

# **VERDAD RESOURCES**

**WATTENBERG FIELD  
2N-64W-24 ARNOLD-BOYD PAD  
BOYD 2413-06H**

**Plan A  
Design #1**

## **Anticollision Summary Report**

**11 March, 2022**

## Anticollision Summary Report

<b>Company:</b>	VERDAD RESOURCES	<b>Local Co-ordinate Reference:</b>	Well BOYD 2413-06H
<b>Project:</b>	WATTENBERG FIELD	<b>TVD Reference:</b>	RKB = 20' @ 4944.00usft (Drilling Rig)
<b>Reference Site:</b>	2N-64W-24 ARNOLD-BOYD PAD	<b>MD Reference:</b>	RKB = 20' @ 4944.00usft (Drilling Rig)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BOYD 2413-06H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	3.28 usft	<b>Output errors are at</b>	2.45 sigma
<b>Reference Wellbore</b>	Plan A	<b>Database:</b>	EDM 5000.16 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Design #1		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum centre distance of 1,500.00usft	<b>Error Surface:</b>	Pedal Curve
<b>Warning Levels Evaluated at:</b>	2.45 Sigma	<b>Casing Method:</b>	Added to Error Values

<b>Survey Tool Program</b>	<b>Date</b>	3/11/2022		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	1,934.00	Design #1 (Plan A)	ISCWSA MWD	Fixed:v2:standard declination
1,934.00	17,100.67	Design #1 (Plan A)	ISCWSA MWD	Fixed:v2:standard declination

<b>Summary</b>						
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 PAD						
L.E. GERKIN 10H - Plan A - Design #1	17,100.67	7,350.34	261.65	22.89	1.096	Level 2, CC, ES, SF
L.E. GERKIN 10H - Plan A - VERDAD Existing Surface						Out of range
L.E. GERKIN 11H - Plan A - Design #2	8,148.49	16,206.13	261.85	20.52	1.085	Level 2, ES, SF
L.E. GERKIN 11H - Plan A - Design #2	17,018.40	7,336.25	260.88	24.07	1.102	Level 2, CC
L.E. GERKIN 11H - Plan A - VERDAD Existing Surface						Out of range
L.E. GERKIN 12H - Plan A - Design #1	8,145.60	16,133.17	774.04	528.81	3.156	ES, SF
L.E. GERKIN 12H - Plan A - Design #1	17,018.45	7,260.44	772.45	533.71	3.236	CC
L.E. GERKIN 12H - Plan A - VERDAD Existing Surface						Out of range
L.E. GERKIN 13H - Plan A - Design #1	8,100.00	16,111.23	1,290.25	1,044.53	5.251	SF
L.E. GERKIN 13H - Plan A - Design #1	8,143.18	16,089.87	1,290.06	1,044.44	5.252	ES
L.E. GERKIN 13H - Plan A - Design #1	17,100.67	7,124.50	1,288.71	1,049.71	5.392	CC
L.E. GERKIN 13H - Plan A - VERDAD Existing Surface						Out of range
L.E. GERKIN 14H - Plan A - Design #1						Out of range
L.E. GERKIN 14H - Plan A - VERDAD Existing Surface						Out of range
L.E. GERKIN 15H - Plan A - Design #1						Out of range
L.E. GERKIN 15H - Plan A - VERDAD Existing Surface						Out of range
L.E. GERKIN 9H - Plan A - Design #1	17,100.67	7,407.09	785.50	541.04	3.213	CC, ES, SF
L.E. GERKIN 9H - Plan A - VERDAD Existing Surface						Out of range
2N-64W-13 Offsets						
ARNOLD #1 - Barrett Resources P/A Well - No Surveys						Out of range
DARYL L ARNOLD #1 - Amoco D/A Well - No Surveys	16,458.61	6,759.00	583.10	140.91	1.319	Level 3, CC, ES, SF

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<b>Reference Well:</b>	BOYD 2413-06H	<b>Survey Calculation Method:</b>	Minimum Curvature
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<b>Reference Wellbore</b>	Plan A	<b>Database:</b>	EDM 5000.16 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
2N-64W-24 ARNOLD-BOYD PAD						
BOYD 2413-05H - Plan A - Design #1	200.00	200.00	15.94	8.37	2.106	CC, ES
BOYD 2413-05H - Plan A - Design #1	17,100.67	17,119.33	518.06	80.32	1.183	Level 2, SF
BOYD 2413-07H - Plan A - Design #1	221.00	221.00	15.94	8.36	2.102	CC
BOYD 2413-07H - Plan A - Design #1	221.05	221.05	15.94	8.36	2.102	ES
BOYD 2413-07H - Plan A - Design #1	17,100.67	17,118.50	511.90	73.61	1.168	Level 2, SF
BOYD 2413-08H - Plan A - Design #1	221.00	221.00	31.88	24.30	4.204	CC, ES
BOYD 2413-08H - Plan A - Design #1	17,100.67	17,171.61	1,029.68	591.88	2.352	SF
BOYD 2413-09H - Plan A - Design #1	221.00	221.00	48.10	40.52	6.343	CC, ES, SF
BOYD 2413-10H - Plan A - Design #1	202.96	202.96	64.04	56.47	8.459	CC
BOYD 2413-10H - Plan A - Design #1	221.00	220.98	64.04	56.46	8.445	ES, SF
BOYD 2413-11H - Plan A - Design #1	200.00	199.00	79.98	72.41	10.568	CC, ES
BOYD 2413-11H - Plan A - Design #1	221.00	219.59	80.03	72.45	10.555	SF
2N-64W-24 ARNOLD-HELEN PAD						
HELEN 2536-05H - Plan B - Design #2	200.00	200.00	294.30	286.73	38.884	CC, ES
HELEN 2536-05H - Plan B - Design #2	6,800.00	6,654.54	794.46	726.95	11.768	SF
HELEN 2536-06H - Plan B - Design #2	2,177.23	2,126.98	250.47	229.50	11.945	CC
HELEN 2536-06H - Plan B - Design #2	2,400.00	2,348.41	251.66	228.84	11.027	ES
HELEN 2536-06H - Plan B - Design #2	6,900.00	6,755.72	355.98	289.54	5.358	SF
HELEN 2536-07H - Plan B - Design #2	2,943.10	2,901.98	79.48	53.81	3.097	CC
HELEN 2536-07H - Plan B - Design #2	6,909.26	6,761.87	118.73	52.29	1.787	ES, SF
HELEN 2536-08H - Plan B - Design #2	2,258.19	2,222.78	46.59	29.41	2.712	CC
HELEN 2536-08H - Plan B - Design #2	2,300.00	2,264.05	47.07	28.76	2.571	ES
HELEN 2536-08H - Plan B - Design #2	2,400.00	2,362.77	51.80	30.75	2.460	SF
HELEN 2536-09H - Plan B - Design #2	1,680.36	1,648.06	99.31	85.65	7.267	CC
HELEN 2536-09H - Plan B - Design #2	1,700.00	1,667.23	99.41	85.54	7.171	ES
HELEN 2536-09H - Plan B - Design #2	1,900.00	1,862.35	110.41	93.73	6.619	SF
HELEN 2536-10H - Plan B - Design #2	1,379.41	1,348.68	116.15	104.31	9.807	CC, ES
HELEN 2536-10H - Plan B - Design #2	1,500.00	1,464.31	121.10	108.38	9.517	SF
HELEN 2536-11H - Plan A - Design #1	1,252.34	1,221.71	116.64	105.52	10.487	CC, ES
HELEN 2536-11H - Plan A - Design #1	1,300.00	1,265.17	117.99	106.62	10.380	SF
HELEN 2536-12H - Plan A - Design #1	1,194.42	1,164.50	118.99	108.16	10.986	CC
HELEN 2536-12H - Plan A - Design #1	1,200.00	1,169.57	119.00	108.15	10.960	ES, SF
2N-64W-24 Offsets						
BOYD 24-1H - VERDAD PR Well - Actual BKR Surveys	386.80	389.82	50.88	43.11	6.547	CC
BOYD 24-1H - VERDAD PR Well - Actual BKR Surveys	400.00	403.01	50.88	43.09	6.532	ES
BOYD 24-1H - VERDAD PR Well - Actual BKR Surveys	500.00	502.69	51.60	43.64	6.484	SF
BOYD 24-4H - VERDAD PR Well - Actual BKR Surveys	405.52	408.73	31.63	23.84	4.059	CC, ES
BOYD 24-4H - VERDAD PR Well - Actual BKR Surveys	16,900.00	17,113.00	1,042.81	640.50	2.592	SF
HELEN 24-3H - VERDAD PR Well - Actual BKR Surveys	163.91	162.92	321.87	314.31	42.576	CC, ES
HELEN 24-3H - VERDAD PR Well - Actual BKR Surveys	1,900.00	1,692.82	565.52	547.78	31.878	SF
HELEN 24-4H - VERDAD PR Well - Actual BKR Surveys	642.90	611.69	305.41	297.14	36.948	CC, ES
HELEN 24-4H - VERDAD PR Well - Actual BKR Surveys	6,650.00	6,861.82	1,351.05	1,280.90	19.260	SF
MCCLINTOCK ET AL #1 - JUNIPER D/A Well - No Surve						Out of range

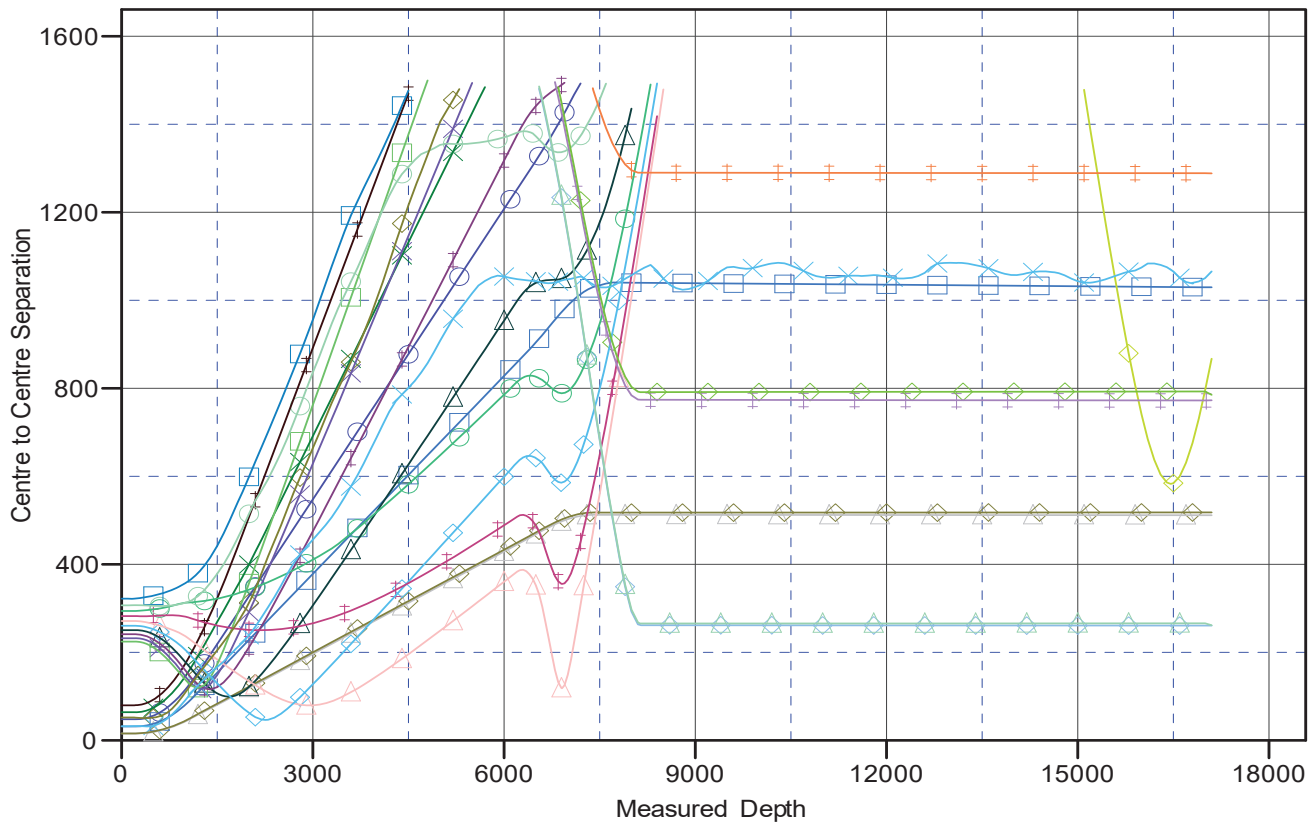
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<b>Reference Wellbore</b>	Plan A	<b>Database:</b>	EDM 5000.16 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to RKB = 20' @ 4944.00usft (Drilling Rig)  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000

Coordinates are relative to: BOYD 2413-06H  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.65°

### Ladder Plot



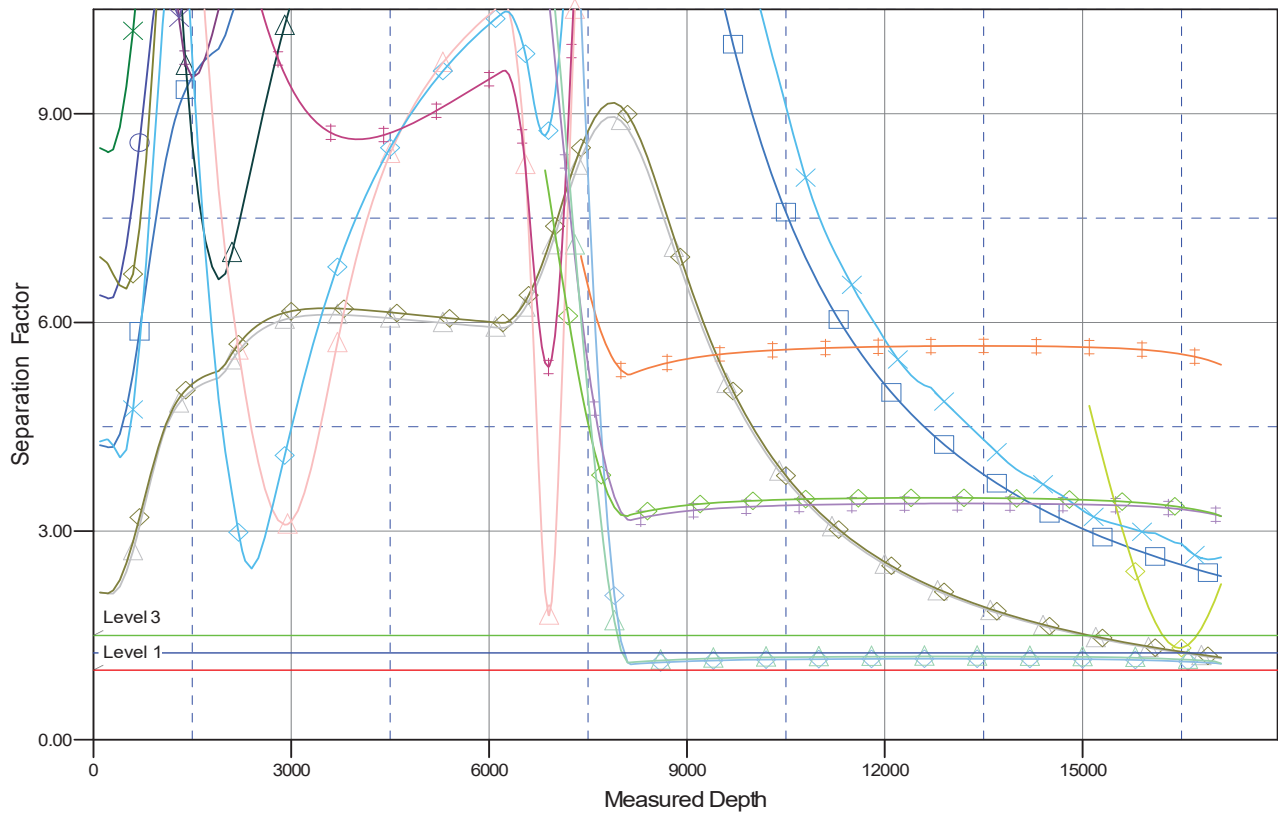
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### Separation Factor Plot



#### LEGEND

BOYD 2413-06H, Plan A, Design #1 V0	HELEN 2536-10H, Plan B, Design #2 V0	BOYD 24-1H VERDAD PR Well, Actual BKR Surveys V0
BOYD 2413-07H, Plan A, Design #1 V0	HELEN 2536-11H, Plan A, Design #1 V0	BOYD 24-4H VERDAD PR Well, Actual BKR Surveys V0
BOYD 2413-11H, Plan A, Design #1 V0	HELEN 2536-07H, Plan B, Design #2 V0	HELEN 24-3H, VERDAD PR Well, Actual BKR Surveys V0
BOYD 2413-09H, Plan A, Design #1 V0	HELEN 2536-12H, Plan A, Design #1 V0	L.E. GERKN 13H, Plan A, Design #1 V0
BOYD 2413-10H, Plan A, Design #1 V0	HELEN 2536-05H, Plan B, Design #2 V0	L.E. GERKN 11H, Plan A, Design #2 V0
BOYD 2413-08H, Plan A, Design #1 V0	HELEN 2536-08H, Plan B, Design #2 V0	L.E. GERKN 12H, Plan A, Design #1 V0
DARYL L. ARNOLD #1, Amoco D/A Well, No Surveys V0	HELEN 2536-06H, Plan B, Design #2 V0	L.E. GERKN 9H, Plan A, Design #1 V0
HELEN 2536-09H, Plan B, Design #2 V0	HELEN 24-4H, VERDAD PR Well, Actual BKR Surveys V0	L.E. GERKN 10H, Plan A, Design #1 V0