69	-50.26	92.66	105.42	2.76	2.74	1.16	
1,088.00	19.60	121.10	1,070.83	-68.48	122.63	140.44	1.21	1.20	-0.37	
1,134.00	21.47	120.96	1,113.91	-76.80	136.46	156.56	4.07	4.07	-0.30	
9 5/8"										
1,201.00	24.20	120.80	1,175.65	-90.14	158.78	182.54	4.07	4.07	-0.24	
1,296.00	30.50	121.10	1,259.99	-112.59	196.18	226.12	6.63	6.63	0.32	
1,391.00	30.70	119.70	1,341.76	-137.05	237.89	274.44	0.78	0.21	-1.47	
1,486.00	33.40	117.60	1,422.27	-161.19	282.14	324.84	3.07	2.84	-2.21	
1,581.00	33.90	116.40	1,501.36	-185.08	329.04	377.47	0.88	0.53	-1.26	
1,675.00	34.40	115.30	1,579.15	-208.09	376.53	430.18	0.85	0.53	-1.17	
1,770.00	34.60	117.60	1,657.44	-232.05	424.69	483.95	1.39	0.21	2.42	
1,863.00	34.70	117.10	1,733.95	-256.34	471.66	536.82	0.32	0.11	-0.54	
1,958.00	36.10	117.60	1,811.38	-281.63	520.54	591.84	1.50	1.47	0.53	
2,053.00	36.10	117.80	1,888.14	-307.65	570.09	647.81	0.12	0.00	0.21	
2,146.00	36.30	117.60	1,963.19	-333.18	618.73	702.73	0.25	0.22	-0.22	
2,241.00	35.90	116.90	2,039.95	-358.81	668.49	758.69	0.60	-0.42	-0.74	
2,336.00	35.90	119.50	2,116.91	-385.13	717.57	814.39	1.60	0.00	2.74	
2,430.00	36.20	119.70	2,192.91	-412.45	765.67	869.69	0.34	0.32	0.21	
2,525.00	36.60	119.70	2,269.37	-440.39	814.64	926.05	0.42	0.42	0.00	
2,620.00	36.70	119.00	2,345.59	-468.18	864.07	982.75	0.45	0.11	-0.74	
2,714.00	36.70	119.20	2,420.96	-495.50	913.15	1,038.92	0.13	0.00	0.21	
2,809.00	34.10	119.20	2,498.39	-522.35	961.19	1,093.95	2.74	-2.74	0.00	
2,904.00	31.30	118.10	2,578.33	-546.97	1,006.21	1,145.26	3.01	-2.95	-1.16	
2,999.00	31.10	117.90	2,659.58	-570.07	1,049.66	1,194.47	0.24	-0.21	-0.21	
3,094.00	31.40	117.20	2,740.80	-592.86	1,093.36	1,243.75	0.50	0.32	-0.74	
3,189.00	28.80	117.90	2,822.98	-614.89	1,135.60	1,291.38	2.76	-2.74	0.74	
3,283.00	27.10	118.50	2,906.02	-635.70	1,174.43	1,335.44	1.83	-1.81	0.64	
3,378.00	23.50	118.50	2,991.89	-655.07	1,210.10	1,376.03	3.79	-3.79	0.00	
3,473.00	20.90	117.80	3,079.84	-672.01	1,241.74	1,411.92	2.75	-2.74	-0.74	
3,567.00	18.80	117.80	3,168.25	-686.90	1,269.97	1,443.84	2.23	-2.23	0.00	
3,660.00	16.30	118.30	3,256.92	-700.08	1,294.73	1,471.88	2.69	-2.69	0.54	
3,755.00	13.50	120.60	3,348.71	-712.04	1,316.01	1,496.29	3.01	-2.95	2.42	
3,849.00	10.40	117.10	3,440.67	-721.50	1,333.01	1,515.74	3.39	-3.30	-3.72	
3,944.00	8.70	115.30	3,534.35	-728.47	1,347.14	1,531.49	1.82	-1.79	-1.89	
4,039.00	6.50	113.40	3,628.51	-733.68	1,358.58	1,544.03	2.33	-2.32	-2.00	
4,134.00	4.40	124.50	3,723.07	-737.88	1,366.51	1,553.01	2.46	-2.21	11.68	
4,229.00	2.10	108.60	3,817.92	-740.50	1,371.17	1,558.35	2.58	-2.42	-16.74	
4,324.00	0.30	84.20	3,912.89	-741.03	1,373.07	1,560.27	1.93	-1.89	-25.68	
4,418.00	0.30	356.70	4,006.89	-740.76	1,373.30	1,560.34	0.44	0.00	-93.09	
4,513.00	0.40	353.70	4,101.89	-740.18	1,373.25	1,560.02	0.11	0.11	-3.16	
4,608.00	0.40	347.20	4,196.89	-739.53	1,373.14	1,559.62	0.05	0.00	-6.84	

Titan Directional Drilling

Survey Report

Company:	Snake River Oil and Gas	Local Co-ordinate Reference:	Well Barlow #3-14
Project:	Payette County, ID W'27	TVD Reference:	est.GL+KB @ 2178.00usft (Paul Graham 4)
Site:	Barlow Pad	MD Reference:	est.GL+KB @ 2178.00usft (Paul Graham 4)
Well:	Barlow #3-14	North Reference:	Grid
Wellbore:	#3-14 OH	Survey Calculation Method:	Minimum Curvature
Design:	#3-14 OH	Database:	EDM 5k-14

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,703.00	0.60	333.60	4,291.88	-738.76	1,372.84	1,558.99	0.24	0.21	-14.32	
4,797.00	0.40	353.70	4,385.88	-737.99	1,372.59	1,558.40	0.28	-0.21	-21.38	
4,892.00	0.50	338.90	4,480.88	-737.28	1,372.40	1,557.90	0.16	0.11	-15.58	
4,986.00	0.50	348.00	4,574.87	-736.49	1,372.17	1,557.32	0.08	0.00	9.68	
5,081.00	0.70	318.90	4,669.87	-735.65	1,371.70	1,556.51	0.38	0.21	-30.63	
5,176.00	0.70	312.00	4,764.86	-734.82	1,370.89	1,555.40	0.09	0.00	-7.26	
5,271.00	0.60	323.30	4,859.85	-734.04	1,370.16	1,554.39	0.17	-0.11	11.89	
5,488.00	0.98	323.30	5,076.83	-731.64	1,368.37	1,551.67	0.17	0.17	0.00	
5 1/2"										
5,500.00	1.00	323.30	5,088.83	-731.47	1,368.25	1,551.49	0.17	0.17	0.00	

Design Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Barlow 3-14 SL - actual wellpath hits target center - Point	0.00	360.00	0.00	0.00	0.00	863,365.70	196,757.00	44° 1' 47.561 N	116° 54' 10.827 W	
Barlow 3-14 Tgt - actual wellpath misses target center by 0.99usft at 3694.62usft MD (3290.23 TVD, -704.59 N, 1302.99 E) - Circle (radius 100.00)	0.00	360.00	3,290.00	-704.67	1,303.95	862,661.00	198,061.00	44° 1' 40.782 N	116° 53' 52.847 W	
Barlow 3-14 PBHL - actual wellpath misses target center by 28.15usft at 5438.78usft MD (5027.62 TVD, -732.28 N, 1368.85 E) - Point	0.00	360.00	5,028.00	-751.00	1,389.87	862,614.67	198,146.93	44° 1' 40.337 N	116° 53' 51.662 W	
Barlow 3-14 BHL - actual wellpath hits target center - Point	0.00	360.00	5,088.83	-731.47	1,368.25	862,634.20	198,125.31	44° 1' 40.527 N	116° 53' 51.962 W	

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")		
127.00	127.00	16"	16	20		
1,134.00	1,113.91	9 5/8"	9-5/8	12-1/4		
5,488.00	5,076.83	5 1/2"	5-1/2	8-1/2		