VERDAD RESOURCES

WATTENBERG FIELD
ARNOLD 02N-64W-24
BOYD 24-2H

Wellbore #1

Plan: Design #1

Standard Planning Report

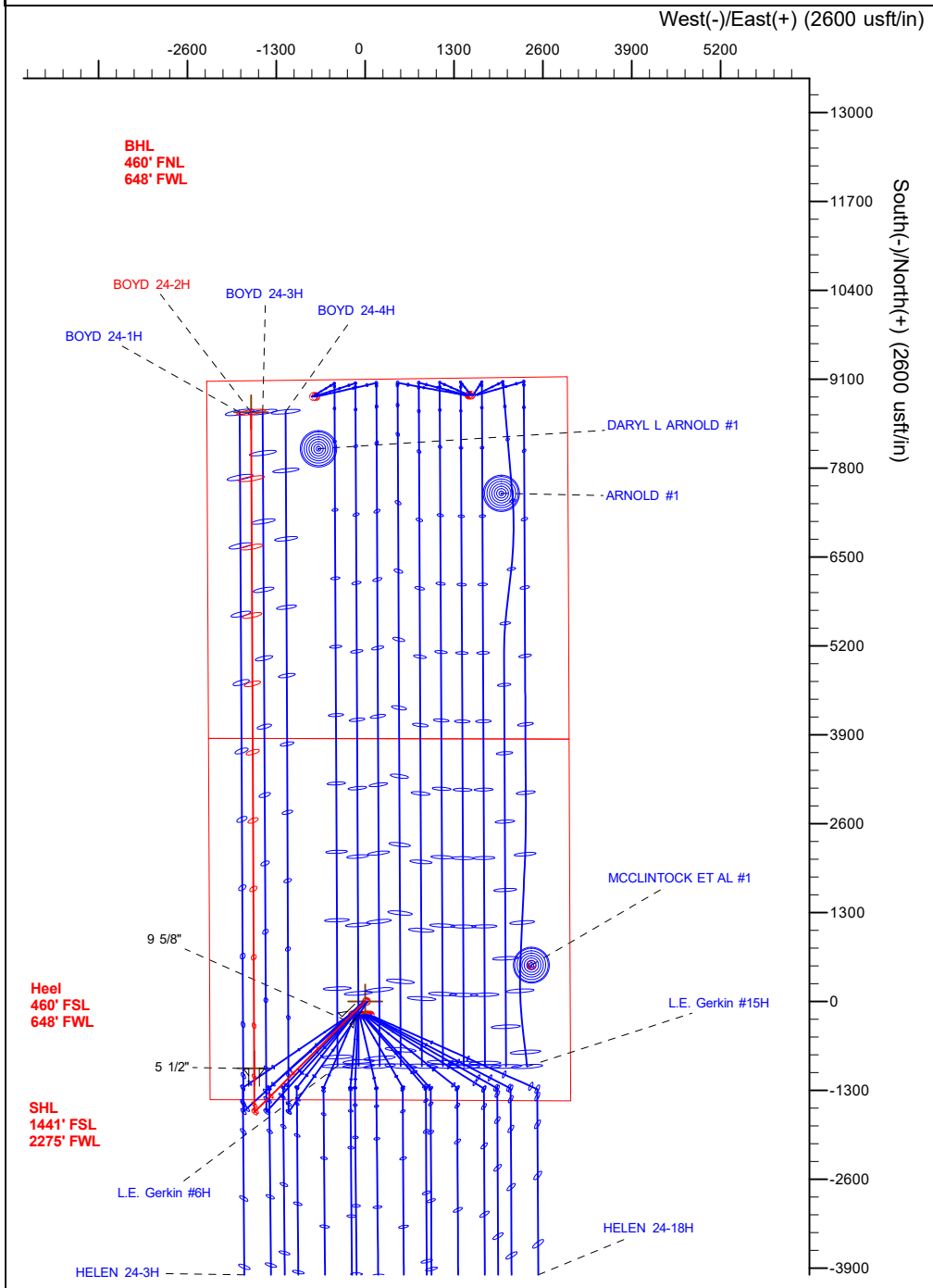
02 November, 2017

Project: WATTENBERG FIELD
Site: ARNOLD 02N-64W-24
Well: BOYD 24-2H
Wellbore: Wellbore #1
Design: Design #1

VERDAD RESOURCES

CASING DETAILS

TVD	MD	Name	Size
1700.00	1770.37	9 5/8"	9-5/8
6950.00	7870.93	5 1/2"	5-1/2

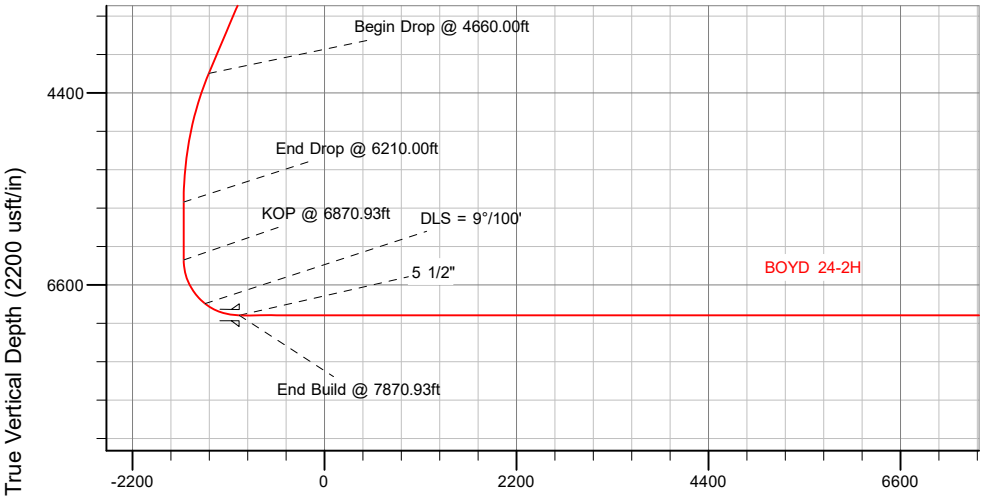


SECTION DETAILS

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	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	1800.00	31.00	225.00	1725.48	-289.34	-289.34	2.00	225.00	-288.02	
4	4660.00	31.00	225.00	4176.97	-1330.91	-1330.91	0.00	0.00	-1324.86	
5	6210.00	0.00	0.00	5652.45	-1620.25	-1620.25	2.00	180.00	-1612.88	
6	6870.93	0.00	0.00	6313.38	-1620.25	-1620.25	0.00	0.00	-1612.88	
7	7870.93	90.00	359.74	6950.00	-983.64	-1623.18	9.00	359.74	-976.26	
8	17472.13	90.00	359.74	6950.00	8617.46	-1667.30	0.00	0.00	8624.94	BOYD 24-2H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	
BOYD 24-2H_SHL	0.00	0.00	0.00	40.120601	-104.500999
BOYD 24-2H_BHL	6950.00	8617.46	-1667.30	40.144257	-104.506963



Vertical Section at 359.74° (2200 usft/in)

T
M
Azimuths to True North
Magnetic North: 7.84°

Magnetic Field
Strength: 52339.1snT
Dip Angle: 66.64°
Date: 11/1/2017
Model: IGRF2010

WELL DETAILS: BOYD 24-2H

GL = 4923'

RKB = 20' @ 4943.00usft (Drilling Rig)

Plan: Design #1 (BOYD 24-2H/Wellbore #1)

Created By: Date: 11/02/2017
Reviewed: _____ Date: _____

Project	WATTENBERG FIELD		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	ARNOLD 02N-64W-24				
Site Position:		**Northing:**	1,288,352.76 usft	**Latitude:**	40.120602
From:	Lat/Long	**Easting:**	3,279,352.74 usft	**Longitude:**	-104.501071
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.65 °

Well	BOYD 24-2H					
Well Position	**+N/-S**	-0.37 usft	**Northing:**	1,288,352.61 usft	**Latitude:**	40.120601
	+E/-W	20.14 usft	**Easting:**	3,279,372.88 usft	**Longitude:**	-104.500999
Position Uncertainty		3.28 usft	**Wellhead Elevation:**		**Ground Level:**	4,923.00 usft

Wellbore	Wellbore #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	11/1/2017	7.84	66.64	52,339.06471739

Design	Design #1				
Audit Notes:					
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.00	0.00	0.00	359.74	

Plan Survey Tool Program **Date** 11/2/2017

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	1,700.00	Design #1 (Wellbore #1)	ISCWSA REV 2 MWD Fixed:v2:standard declination	
2	1,700.00	17,472.13	Design #1 (Wellbore #1)	ISCWSA REV 2 MWD Fixed:v2:standard declination	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,800.00	31.00	225.00	1,725.48	-289.34	-289.34	2.00	2.00	0.00	225.00	
4,660.00	31.00	225.00	4,176.97	-1,330.91	-1,330.91	0.00	0.00	0.00	0.00	
6,210.00	0.00	0.00	5,652.45	-1,620.25	-1,620.25	2.00	-2.00	0.00	180.00	
6,870.93	0.00	0.00	6,313.38	-1,620.25	-1,620.25	0.00	0.00	0.00	0.00	
7,870.93	90.00	359.74	6,950.00	-983.64	-1,623.18	9.00	9.00	-0.03	359.74	
17,472.13	90.00	359.74	6,950.00	8,617.46	-1,667.30	0.00	0.00	0.00	0.00	BOYD 24-2H_BHL

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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 250.00ft									
300.00	1.00	225.00	300.00	-0.31	-0.31	-0.31	2.00	2.00	0.00
400.00	3.00	225.00	399.93	-2.78	-2.78	-2.76	2.00	2.00	0.00
500.00	5.00	225.00	499.68	-7.71	-7.71	-7.67	2.00	2.00	0.00
600.00	7.00	225.00	599.13	-15.10	-15.10	-15.03	2.00	2.00	0.00
700.00	9.00	225.00	698.15	-24.94	-24.94	-24.83	2.00	2.00	0.00
800.00	11.00	225.00	796.63	-37.22	-37.22	-37.05	2.00	2.00	0.00
900.00	13.00	225.00	894.44	-51.92	-51.92	-51.68	2.00	2.00	0.00
1,000.00	15.00	225.00	991.46	-69.02	-69.02	-68.71	2.00	2.00	0.00
1,100.00	17.00	225.00	1,087.58	-88.51	-88.51	-88.11	2.00	2.00	0.00
1,200.00	19.00	225.00	1,182.68	-110.36	-110.36	-109.86	2.00	2.00	0.00
1,300.00	21.00	225.00	1,276.65	-134.55	-134.55	-133.93	2.00	2.00	0.00
1,400.00	23.00	225.00	1,369.36	-161.03	-161.03	-160.30	2.00	2.00	0.00
1,500.00	25.00	225.00	1,460.71	-189.79	-189.79	-188.93	2.00	2.00	0.00
1,600.00	27.00	225.00	1,550.59	-220.79	-220.79	-219.79	2.00	2.00	0.00
1,700.00	29.00	225.00	1,638.88	-253.98	-253.98	-252.83	2.00	2.00	0.00
1,770.37	30.41	225.00	1,700.00	-278.64	-278.64	-277.37	2.00	2.00	0.00
9 5/8"									
1,800.00	31.00	225.00	1,725.48	-289.34	-289.34	-288.02	2.00	2.00	0.00
End Nudge @ 1800.00ft									
1,900.00	31.00	225.00	1,811.19	-325.76	-325.76	-324.27	0.00	0.00	0.00
2,000.00	31.00	225.00	1,896.91	-362.18	-362.18	-360.53	0.00	0.00	0.00
2,100.00	31.00	225.00	1,982.63	-398.59	-398.59	-396.78	0.00	0.00	0.00
2,200.00	31.00	225.00	2,068.34	-435.01	-435.01	-433.03	0.00	0.00	0.00
2,300.00	31.00	225.00	2,154.06	-471.43	-471.43	-469.29	0.00	0.00	0.00
2,400.00	31.00	225.00	2,239.78	-507.85	-507.85	-505.54	0.00	0.00	0.00
2,500.00	31.00	225.00	2,325.49	-544.27	-544.27	-541.79	0.00	0.00	0.00
2,600.00	31.00	225.00	2,411.21	-580.69	-580.69	-578.05	0.00	0.00	0.00
2,700.00	31.00	225.00	2,496.93	-617.11	-617.11	-614.30	0.00	0.00	0.00
2,800.00	31.00	225.00	2,582.64	-653.52	-653.52	-650.55	0.00	0.00	0.00
2,900.00	31.00	225.00	2,668.36	-689.94	-689.94	-686.81	0.00	0.00	0.00
3,000.00	31.00	225.00	2,754.08	-726.36	-726.36	-723.06	0.00	0.00	0.00
3,100.00	31.00	225.00	2,839.79	-762.78	-762.78	-759.31	0.00	0.00	0.00
3,200.00	31.00	225.00	2,925.51	-799.20	-799.20	-795.56	0.00	0.00	0.00
3,300.00	31.00	225.00	3,011.23	-835.62	-835.62	-831.82	0.00	0.00	0.00
3,400.00	31.00	225.00	3,096.94	-872.04	-872.04	-868.07	0.00	0.00	0.00
3,500.00	31.00	225.00	3,182.66	-908.46	-908.46	-904.32	0.00	0.00	0.00
3,600.00	31.00	225.00	3,268.38	-944.87	-944.87	-940.58	0.00	0.00	0.00
3,700.00	31.00	225.00	3,354.09	-981.29	-981.29	-976.83	0.00	0.00	0.00
3,800.00	31.00	225.00	3,439.81	-1,017.71	-1,017.71	-1,013.08	0.00	0.00	0.00
3,900.00	31.00	225.00	3,525.53	-1,054.13	-1,054.13	-1,049.34	0.00	0.00	0.00
4,000.00	31.00	225.00	3,611.24	-1,090.55	-1,090.55	-1,085.59	0.00	0.00	0.00
4,100.00	31.00	225.00	3,696.96	-1,126.97	-1,126.97	-1,121.84	0.00	0.00	0.00
4,200.00	31.00	225.00	3,782.68	-1,163.39	-1,163.39	-1,158.10	0.00	0.00	0.00
4,300.00	31.00	225.00	3,868.39	-1,199.81	-1,199.81	-1,194.35	0.00	0.00	0.00
4,400.00	31.00	225.00	3,954.11	-1,236.22	-1,236.22	-1,230.60	0.00	0.00	0.00
4,500.00	31.00	225.00	4,039.83	-1,272.64	-1,272.64	-1,266.85	0.00	0.00	0.00
4,600.00	31.00	225.00	4,125.54	-1,309.06	-1,309.06	-1,303.11	0.00	0.00	0.00
4,660.00	31.00	225.00	4,176.97	-1,330.91	-1,330.91	-1,324.86	0.00	0.00	0.00
Begin Drop @ 4660.00ft									
4,700.00	30.20	225.00	4,211.40	-1,345.31	-1,345.31	-1,339.19	2.00	-2.00	0.00
4,800.00	28.20	225.00	4,298.69	-1,379.81	-1,379.81	-1,373.53	2.00	-2.00	0.00
4,900.00	26.20	225.00	4,387.63	-1,412.13	-1,412.13	-1,405.70	2.00	-2.00	0.00
5,000.00	24.20	225.00	4,478.11	-1,442.23	-1,442.23	-1,435.67	2.00	-2.00	0.00
5,100.00	22.20	225.00	4,570.02	-1,470.09	-1,470.09	-1,463.40	2.00	-2.00	0.00
5,200.00	20.20	225.00	4,663.24	-1,495.65	-1,495.65	-1,488.85	2.00	-2.00	0.00
5,300.00	18.20	225.00	4,757.68	-1,518.91	-1,518.91	-1,512.00	2.00	-2.00	0.00
5,400.00	16.20	225.00	4,853.20	-1,539.82	-1,539.82	-1,532.81	2.00	-2.00	0.00
5,500.00	14.20	225.00	4,949.70	-1,558.36	-1,558.36	-1,551.27	2.00	-2.00	0.00
5,600.00	12.20	225.00	5,047.05	-1,574.50	-1,574.50	-1,567.34	2.00	-2.00	0.00
5,700.00	10.20	225.00	5,145.14	-1,588.24	-1,588.24	-1,581.01	2.00	-2.00	0.00
5,800.00	8.20	225.00	5,243.85	-1,599.54	-1,599.54	-1,592.27	2.00	-2.00	0.00

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)
5,900.00	6.20	225.00	5,343.05	-1,608.40	-1,608.40	-1,601.09	2.00	-2.00	0.00
6,000.00	4.20	225.00	5,442.64	-1,614.81	-1,614.81	-1,607.47	2.00	-2.00	0.00
6,100.00	2.20	225.00	5,542.48	-1,618.76	-1,618.76	-1,611.39	2.00	-2.00	0.00
6,200.00	0.20	225.00	5,642.45	-1,620.24	-1,620.24	-1,612.87	2.00	-2.00	0.00
6,210.00	0.00	0.00	5,652.45	-1,620.25	-1,620.25	-1,612.88	2.00	-2.00	0.00
End Drop @ 6210.00ft									
6,300.00	0.00	0.00	5,742.45	-1,620.25	-1,620.25	-1,612.88	0.00	0.00	0.00
6,400.00	0.00	0.00	5,842.45	-1,620.25	-1,620.25	-1,612.88	0.00	0.00	0.00
6,500.00	0.00	0.00	5,942.45	-1,620.25	-1,620.25	-1,612.88	0.00	0.00	0.00
6,600.00	0.00	0.00	6,042.45	-1,620.25	-1,620.25	-1,612.88	0.00	0.00	0.00
6,700.00	0.00	0.00	6,142.45	-1,620.25	-1,620.25	-1,612.88	0.00	0.00	0.00
6,800.00	0.00	0.00	6,242.45	-1,620.25	-1,620.25	-1,612.88	0.00	0.00	0.00
6,870.93	0.00	0.00	6,313.38	-1,620.25	-1,620.25	-1,612.88	0.00	0.00	0.00
KOP @ 6870.93ft									
6,900.00	2.62	359.74	6,342.44	-1,619.59	-1,620.25	-1,612.22	9.00	9.00	0.00
6,950.00	7.12	359.74	6,392.25	-1,615.35	-1,620.27	-1,607.98	9.00	9.00	0.00
7,000.00	11.62	359.74	6,441.57	-1,607.21	-1,620.31	-1,599.84	9.00	9.00	0.00
7,050.00	16.12	359.74	6,490.10	-1,595.23	-1,620.37	-1,587.86	9.00	9.00	0.00
7,100.00	20.62	359.74	6,537.54	-1,579.48	-1,620.44	-1,572.11	9.00	9.00	0.00
7,150.00	25.12	359.74	6,583.60	-1,560.06	-1,620.53	-1,552.69	9.00	9.00	0.00
7,200.00	29.62	359.74	6,627.99	-1,537.08	-1,620.63	-1,529.71	9.00	9.00	0.00
7,250.00	34.12	359.74	6,670.44	-1,510.69	-1,620.75	-1,503.32	9.00	9.00	0.00
7,300.00	38.62	359.74	6,710.70	-1,481.05	-1,620.89	-1,473.68	9.00	9.00	0.00
7,350.00	43.12	359.74	6,748.50	-1,448.34	-1,621.04	-1,440.97	9.00	9.00	0.00
7,400.00	47.62	359.74	6,783.62	-1,412.77	-1,621.20	-1,405.40	9.00	9.00	0.00
7,450.00	52.12	359.74	6,815.84	-1,374.56	-1,621.38	-1,367.18	9.00	9.00	0.00
DLS = 9°/100'									
7,500.00	56.62	359.74	6,844.96	-1,333.93	-1,621.57	-1,326.56	9.00	9.00	0.00
7,550.00	61.12	359.74	6,870.81	-1,291.14	-1,621.76	-1,283.77	9.00	9.00	0.00
7,600.00	65.62	359.74	6,893.21	-1,246.46	-1,621.97	-1,239.09	9.00	9.00	0.00
7,650.00	70.12	359.74	6,912.05	-1,200.16	-1,622.18	-1,192.78	9.00	9.00	0.00
7,700.00	74.62	359.74	6,927.19	-1,152.52	-1,622.40	-1,145.15	9.00	9.00	0.00
7,750.00	79.12	359.74	6,938.55	-1,103.84	-1,622.62	-1,096.47	9.00	9.00	0.00
7,800.00	83.62	359.74	6,946.05	-1,054.42	-1,622.85	-1,047.04	9.00	9.00	0.00
7,850.00	88.12	359.74	6,949.66	-1,004.56	-1,623.08	-997.19	9.00	9.00	0.00
7,870.93	90.00	359.74	6,950.00	-983.64	-1,623.18	-976.26	9.00	9.00	0.00
End Build @ 7870.93ft - 5 1/2"									
7,900.00	90.00	359.74	6,950.00	-954.57	-1,623.31	-947.19	0.00	0.00	0.00
8,000.00	90.00	359.74	6,950.00	-854.57	-1,623.77	-847.19	0.00	0.00	0.00
8,100.00	90.00	359.74	6,950.00	-754.57	-1,624.23	-747.19	0.00	0.00	0.00
8,200.00	90.00	359.74	6,950.00	-654.57	-1,624.69	-647.19	0.00	0.00	0.00
8,300.00	90.00	359.74	6,950.00	-554.57	-1,625.15	-547.19	0.00	0.00	0.00
8,400.00	90.00	359.74	6,950.00	-454.57	-1,625.61	-447.19	0.00	0.00	0.00
8,500.00	90.00	359.74	6,950.00	-354.57	-1,626.07	-347.19	0.00	0.00	0.00
8,600.00	90.00	359.74	6,950.00	-254.58	-1,626.53	-247.19	0.00	0.00	0.00
8,700.00	90.00	359.74	6,950.00	-154.58	-1,626.99	-147.19	0.00	0.00	0.00
8,800.00	90.00	359.74	6,950.00	-54.58	-1,627.45	-47.19	0.00	0.00	0.00
8,900.00	90.00	359.74	6,950.00	45.42	-1,627.91	52.81	0.00	0.00	0.00
9,000.00	90.00	359.74	6,950.00	145.42	-1,628.37	152.81	0.00	0.00	0.00
9,100.00	90.00	359.74	6,950.00	245.42	-1,628.82	252.81	0.00	0.00	0.00
9,200.00	90.00	359.74	6,950.00	345.42	-1,629.28	352.81	0.00	0.00	0.00
9,300.00	90.00	359.74	6,950.00	445.42	-1,629.74	452.81	0.00	0.00	0.00
9,400.00	90.00	359.74	6,950.00	545.42	-1,630.20	552.81	0.00	0.00	0.00
9,500.00	90.00	359.74	6,950.00	645.42	-1,630.66	652.81	0.00	0.00	0.00
9,600.00	90.00	359.74	6,950.00	745.41	-1,631.12	752.81	0.00	0.00	0.00
9,700.00	90.00	359.74	6,950.00	845.41	-1,631.58	852.81	0.00	0.00	0.00
9,800.00	90.00	359.74	6,950.00	945.41	-1,632.04	952.81	0.00	0.00	0.00
9,900.00	90.00	359.74	6,950.00	1,045.41	-1,632.50	1,052.81	0.00	0.00	0.00
10,000.00	90.00	359.74	6,950.00	1,145.41	-1,632.96	1,152.81	0.00	0.00	0.00
10,100.00	90.00	359.74	6,950.00	1,245.41	-1,633.42	1,252.81	0.00	0.00	0.00
10,200.00	90.00	359.74	6,950.00	1,345.41	-1,633.88	1,352.81	0.00	0.00	0.00
10,300.00	90.00	359.74	6,950.00	1,445.41	-1,634.34	1,452.81	0.00	0.00	0.00
10,400.00	90.00	359.74	6,950.00	1,545.41	-1,634.80	1,552.81	0.00	0.00	0.00
10,500.00	90.00	359.74	6,950.00	1,645.40	-1,635.26	1,652.81	0.00	0.00	0.00
10,600.00	90.00	359.74	6,950.00	1,745.40	-1,635.72	1,752.81	0.00	0.00	0.00
10,700.00	90.00	359.74	6,950.00	1,845.40	-1,636.18	1,852.81	0.00	0.00	0.00

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)
10,800.00	90.00	359.74	6,950.00	1,945.40	-1,636.64	1,952.81	0.00	0.00	0.00
10,900.00	90.00	359.74	6,950.00	2,045.40	-1,637.10	2,052.81	0.00	0.00	0.00
11,000.00	90.00	359.74	6,950.00	2,145.40	-1,637.56	2,152.81	0.00	0.00	0.00
11,100.00	90.00	359.74	6,950.00	2,245.40	-1,638.02	2,252.81	0.00	0.00	0.00
11,200.00	90.00	359.74	6,950.00	2,345.40	-1,638.48	2,352.81	0.00	0.00	0.00
11,300.00	90.00	359.74	6,950.00	2,445.40	-1,638.94	2,452.81	0.00	0.00	0.00
11,400.00	90.00	359.74	6,950.00	2,545.40	-1,639.40	2,552.81	0.00	0.00	0.00
11,500.00	90.00	359.74	6,950.00	2,645.39	-1,639.85	2,652.81	0.00	0.00	0.00
11,600.00	90.00	359.74	6,950.00	2,745.39	-1,640.31	2,752.81	0.00	0.00	0.00
11,700.00	90.00	359.74	6,950.00	2,845.39	-1,640.77	2,852.81	0.00	0.00	0.00
11,800.00	90.00	359.74	6,950.00	2,945.39	-1,641.23	2,952.81	0.00	0.00	0.00
11,900.00	90.00	359.74	6,950.00	3,045.39	-1,641.69	3,052.81	0.00	0.00	0.00
12,000.00	90.00	359.74	6,950.00	3,145.39	-1,642.15	3,152.81	0.00	0.00	0.00
12,100.00	90.00	359.74	6,950.00	3,245.39	-1,642.61	3,252.81	0.00	0.00	0.00
12,200.00	90.00	359.74	6,950.00	3,345.39	-1,643.07	3,352.81	0.00	0.00	0.00
12,300.00	90.00	359.74	6,950.00	3,445.39	-1,643.53	3,452.81	0.00	0.00	0.00
12,400.00	90.00	359.74	6,950.00	3,545.38	-1,643.99	3,552.81	0.00	0.00	0.00
12,500.00	90.00	359.74	6,950.00	3,645.38	-1,644.45	3,652.81	0.00	0.00	0.00
12,600.00	90.00	359.74	6,950.00	3,745.38	-1,644.91	3,752.81	0.00	0.00	0.00
12,700.00	90.00	359.74	6,950.00	3,845.38	-1,645.37	3,852.81	0.00	0.00	0.00
12,800.00	90.00	359.74	6,950.00	3,945.38	-1,645.83	3,952.81	0.00	0.00	0.00
12,900.00	90.00	359.74	6,950.00	4,045.38	-1,646.29	4,052.81	0.00	0.00	0.00
13,000.00	90.00	359.74	6,950.00	4,145.38	-1,646.75	4,152.81	0.00	0.00	0.00
13,100.00	90.00	359.74	6,950.00	4,245.38	-1,647.21	4,252.81	0.00	0.00	0.00
13,200.00	90.00	359.74	6,950.00	4,345.38	-1,647.67	4,352.81	0.00	0.00	0.00
13,300.00	90.00	359.74	6,950.00	4,445.38	-1,648.13	4,452.81	0.00	0.00	0.00
13,400.00	90.00	359.74	6,950.00	4,545.37	-1,648.59	4,552.81	0.00	0.00	0.00
13,500.00	90.00	359.74	6,950.00	4,645.37	-1,649.05	4,652.81	0.00	0.00	0.00
13,600.00	90.00	359.74	6,950.00	4,745.37	-1,649.51	4,752.81	0.00	0.00	0.00
13,700.00	90.00	359.74	6,950.00	4,845.37	-1,649.97	4,852.81	0.00	0.00	0.00
13,800.00	90.00	359.74	6,950.00	4,945.37	-1,650.43	4,952.81	0.00	0.00	0.00
13,900.00	90.00	359.74	6,950.00	5,045.37	-1,650.88	5,052.81	0.00	0.00	0.00
14,000.00	90.00	359.74	6,950.00	5,145.37	-1,651.34	5,152.81	0.00	0.00	0.00
14,100.00	90.00	359.74	6,950.00	5,245.37	-1,651.80	5,252.81	0.00	0.00	0.00
14,200.00	90.00	359.74	6,950.00	5,345.37	-1,652.26	5,352.81	0.00	0.00	0.00
14,300.00	90.00	359.74	6,950.00	5,445.36	-1,652.72	5,452.81	0.00	0.00	0.00
14,400.00	90.00	359.74	6,950.00	5,545.36	-1,653.18	5,552.81	0.00	0.00	0.00
14,500.00	90.00	359.74	6,950.00	5,645.36	-1,653.64	5,652.81	0.00	0.00	0.00
14,600.00	90.00	359.74	6,950.00	5,745.36	-1,654.10	5,752.81	0.00	0.00	0.00
14,700.00	90.00	359.74	6,950.00	5,845.36	-1,654.56	5,852.81	0.00	0.00	0.00
14,800.00	90.00	359.74	6,950.00	5,945.36	-1,655.02	5,952.81	0.00	0.00	0.00
14,900.00	90.00	359.74	6,950.00	6,045.36	-1,655.48	6,052.81	0.00	0.00	0.00
15,000.00	90.00	359.74	6,950.00	6,145.36	-1,655.94	6,152.81	0.00	0.00	0.00
15,100.00	90.00	359.74	6,950.00	6,245.36	-1,656.40	6,252.81	0.00	0.00	0.00
15,200.00	90.00	359.74	6,950.00	6,345.36	-1,656.86	6,352.81	0.00	0.00	0.00
15,300.00	90.00	359.74	6,950.00	6,445.35	-1,657.32	6,452.81	0.00	0.00	0.00
15,400.00	90.00	359.74	6,950.00	6,545.35	-1,657.78	6,552.81	0.00	0.00	0.00
15,500.00	90.00	359.74	6,950.00	6,645.35	-1,658.24	6,652.81	0.00	0.00	0.00
15,600.00	90.00	359.74	6,950.00	6,745.35	-1,658.70	6,752.81	0.00	0.00	0.00
15,700.00	90.00	359.74	6,950.00	6,845.35	-1,659.16	6,852.81	0.00	0.00	0.00
15,800.00	90.00	359.74	6,950.00	6,945.35	-1,659.62	6,952.81	0.00	0.00	0.00
15,900.00	90.00	359.74	6,950.00	7,045.35	-1,660.08	7,052.81	0.00	0.00	0.00
16,000.00	90.00	359.74	6,950.00	7,145.35	-1,660.54	7,152.81	0.00	0.00	0.00
16,100.00	90.00	359.74	6,950.00	7,245.35	-1,661.00	7,252.81	0.00	0.00	0.00
16,200.00	90.00	359.74	6,950.00	7,345.34	-1,661.46	7,352.81	0.00	0.00	0.00
16,300.00	90.00	359.74	6,950.00	7,445.34	-1,661.91	7,452.81	0.00	0.00	0.00
16,400.00	90.00	359.74	6,950.00	7,545.34	-1,662.37	7,552.81	0.00	0.00	0.00
16,500.00	90.00	359.74	6,950.00	7,645.34	-1,662.83	7,652.81	0.00	0.00	0.00
16,600.00	90.00	359.74	6,950.00	7,745.34	-1,663.29	7,752.81	0.00	0.00	0.00
16,700.00	90.00	359.74	6,950.00	7,845.34	-1,663.75	7,852.81	0.00	0.00	0.00
16,800.00	90.00	359.74	6,950.00	7,945.34	-1,664.21	7,952.81	0.00	0.00	0.00
16,900.00	90.00	359.74	6,950.00	8,045.34	-1,664.67	8,052.81	0.00	0.00	0.00
17,000.00	90.00	359.74	6,950.00	8,145.34	-1,665.13	8,152.81	0.00	0.00	0.00
17,100.00	90.00	359.74	6,950.00	8,245.34	-1,665.59	8,252.81	0.00	0.00	0.00
17,200.00	90.00	359.74	6,950.00	8,345.33	-1,666.05	8,352.81	0.00	0.00	0.00
17,300.00	90.00	359.74	6,950.00	8,445.33	-1,666.51	8,452.81	0.00	0.00	0.00

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)
17,400.00	90.00	359.74	6,950.00	8,545.33	-1,666.97	8,552.81	0.00	0.00	0.00
17,472.13	90.00	359.74	6,950.00	8,617.46	-1,667.30	8,624.94	0.00	0.00	0.00
TD Well @ 17472.13ft									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,770.37	1,700.00	9 5/8"	9-5/8	13-1/2
7,870.93	6,950.00	5 1/2"	5-1/2	8-1/2

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
250.00	250.00	0.00	0.00	Begin Nudge @ 250.00ft
1,800.00	1,725.48	-289.34	-289.34	End Nudge @ 1800.00ft
4,660.00	4,176.97	-1,330.91	-1,330.91	Begin Drop @ 4660.00ft
6,210.00	5,652.45	-1,620.25	-1,620.25	End Drop @ 6210.00ft
6,870.93	6,313.38	-1,620.25	-1,620.25	KOP @ 6870.93ft
7,450.00	6,815.84	-1,374.56	-1,621.38	DLS = 9°/100'
7,870.93	6,950.00	-983.64	-1,623.18	End Build @ 7870.93ft
17,472.13	6,950.00	8,617.46	-1,667.30	TD Well @ 17472.13ft

VERDAD RESOURCES

WATTENBERG FIELD
ARNOLD 02N-64W-24
BOYD 24-2H

Wellbore #1
Design #1

Anticollision Summary Report

02 November, 2017

Reference	Design #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 9,999.98 usft	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.45 **Sigma**	**Casing Method:**	Added to Error Values

Survey Tool Program **Date** 11/2/2017

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	1,700.00	Design #1 (Wellbore #1)	ISCWSA REV 2 MWD	Fixed:v2:standard declination
1,700.00	17,472.13	Design #1 (Wellbore #1)	ISCWSA REV 2 MWD	Fixed:v2:standard declination

Summary

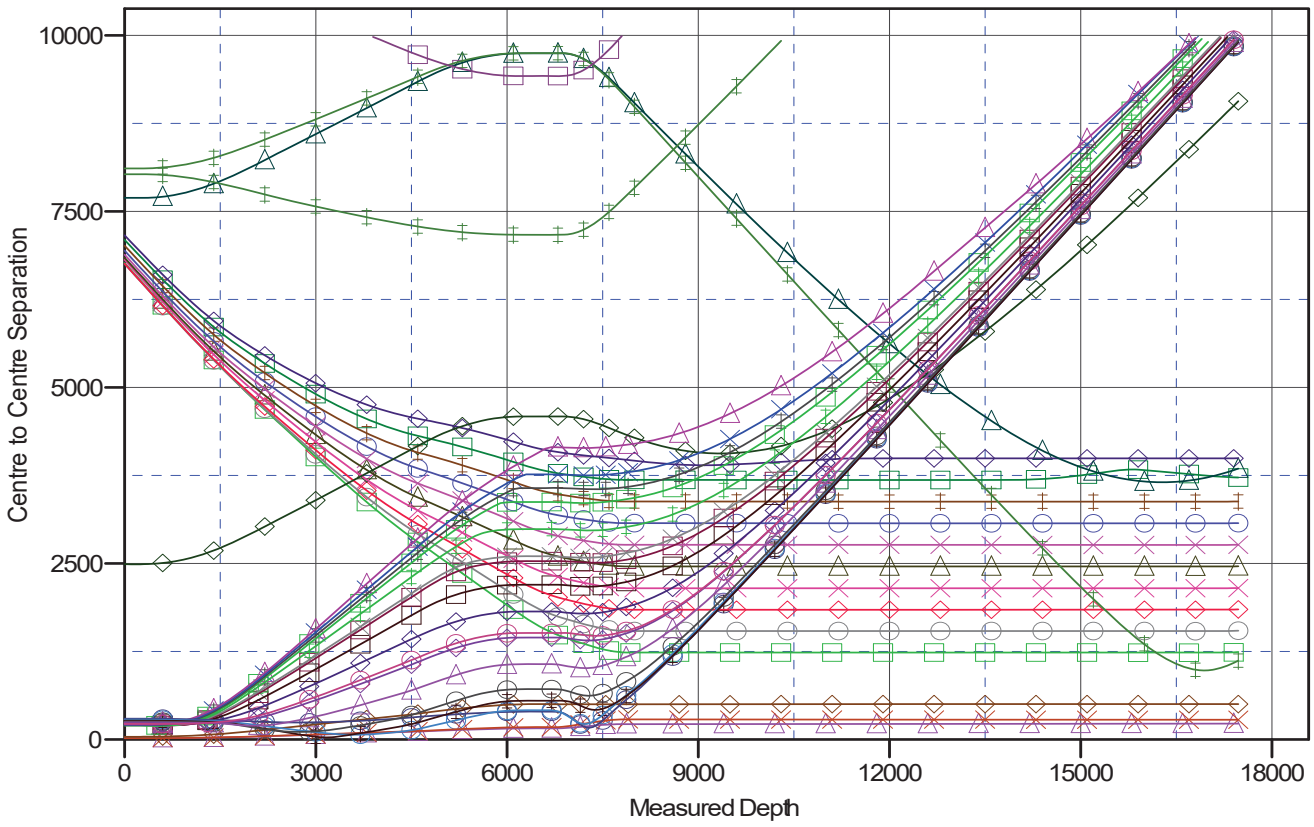
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
2N-64W-13 L.E. GERKIN EAST PAD						
L.E. Gerkin #12H - Red Hawk Petroleum Planned Well -	7,850.00	16,446.50	3,073.10	2,810.27	11.693	SF
L.E. Gerkin #12H - Red Hawk Petroleum Planned Well -	7,870.93	16,446.50	3,072.92	2,810.13	11.694	ES
L.E. Gerkin #12H - Red Hawk Petroleum Planned Well -	17,183.45	7,158.32	3,071.20	2,843.87	13.510	CC
L.E. Gerkin #9H - Red Hawk Petroleum Planned Well - P	7,900.00	16,538.39	2,149.75	1,887.84	8.208	ES, SF
L.E. Gerkin #9H - Red Hawk Petroleum Planned Well - P	17,175.91	7,263.52	2,148.13	1,920.22	9.425	CC
L.E. Gerkin #10H - Red Hawk Petroleum Planned Well - P	7,870.93	16,489.70	2,459.14	2,197.02	9.382	SF
L.E. Gerkin #10H - Red Hawk Petroleum Planned Well - P	7,900.00	16,485.07	2,459.01	2,196.94	9.383	ES
L.E. Gerkin #10H - Red Hawk Petroleum Planned Well - P	17,181.91	7,213.04	2,457.38	2,229.70	10.793	CC
L.E. Gerkin #11H - Red Hawk Petroleum Planned Well - P	7,870.93	16,457.40	2,766.01	2,503.62	10.542	ES, SF
L.E. Gerkin #11H - Red Hawk Petroleum Planned Well - P	17,181.30	7,175.49	2,764.26	2,536.94	12.160	CC
L.E. Gerkin #13H - Red Hawk Petroleum Planned Well - P	7,700.00	16,448.80	3,384.70	3,121.00	12.836	SF
L.E. Gerkin #13H - Red Hawk Petroleum Planned Well - P	7,870.93	16,448.80	3,380.60	3,117.52	12.850	ES
L.E. Gerkin #13H - Red Hawk Petroleum Planned Well - P	17,184.20	7,156.78	3,378.88	3,151.40	14.853	CC
L.E. Gerkin #14H - Red Hawk Petroleum Planned Well - P	7,600.00	16,481.10	3,696.30	3,437.05	14.257	SF
L.E. Gerkin #14H - Red Hawk Petroleum Planned Well - P	7,850.00	16,481.10	3,687.94	3,430.05	14.300	ES
L.E. Gerkin #14H - Red Hawk Petroleum Planned Well - P	13,887.67	10,482.71	3,686.68	3,470.30	17.038	CC
L.E. Gerkin #15H - Red Hawk Petroleum Planned Well - P	7,400.00	16,511.10	4,016.41	3,753.24	15.261	SF
L.E. Gerkin #15H - Red Hawk Petroleum Planned Well - P	9,100.00	15,300.00	3,896.92	3,664.69	16.781	ES
L.E. Gerkin #15H - Red Hawk Petroleum Planned Well - P	9,106.65	15,284.95	3,896.89	3,664.87	16.795	CC
2N-64W-13 L.E. GERKIN WEST PAD						
L.E. Gerkin #6H - Red Hawk Petroleum Planned Well - P	7,900.00	16,431.70	1,235.62	976.33	4.765	ES, SF
L.E. Gerkin #6H - Red Hawk Petroleum Planned Well - P	17,175.69	7,168.14	1,234.83	1,009.82	5.488	CC
L.E. Gerkin #7H - Red Hawk Petroleum Planned Well - P	7,900.00	16,467.05	1,540.74	1,280.09	5.911	ES, SF
L.E. Gerkin #7H - Red Hawk Petroleum Planned Well - P	17,173.75	7,194.51	1,539.95	1,313.71	6.807	CC
L.E. Gerkin #8H - Red Hawk Petroleum Planned Well - P	7,850.00	16,517.20	1,845.57	1,583.93	7.054	SF
L.E. Gerkin #8H - Red Hawk Petroleum Planned Well - P	7,870.93	16,517.20	1,845.18	1,583.63	7.055	ES
L.E. Gerkin #8H - Red Hawk Petroleum Planned Well - P	17,180.12	7,246.53	1,844.16	1,616.59	8.104	CC
2N-64W-13 Offsets						
ARNOLD #1 - Barrett Resources P/A Well - No Surveys	16,268.52	6,879.00	3,654.61	3,228.45	8.576	CC
ARNOLD #1 - Barrett Resources P/A Well - No Surveys	16,300.00	6,879.00	3,654.75	3,228.10	8.566	ES
ARNOLD #1 - Barrett Resources P/A Well - No Surveys	16,600.00	6,879.00	3,669.62	3,239.05	8.523	SF
DARYL L ARNOLD #1 - Amoco D/A Well - No Surveys	16,932.79	6,910.00	982.13	539.44	2.219	CC, ES, SF
2N-64W-24 Offsets						
MCCLINTOCK ET AL #1 - Juniper Oil & Gas D/A Well - N	250.00	201.00	2,489.75	2,479.36	239.659	CC
MCCLINTOCK ET AL #1 - Juniper Oil & Gas D/A Well - N	400.00	350.93	2,493.06	2,477.71	162.449	ES
MCCLINTOCK ET AL #1 - Juniper Oil & Gas D/A Well - N	10,100.00	6,901.00	4,128.08	3,842.21	14.440	SF
2N-64W-36 Offsets						
State #C14-36 - Noble Energy PR Well - No Surveys	6,870.93	6,284.38	9,424.81	9,161.66	35.816	CC
State #C14-36 - Noble Energy PR Well - No Surveys	6,900.00	6,313.44	9,425.47	9,161.28	35.677	ES
State #C14-36 - Noble Energy PR Well - No Surveys	7,400.00	6,754.62	9,632.07	9,352.46	34.448	SF
STATE C #41-36 - Prima Exploration P/A Well - No Surve	6,870.93	6,242.38	7,169.69	6,897.78	26.368	CC
STATE C #41-36 - Prima Exploration P/A Well - No Surve	6,900.00	6,271.44	7,170.26	6,897.31	26.270	ES
STATE C #41-36 - Prima Exploration P/A Well - No Surve	7,300.00	6,639.70	7,289.36	7,004.57	25.596	SF

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
ARNOLD 02N-64W-24						
BOYD 24-1H - Wellbore #1 - Design #1	250.00	250.00	20.14	12.53	2.648	CC
BOYD 24-1H - Wellbore #1 - Design #1	17,472.13	17,353.54	225.24	-124.11	0.645	Level 1, ES, SF
BOYD 24-3H - Wellbore #1 - Design #1	250.00	250.00	19.86	12.25	2.611	CC
BOYD 24-3H - Wellbore #1 - Design #1	17,472.13	17,199.36	280.82	-12.67	0.957	Level 1, ES, SF
BOYD 24-4H - Wellbore #1 - Design #1	250.00	250.00	39.99	32.39	5.258	CC, ES
BOYD 24-4H - Wellbore #1 - Design #1	17,472.13	17,353.91	504.07	79.65	1.188	Level 2, SF
HELEN 24-10H - Wellbore #1 - Design #1	728.21	698.86	212.55	204.18	25.397	CC, ES
HELEN 24-10H - Wellbore #1 - Design #1	1,700.00	1,607.44	326.79	309.24	18.618	SF
HELEN 24-11H - Wellbore #1 - Design #1	713.61	688.80	204.34	195.97	24.418	CC, ES
HELEN 24-11H - Wellbore #1 - Design #1	1,100.00	1,037.40	227.33	217.23	22.512	SF
HELEN 24-12H - Wellbore #1 - Design #1	673.11	652.81	200.03	191.75	24.153	CC
HELEN 24-12H - Wellbore #1 - Design #1	700.00	677.81	200.10	191.75	23.953	ES
HELEN 24-12H - Wellbore #1 - Design #1	1,000.00	949.30	217.31	207.73	22.682	SF
HELEN 24-13H - Wellbore #1 - Design #1	568.66	552.94	199.52	191.49	24.843	CC
HELEN 24-13H - Wellbore #1 - Design #1	600.00	582.35	199.58	191.48	24.650	ES
HELEN 24-13H - Wellbore #1 - Design #1	900.00	857.43	212.29	203.21	23.373	SF
HELEN 24-14H - Wellbore #1 - Design #1	519.16	506.95	199.19	191.25	25.087	CC, ES
HELEN 24-14H - Wellbore #1 - Design #1	900.00	857.05	216.83	207.70	23.766	SF
HELEN 24-15H - Wellbore #1 - Design #1	432.05	424.25	200.94	193.14	25.761	CC, ES
HELEN 24-15H - Wellbore #1 - Design #1	800.00	766.71	212.62	203.90	24.384	SF
HELEN 24-16H - Wellbore #1 - Design #1	250.00	250.00	203.88	196.27	26.804	CC
HELEN 24-16H - Wellbore #1 - Design #1	300.00	297.80	203.90	196.25	26.658	ES
HELEN 24-16H - Wellbore #1 - Design #1	700.00	674.01	212.53	204.16	25.370	SF
HELEN 24-17H - Wellbore #1 - Design #1	250.00	250.00	208.82	201.22	27.454	CC, ES
HELEN 24-17H - Wellbore #1 - Design #1	700.00	672.18	221.38	213.00	26.430	SF
HELEN 24-18H - Wellbore #1 - Design #1	250.00	249.00	215.25	207.64	28.300	CC, ES
HELEN 24-18H - Wellbore #1 - Design #1	600.00	578.26	223.31	215.20	27.540	SF
HELEN 24-3H - Wellbore #1 - Design #1	7,250.00	7,171.83	170.95	92.57	2.181	ES, SF
HELEN 24-3H - Wellbore #1 - Design #1	7,284.86	7,174.52	167.37	95.10	2.316	CC
HELEN 24-4H - Wellbore #1 - Design #1	3,629.46	3,500.90	68.57	12.81	1.230	Level 2, CC
HELEN 24-4H - Wellbore #1 - Design #1	3,700.00	3,570.89	69.13	10.92	1.188	Level 2, ES, SF
HELEN 24-5H - Wellbore #1 - Design #1	3,160.92	3,043.30	30.10	-15.29	0.663	Level 1, CC, ES, SF
HELEN 24-6H - Wellbore #1 - Design #1	2,754.29	2,645.10	108.05	72.43	3.033	CC
HELEN 24-6H - Wellbore #1 - Design #1	2,800.00	2,709.95	108.36	71.20	2.916	ES
HELEN 24-6H - Wellbore #1 - Design #1	2,900.00	2,788.41	111.21	71.65	2.811	SF
HELEN 24-7H - Wellbore #1 - Design #1	2,027.77	1,933.30	196.71	175.63	9.332	CC
HELEN 24-7H - Wellbore #1 - Design #1	2,100.00	2,002.90	197.66	175.02	8.731	ES
HELEN 24-7H - Wellbore #1 - Design #1	2,400.00	2,308.05	220.51	191.66	7.642	SF
HELEN 24-8H - Wellbore #1 - Design #1	919.95	872.99	227.95	219.04	25.591	CC, ES
HELEN 24-8H - Wellbore #1 - Design #1	2,000.00	1,906.95	288.61	266.96	13.329	SF
HELEN 24-9H - Wellbore #1 - Design #1	784.85	748.40	221.21	212.72	26.054	CC
HELEN 24-9H - Wellbore #1 - Design #1	800.00	762.38	221.21	212.68	25.927	ES
HELEN 24-9H - Wellbore #1 - Design #1	2,000.00	1,889.33	315.83	294.15	14.568	SF

Reference Depths are relative to RKB = 20' @ 4943.00usft (Drilling Rig	Coordinates are relative to: BOYD 24-2H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000	Grid Convergence at Surface is: 0.65°

Ladder Plot

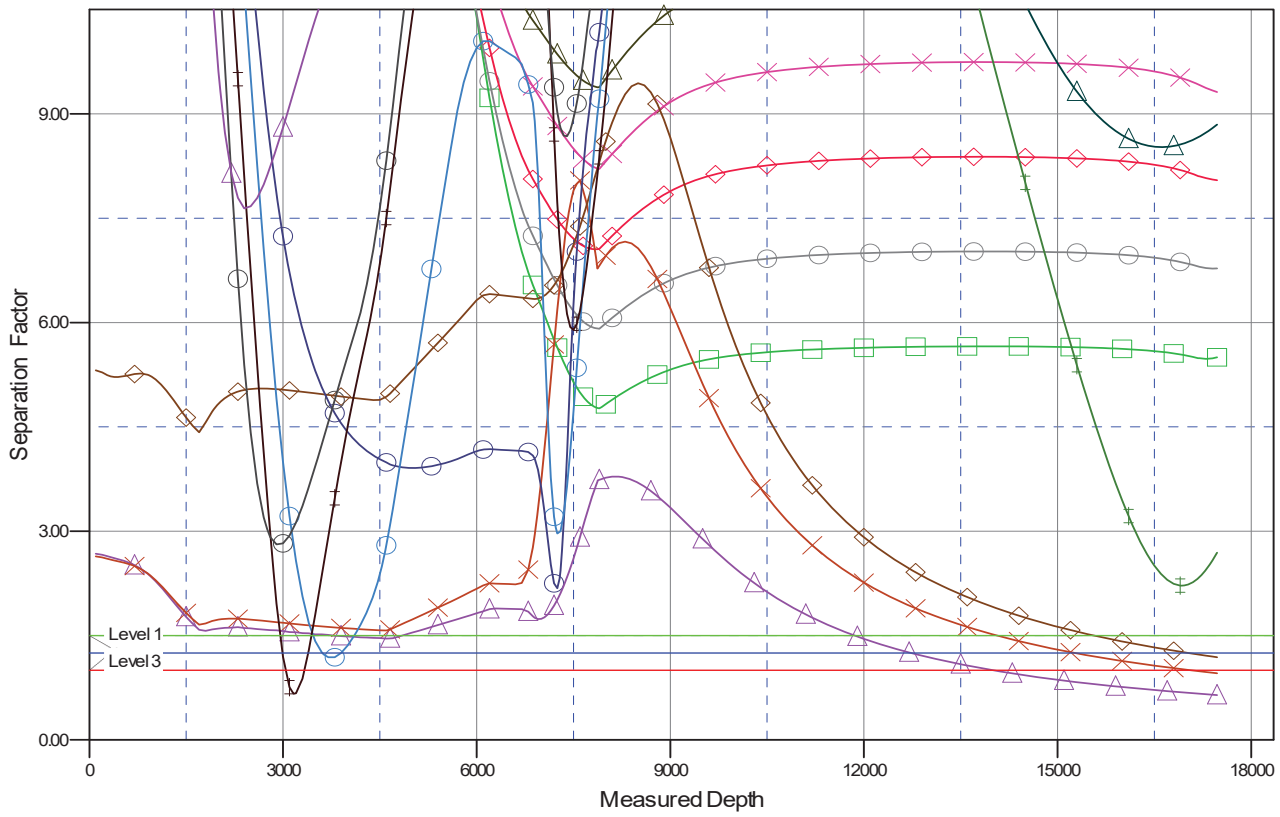


LEGEND

L.E.Gerkin #12H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
L.E.Gerkin #9H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
L.E.Gerkin #10H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
L.E.Gerkin #11H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
L.E.Gerkin #13H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
L.E.Gerkin #14H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
L.E.Gerkin #15H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
L.E.Gerkin #6H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
L.E.Gerkin #7H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
L.E.Gerkin #8H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
ARNOLD#1,BarrettResourcesP/AWellNo SurveysV0
DARYL LARNOLD#1,AmocoD/AWell,NoSurveysV0
MCCLINTOCKET AL #1,Juniper Oil&GasD/AWell,NoSurveysV0
State#C14-36,NobleEnergyPRWellNo SurveysV0
STATEC#41-36,Prima Exploration P/AWell,No SurveysV0
BOYD24-1H,Wellbore#1,Design#1 V0
BOYD24-3H,Wellbore#1,Design#1 V0
BOYD24-4H,Wellbore#1,Design#1 V0
HELEN24-10H,Wellbore#1,Design#1 V0
HELEN24-11H,Wellbore#1,Design#1 V0
HELEN24-12H,Wellbore#1,Design#1 V0
HELEN24-13H,Wellbore#1,Design#1 V0
HELEN24-14H,Wellbore#1,Design#1 V0
HELEN24-15H,Wellbore#1,Design#1 V0
HELEN24-16H,Wellbore#1,Design#1 V0
HELEN24-17H,Wellbore#1,Design#1 V0
HELEN24-18H,Wellbore#1,Design#1 V0
HELEN24-3H,Wellbore#1,Design#1 V0
HELEN24-4H,Wellbore#1,Design#1 V0
HELEN24-5H,Wellbore#1,Design#1 V0
HELEN24-6H,Wellbore#1,Design#1 V0
HELEN24-7H,Wellbore#1,Design#1 V0
HELEN24-8H,Wellbore#1,Design#1 V0
HELEN24-9H,Wellbore#1,Design#1 V0

Reference Depths are relative to RKB = 20' @ 4943.00usft (Drilling Rig	Coordinates are relative to: BOYD 24-2H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000	Grid Convergence at Surface is: 0.65°

Separation Factor Plot



LEGEND

L.E.Gerkin#12H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
L.E.Gerkin#9H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
L.E.Gerkin#10H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
L.E.Gerkin#11H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
L.E.Gerkin#13H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
L.E.Gerkin#14H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
L.E.Gerkin#15H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
L.E.Gerkin#6H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
L.E.Gerkin#7H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
L.E.Gerkin#8H,RedHawkPetroleumPlanned Well,Planned CathedralSurveysV0
ARNOLD#1,BarrettResourcesP/AWellNo SurveysV0
DARYL LARNOLD#1,AmocoD/AWell,NoSurveysV0
MCCLINTOCKETAL#1,Juniper Oil&GasD/AWell,NoSurveysV0
State#C14-36,NobleEnergyPRWellNo SurveysV0
STATEC#41-36,Prima Exploration P/AWell,No SurveysV0
BOYD24-1H,Wellbore#1,Design#1 V0
BOYD243H,Wellbore#1,Design#1 V0
BOYD244H,Wellbore#1,Design#1 V0
HELEN2410H,Wellbore#1,Design#1 V0
HELEN2411H,Wellbore#1,Design#1 V0
HELEN2412H,Wellbore#1,Design#1 V0
HELEN2413H,Wellbore#1,Design#1 V0
HELEN2414H,Wellbore#1,Design#1 V0
HELEN2415H,Wellbore#1,Design#1 V0
HELEN2416H,Wellbore#1,Design#1 V0
HELEN2417H,Wellbore#1,Design#1 V0
HELEN2418H,Wellbore#1,Design#1 V0
HELEN243H,Wellbore#1,Design#1 V0
HELEN244H,Wellbore#1,Design#1 V0
HELEN245H,Wellbore#1,Design#1 V0
HELEN246H,Wellbore#1,Design#1 V0
HELEN247H,Wellbore#1,Design#1 V0
HELEN248H,Wellbore#1,Design#1 V0
HELEN249H,Wellbore#1,Design#1 V0