



Pacific Energy
DEVELOPMENT

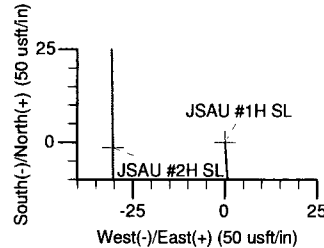
Ridgeway Arizona Oil Corp.
Project: Permian NM E'83
County: Roosevelt
Site: Jennifer SAU 1-2 Pad
Well: JSAU #1H
Wellbore: #1H OH
Design: Plan #1a



TITAN
Directional Drilling

CASING DETAILS

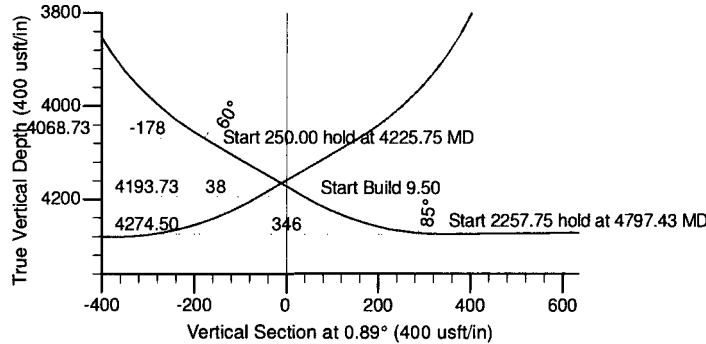
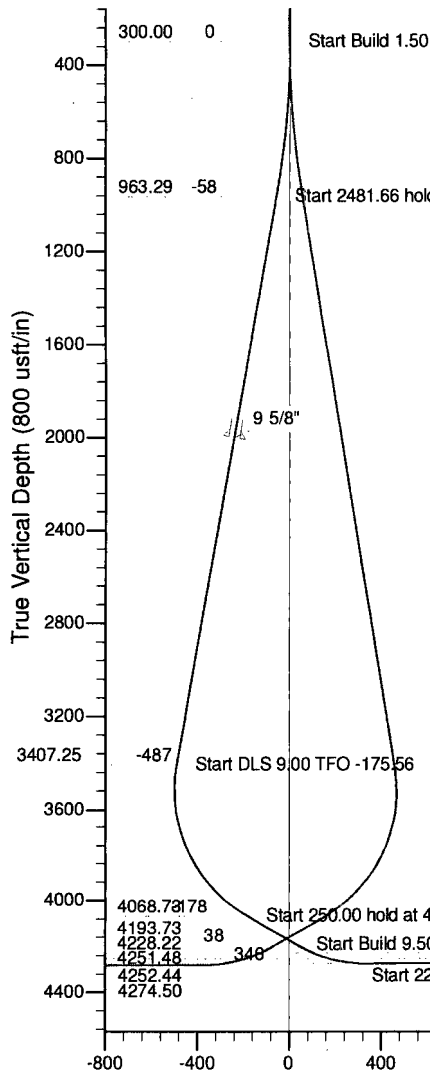
TVD 2000.00 MD 2019.37 Name 9 5/8"



Azimuths to Grid North
True North: -0.45°
Magnetic North: 6.43°

Magnetic Field
Strength: 48633.9nT
Dip Angle: 61.36°
Date: 12/15/2018
Model: IGRF2015

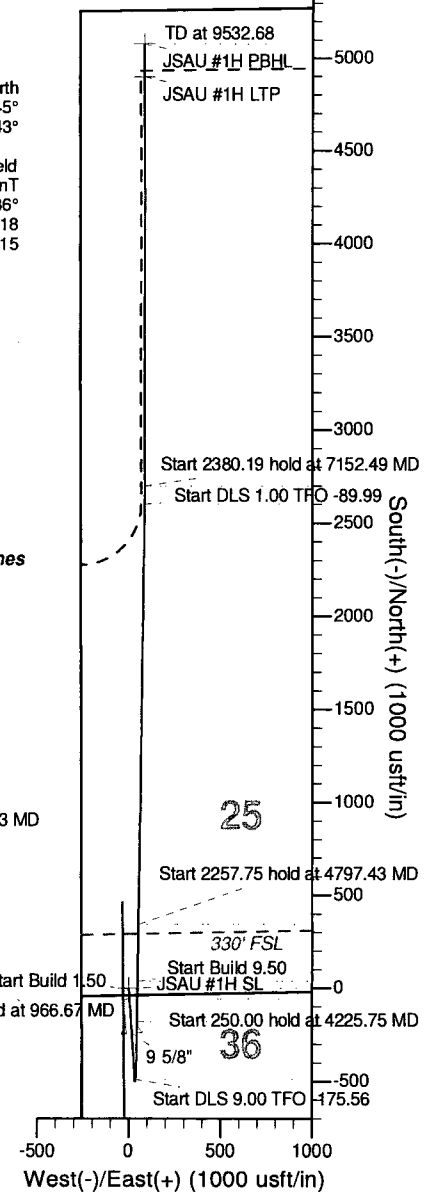
US State Plane 1983
New Mexico Eastern Zone
33° 40' 18.361 N
103° 31' 34.139 W



LEGEND

— JSAU #2H, #2H OH, Plan #1a V0
— Plan #1a

Section Lines



Vertical Section at 0.89° (800 usft/in)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
JSAU #1H SL	0.00	0.00	0.00	972915.10	786911.90	33° 40' 18.361 N	103° 31' 34.139 W	Point
JSAU #1H PBHL	4228.22	5079.51	78.80	977994.50	786990.70	33° 41' 8.605 N	103° 31' 32.737 W	Point
JSAU #1H LTP	4230.00	4897.51	79.30	977812.50	786991.20	33° 41' 6.804 N	103° 31' 32.748 W	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	966.67	10.00	176.00	963.29	-57.89	4.05	1.50	176.00	-57.82	
4	3448.33	10.00	176.00	3407.25	-487.78	34.11	0.00	0.00	-487.19	
5	4225.75	60.00	0.82	4068.73	-179.17	45.01	9.00	-175.56	-178.45	
6	4475.75	60.00	0.82	4193.73	37.31	48.10	0.00	0.00	38.05	
7	4797.43	90.56	0.82	4274.50	344.73	52.49	9.50	0.00	345.50	
8	7055.18	90.56	0.82	4252.44	2602.14	84.70	0.00	0.00	2603.14	
9	7152.49	90.56	359.84	4251.48	2699.44	85.26	1.00	-89.99	2700.44	
10	9532.68	90.56	359.84	4228.22	5079.51	78.80	0.00	0.00	5080.12	

Titan Directional Drilling

Survey Report

Company:	Ridgeway Arizona Oil Corp.	Local Co-ordinate Reference:	Well JSAU #1H
Project:	Permian NM E'83	TVD Reference:	GL+KB @ 4339.00usft (planning)
Site:	Jennifer SAU 1-2 Pad	MD Reference:	GL+KB @ 4339.00usft (planning)
Well:	JSAU #1H	North Reference:	Grid
Wellbore:	#1H OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1a	Database:	EDM 5k-14

Project	Permian NM E'83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		Using geodetic scale factor

Site	Jennifer SAU 1-2 Pad, Centered on Jennifer SAU #1H		
Site Position:		Northing:	972,915.10 usft
From:	Map	Easting:	786,911.90 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	33° 40' 18.361 N
		Longitude:	103° 31' 34.139 W
		Grid Convergence:	0.45 °

Well	JSAU #1H		
Well Position	+N/-S	0.00 usft	Northing: 972,915.10 usft
	+E/-W	0.00 usft	Easting: 786,911.90 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	33° 40' 18.361 N
		Longitude:	103° 31' 34.139 W
		Ground Level:	4,323.00 usft

Wellbore	#1H OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2015	12/15/18	6.88	61.36	48,633.94971249

Design	Plan #1a				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	0.89	

Planned 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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	1.50	176.00	399.99	-1.31	0.09	-1.30	1.50	1.50	0.00
500.00	3.00	176.00	499.91	-5.22	0.37	-5.22	1.50	1.50	0.00
600.00	4.50	176.00	599.69	-11.75	0.82	-11.73	1.50	1.50	0.00
700.00	6.00	176.00	699.27	-20.87	1.46	-20.85	1.50	1.50	0.00
800.00	7.50	176.00	798.57	-32.60	2.28	-32.56	1.50	1.50	0.00
900.00	9.00	176.00	897.54	-46.91	3.28	-46.86	1.50	1.50	0.00
966.67	10.00	176.00	963.29	-57.89	4.05	-57.82	1.50	1.50	0.00
1,000.00	10.00	176.00	996.11	-63.66	4.45	-63.59	0.00	0.00	0.00
1,100.00	10.00	176.00	1,094.59	-80.99	5.66	-80.89	0.00	0.00	0.00
1,200.00	10.00	176.00	1,193.08	-98.31	6.87	-98.19	0.00	0.00	0.00
1,300.00	10.00	176.00	1,291.56	-115.63	8.09	-115.49	0.00	0.00	0.00
1,400.00	10.00	176.00	1,390.04	-132.95	9.30	-132.79	0.00	0.00	0.00
1,500.00	10.00	176.00	1,488.52	-150.28	10.51	-150.09	0.00	0.00	0.00

Titan Directional Drilling

Survey Report

Company:	Ridgeway Arizona Oil Corp.	Local Co-ordinate Reference:	Well JSAU #1H
Project:	Permian NM E'83	TVD Reference:	GL+KB @ 4339.00usft (planning)
Site:	Jennifer SAU 1-2 Pad	MD Reference:	GL+KB @ 4339.00usft (planning)
Well:	JSAU #1H	North Reference:	Grid
Wellbore:	#1H OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1a	Database:	EDM 5k-14

Planned 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)
1,600.00	10.00	176.00	1,587.00	-167.60	11.72	-167.40	0.00	0.00	0.00
1,700.00	10.00	176.00	1,685.48	-184.92	12.93	-184.70	0.00	0.00	0.00
1,800.00	10.00	176.00	1,783.96	-202.24	14.14	-202.00	0.00	0.00	0.00
1,900.00	10.00	176.00	1,882.44	-219.57	15.35	-219.30	0.00	0.00	0.00
2,000.00	10.00	176.00	1,980.92	-236.89	16.56	-236.60	0.00	0.00	0.00
2,019.37	10.00	176.00	2,000.00	-240.24	16.80	-239.95	0.00	0.00	0.00
9 5/8"									
2,100.00	10.00	176.00	2,079.40	-254.21	17.78	-253.90	0.00	0.00	0.00
2,200.00	10.00	176.00	2,177.88	-271.53	18.99	-271.21	0.00	0.00	0.00
2,300.00	10.00	176.00	2,276.36	-288.86	20.20	-288.51	0.00	0.00	0.00
2,400.00	10.00	176.00	2,374.85	-306.18	21.41	-305.81	0.00	0.00	0.00
2,500.00	10.00	176.00	2,473.33	-323.50	22.62	-323.11	0.00	0.00	0.00
2,600.00	10.00	176.00	2,571.81	-340.82	23.83	-340.41	0.00	0.00	0.00
2,700.00	10.00	176.00	2,670.29	-358.15	25.04	-357.71	0.00	0.00	0.00
2,800.00	10.00	176.00	2,768.77	-375.47	26.26	-375.02	0.00	0.00	0.00
2,900.00	10.00	176.00	2,867.25	-392.79	27.47	-392.32	0.00	0.00	0.00
3,000.00	10.00	176.00	2,965.73	-410.11	28.68	-409.62	0.00	0.00	0.00
3,100.00	10.00	176.00	3,064.21	-427.44	29.89	-426.92	0.00	0.00	0.00
3,200.00	10.00	176.00	3,162.69	-444.76	31.10	-444.22	0.00	0.00	0.00
3,300.00	10.00	176.00	3,261.17	-462.08	32.31	-461.52	0.00	0.00	0.00
3,400.00	10.00	176.00	3,359.65	-479.40	33.52	-478.83	0.00	0.00	0.00
3,448.33	10.00	176.00	3,407.25	-487.78	34.11	-487.19	0.00	0.00	0.00
3,450.00	9.85	175.93	3,408.89	-488.06	34.13	-487.47	9.00	-8.97	-4.07
3,500.00	5.38	172.16	3,458.44	-494.65	34.75	-494.05	9.00	-8.95	-7.55
3,550.00	1.13	137.18	3,508.35	-497.33	35.41	-496.72	9.00	-8.50	-69.95
3,600.00	3.76	12.18	3,558.32	-496.09	36.09	-495.47	9.00	5.27	-250.00
3,650.00	8.22	5.72	3,608.03	-490.93	36.79	-490.30	9.00	8.91	-12.93
3,700.00	12.70	3.79	3,657.19	-481.89	37.51	-481.25	9.00	8.97	-3.85
3,750.00	17.20	2.86	3,705.49	-469.01	38.24	-468.36	9.00	8.99	-1.86
3,800.00	21.69	2.31	3,752.62	-452.39	38.98	-451.73	9.00	8.99	-1.11
3,850.00	26.19	1.94	3,798.31	-432.12	39.73	-431.45	9.00	9.00	-0.74
3,900.00	30.69	1.67	3,842.26	-408.33	40.47	-407.65	9.00	9.00	-0.54
3,950.00	35.19	1.47	3,884.22	-381.16	41.22	-380.47	9.00	9.00	-0.41
4,000.00	39.69	1.30	3,923.91	-350.78	41.95	-350.09	9.00	9.00	-0.33
4,050.00	44.18	1.17	3,961.09	-317.38	42.66	-316.68	9.00	9.00	-0.27
4,100.00	48.68	1.05	3,995.54	-281.17	43.36	-280.46	9.00	9.00	-0.23
4,150.00	53.18	0.95	4,027.05	-242.36	44.04	-241.65	9.00	9.00	-0.20
4,200.00	57.68	0.86	4,055.41	-201.20	44.69	-200.49	9.00	9.00	-0.18
4,225.75	60.00	0.82	4,068.73	-179.17	45.01	-178.45	9.00	9.00	-0.17
4,300.00	60.00	0.82	4,105.85	-114.88	45.93	-114.15	0.00	0.00	0.00
4,400.00	60.00	0.82	4,155.85	-28.28	47.16	-27.55	0.00	0.00	0.00
4,475.75	60.00	0.82	4,193.73	37.31	48.10	38.05	0.00	0.00	0.00
4,500.00	62.30	0.82	4,205.43	58.55	48.40	59.29	9.50	9.50	0.00
4,550.00	67.05	0.82	4,226.81	103.73	49.05	104.47	9.50	9.50	0.00

Titan Directional Drilling

Survey Report

Company:	Ridgeway Arizona Oil Corp.	Local Co-ordinate Reference:	Well JSAU #1H
Project:	Permian NM E'83	TVD Reference:	GL+KB @ 4339.00usft (planning)
Site:	Jennifer SAU 1-2 Pad	MD Reference:	GL+KB @ 4339.00usft (planning)
Well:	JSAU #1H	North Reference:	Grid
Wellbore:	#1H OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1a	Database:	EDM 5k-14

Planned 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)	
4,600.00	71.80	0.82	4,244.37	150.52	49.72	151.27	9.50	9.50	0.00	
4,650.00	76.55	0.82	4,258.00	198.61	50.40	199.37	9.50	9.50	0.00	
4,700.00	81.30	0.82	4,267.60	247.66	51.10	248.42	9.50	9.50	0.00	
4,750.00	86.05	0.82	4,273.10	297.33	51.81	298.10	9.50	9.50	0.00	
4,797.43	90.56	0.82	4,274.50	344.73	52.49	345.50	9.50	9.50	0.00	
4,800.00	90.56	0.82	4,274.48	347.30	52.52	348.07	0.00	0.00	0.00	
4,900.00	90.56	0.82	4,273.50	447.28	53.95	448.06	0.00	0.00	0.00	
5,000.00	90.56	0.82	4,272.52	547.27	55.38	548.06	0.00	0.00	0.00	
5,100.00	90.56	0.82	4,271.54	647.25	56.80	648.05	0.00	0.00	0.00	
5,200.00	90.56	0.82	4,270.57	747.24	58.23	748.05	0.00	0.00	0.00	
5,300.00	90.56	0.82	4,269.59	847.22	59.66	848.05	0.00	0.00	0.00	
5,400.00	90.56	0.82	4,268.61	947.21	61.08	948.04	0.00	0.00	0.00	
5,500.00	90.56	0.82	4,267.64	1,047.19	62.51	1,048.04	0.00	0.00	0.00	
5,600.00	90.56	0.82	4,266.66	1,147.18	63.94	1,148.03	0.00	0.00	0.00	
5,700.00	90.56	0.82	4,265.68	1,247.16	65.37	1,248.03	0.00	0.00	0.00	
5,800.00	90.56	0.82	4,264.70	1,347.15	66.79	1,348.02	0.00	0.00	0.00	
5,900.00	90.56	0.82	4,263.73	1,447.13	68.22	1,448.02	0.00	0.00	0.00	
6,000.00	90.56	0.82	4,262.75	1,547.12	69.65	1,548.01	0.00	0.00	0.00	
6,100.00	90.56	0.82	4,261.77	1,647.10	71.07	1,648.01	0.00	0.00	0.00	
6,200.00	90.56	0.82	4,260.79	1,747.09	72.50	1,748.00	0.00	0.00	0.00	
6,300.00	90.56	0.82	4,259.82	1,847.07	73.93	1,848.00	0.00	0.00	0.00	
6,400.00	90.56	0.82	4,258.84	1,947.06	75.35	1,947.99	0.00	0.00	0.00	
6,500.00	90.56	0.82	4,257.86	2,047.04	76.78	2,047.99	0.00	0.00	0.00	
6,600.00	90.56	0.82	4,256.88	2,147.03	78.21	2,147.98	0.00	0.00	0.00	
6,700.00	90.56	0.82	4,255.91	2,247.01	79.63	2,247.98	0.00	0.00	0.00	
6,800.00	90.56	0.82	4,254.93	2,347.00	81.06	2,347.97	0.00	0.00	0.00	
6,900.00	90.56	0.82	4,253.95	2,446.98	82.49	2,447.97	0.00	0.00	0.00	
7,000.00	90.56	0.82	4,252.97	2,546.97	83.91	2,547.96	0.00	0.00	0.00	
7,055.18	90.56	0.82	4,252.44	2,602.14	84.70	2,603.14	0.00	0.00	0.00	
7,100.00	90.56	0.37	4,252.00	2,646.95	85.17	2,647.96	1.00	0.00	-1.00	
7,152.49	90.56	359.84	4,251.48	2,699.44	85.26	2,700.44	1.00	0.00	-1.00	
7,200.00	90.56	359.84	4,251.02	2,746.95	85.13	2,747.94	0.00	0.00	0.00	
7,300.00	90.56	359.84	4,250.04	2,846.94	84.86	2,847.92	0.00	0.00	0.00	
7,400.00	90.56	359.84	4,249.06	2,946.94	84.59	2,947.90	0.00	0.00	0.00	
7,500.00	90.56	359.84	4,248.09	3,046.93	84.32	3,047.88	0.00	0.00	0.00	
7,600.00	90.56	359.84	4,247.11	3,146.93	84.05	3,147.85	0.00	0.00	0.00	
7,700.00	90.56	359.84	4,246.13	3,246.92	83.78	3,247.83	0.00	0.00	0.00	
7,800.00	90.56	359.84	4,245.16	3,346.92	83.51	3,347.81	0.00	0.00	0.00	
7,900.00	90.56	359.84	4,244.18	3,446.91	83.23	3,447.79	0.00	0.00	0.00	
8,000.00	90.56	359.84	4,243.20	3,546.91	82.96	3,547.77	0.00	0.00	0.00	
8,100.00	90.56	359.84	4,242.22	3,646.90	82.69	3,647.75	0.00	0.00	0.00	
8,200.00	90.56	359.84	4,241.25	3,746.90	82.42	3,747.73	0.00	0.00	0.00	
8,300.00	90.56	359.84	4,240.27	3,846.89	82.15	3,847.70	0.00	0.00	0.00	

Titan Directional Drilling

Survey Report

Company:	Ridgeway Arizona Oil Corp.	Local Co-ordinate Reference:	Well JSAU #1H
Project:	Permian NM E'83	TVD Reference:	GL+KB @ 4339.00usft (planning)
Site:	Jennifer SAU 1-2 Pad	MD Reference:	GL+KB @ 4339.00usft (planning)
Well:	JSAU #1H	North Reference:	Grid
Wellbore:	#1H OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1a	Database:	EDM 5k-14

Planned 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)	
8,400.00	90.56	359.84	4,239.29	3,946.89	81.88	3,947.68	0.00	0.00	0.00	
8,500.00	90.56	359.84	4,238.31	4,046.88	81.61	4,047.66	0.00	0.00	0.00	
8,600.00	90.56	359.84	4,237.34	4,146.88	81.33	4,147.64	0.00	0.00	0.00	
8,700.00	90.56	359.84	4,236.36	4,246.87	81.06	4,247.62	0.00	0.00	0.00	
8,800.00	90.56	359.84	4,235.38	4,346.87	80.79	4,347.60	0.00	0.00	0.00	
8,900.00	90.56	359.84	4,234.40	4,446.86	80.52	4,447.58	0.00	0.00	0.00	
9,000.00	90.56	359.84	4,233.43	4,546.86	80.25	4,547.55	0.00	0.00	0.00	
9,100.00	90.56	359.84	4,232.45	4,646.85	79.98	4,647.53	0.00	0.00	0.00	
9,200.00	90.56	359.84	4,231.47	4,746.85	79.70	4,747.51	0.00	0.00	0.00	
9,300.00	90.56	359.84	4,230.49	4,846.84	79.43	4,847.49	0.00	0.00	0.00	
9,400.00	90.56	359.84	4,229.52	4,946.84	79.16	4,947.47	0.00	0.00	0.00	
9,500.00	90.56	359.84	4,228.54	5,046.83	78.89	5,047.45	0.00	0.00	0.00	
9,532.68	90.56	359.84	4,228.22	5,079.51	78.80	5,080.12	0.00	0.00	0.00	

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
2,019.37	2,000.00	9 5/8"	9-5/8	13-1/2	