

# **VERDAD RESOURCES**

**WATTENBERG FIELD  
2N-64W-28 GEORGENE PAD  
GEORGENE 2828-02H**

**Wellbore #1  
Design #2**

## **Anticollision Summary Report**

**09 July, 2020**

# HP

## Anticollision Summary Report

<b>Company:</b>	VERDAD RESOURCES	<b>Local Co-ordinate Reference:</b>	Well GEORGENE 2828-02H
<b>Project:</b>	WATTENBERG FIELD	<b>TVD Reference:</b>	RKB = 24' @ 5040.00usft (RIG)
<b>Reference Site:</b>	2N-64W-28 GEORGENE PAD	<b>MD Reference:</b>	RKB = 24' @ 5040.00usft (RIG)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	GEORGENE 2828-02H	<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>	Wellbore #1	<b>Database:</b>	EDM 5000.16 Single User Db
<b>Reference Design:</b>	Design #2	<b>Offset TVD Reference:</b>	Offset Datum

Reference	Design #2		
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 centre distance of 1,500.00usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.45 Sigma	Casing Method:	Added to Error Values

Survey Tool Program		Date	7/9/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	1,700.00	Design #2 (Wellbore #1)	ISCWSA MWD	Fixed:v2:standard declination	
1,700.00	12,298.76	Design #2 (Wellbore #1)	ISCWSA 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-28 GEORGENE PAD						
GEORGENE 2828-01H - Wellbore #1 - Design #2	200.00	200.00	15.01	7.44	1.983	CC, ES
GEORGENE 2828-01H - Wellbore #1 - Design #2	12,298.76	12,314.62	559.54	211.96	1.610	SF
GEORGENE 2828-03H - Wellbore #1 - Design #2	300.00	300.00	15.00	7.34	1.959	CC, ES
GEORGENE 2828-03H - Wellbore #1 - Design #2	12,298.76	12,382.20	560.00	205.95	1.582	SF
GEORGENE 2828-04H - Wellbore #1 - Design #2	300.00	301.00	30.01	22.36	3.921	CC, ES
GEORGENE 2828-04H - Wellbore #1 - Design #2	12,298.76	12,539.35	1,120.25	766.84	3.170	SF
GEORGENE 2833-01H - Wellbore #1 - Design #2	300.00	302.00	90.01	82.36	11.760	CC, ES, SF
GEORGENE 2833-02H - Wellbore #1 - Design #2	300.00	302.00	75.00	67.34	9.798	CC, ES, SF
GEORGENE 2833-03H - Wellbore #1 - Design #2	300.00	301.00	59.99	52.33	7.838	CC, ES
GEORGENE 2833-03H - Wellbore #1 - Design #2	8,900.00	6,917.09	583.94	505.13	7.410	SF
GEORGENE 2833-04H - Wellbore #1 - Design #2	116.33	117.33	44.99	37.46	5.975	CC
GEORGENE 2833-04H - Wellbore #1 - Design #2	200.00	200.99	44.99	37.42	5.945	ES
GEORGENE 2833-04H - Wellbore #1 - Design #2	9,474.27	7,050.00	574.94	467.85	5.369	SF
2N-64W-28 Offsets Incomplete						
BRNAK 34-28 - Noble PR Well - No Surveys	9,022.89	7,030.00	378.02	63.86	1.203	Level 2, CC, ES, SF
BRNAK 44-28 - Noble PR Well - No Surveys	300.00	270.00	297.00	284.40	23.583	CC
BRNAK 44-28 - Noble PR Well - No Surveys	7,900.00	7,050.00	549.21	268.42	1.956	ES, SF
BRNAK 77-28 - Noble P&A Well - No Surveys	8,398.73	7,022.00	313.93	19.85	1.067	Level 2, CC
BRNAK 77-28 - Noble P&A Well - No Surveys	8,400.00	7,022.00	313.93	19.79	1.067	Level 2, ES, SF
GREER 13-28 - Noble SI Well - No Surveys	11,851.97	7,022.00	938.82	529.65	2.294	CC
GREER 13-28 - Noble SI Well - No Surveys	11,900.00	7,022.00	940.05	529.04	2.287	ES, SF
GREER 14-28 - Noble T/A Well - No Surveys	11,831.97	7,046.00	376.07	-33.27	0.919	Level 1, CC, ES, SF
GREER 23-28 - Noble SI Well - No Surveys	10,129.02	7,007.00	1,139.95	789.83	3.256	CC
GREER 23-28 - Noble SI Well - No Surveys	10,200.00	7,007.00	1,142.16	789.39	3.238	ES, SF
GREER 24-28 - Noble T/A Well - No Surveys	10,514.36	7,040.00	556.38	192.08	1.527	CC, ES, SF
STONEBRAKER 32-28 - PDC P&A Well - No Surveys						Out of range
STONEBRAKER 42-28 - PDC P&A Well - No Surveys						Out of range
STONEBREAKER 28V-234 - PDC PR Well - Actual Ensig						Out of range
STONEBREAKER 28W-304 - PDC PR Well - Actual Ens						Out of range

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<b>Reference Well:</b>	GEORGENE 2828-02H	<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>	Wellbore #1	<b>Database:</b>	EDM 5000.16 Single User Db
<b>Reference Design:</b>	Design #2	<b>Offset TVD Reference:</b>	Offset Datum

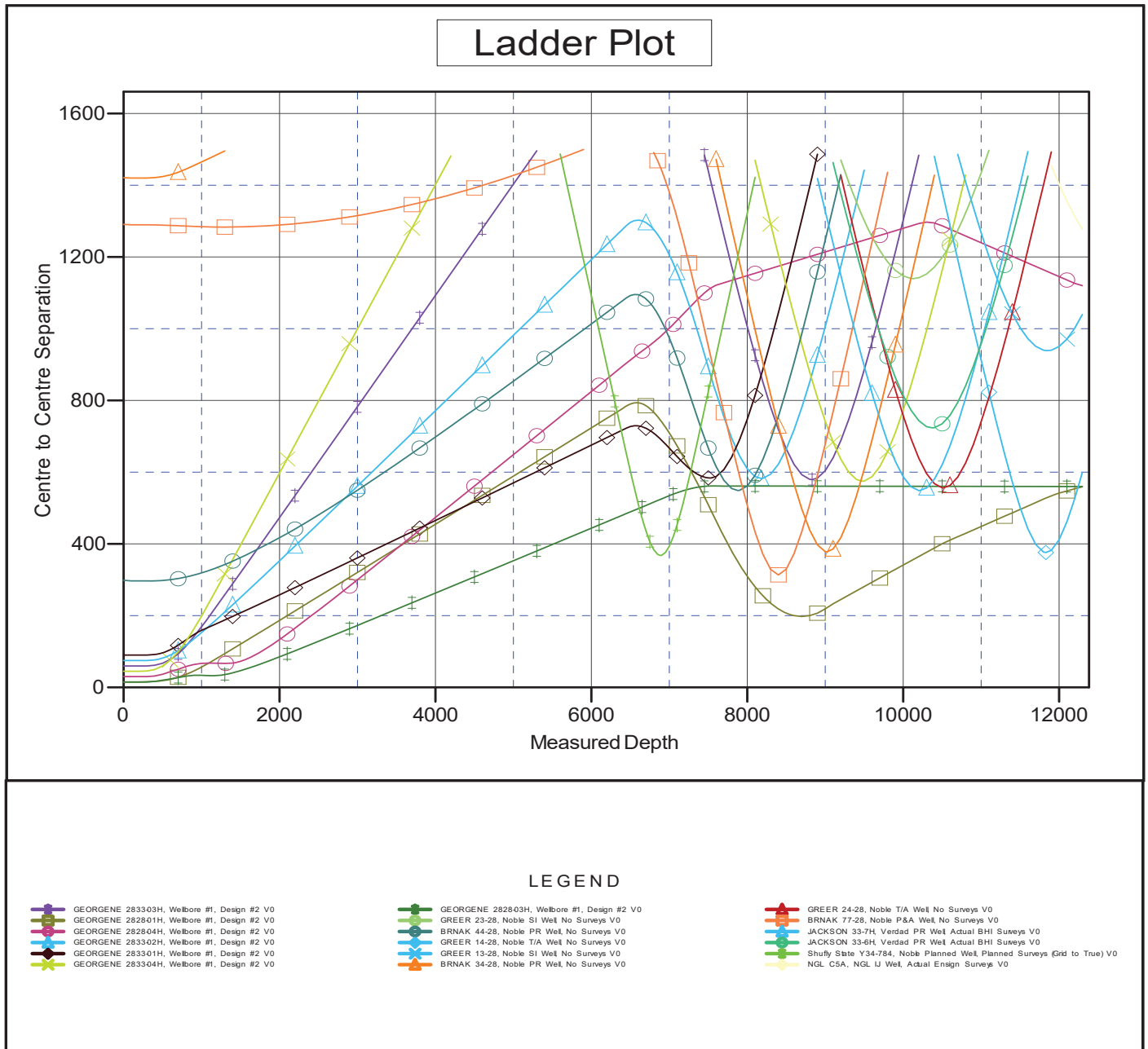
Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)		Separation Factor	Warning
Offset Well - Wellbore - Design						
2N-64W-29 Offsets						
BAUMGARTNER #14-29 - Noble SI Well - No Surveys						Out of range
BELL #41-29 - Noble PR Well - No Surveys						Out of range
Bell USX #Y29-03 - Noble PR Well - No Surveys						Out of range
JIM CREEK #1-29 - Noble P&A Well - No Surveys						Out of range
KAMINSKY #1-29 - Noble P&A Well - Actual VES Survey						Out of range
NGL C5 - NGL IJ Well - No Surveys						Out of range
NGL C5A - NGL IJ Well - Actual Ensign Surveys	12,298.76	7,663.87	1,277.27	1,054.52	5.734	CC, ES, SF
NGL C5B - NGL IJ Well - Actual Total Surveys						Out of range
PARKER #29-34 - Noble SI Well - Actual Coretech Surve						Out of range
2N-64W-33 Offsets Incomplete						
JACKSON 33-6H - Verdad PR Well - Actual BHI Surveys	10,372.03	6,881.00	723.61	601.93	5.947	CC
JACKSON 33-6H - Verdad PR Well - Actual BHI Surveys	10,400.00	6,880.68	724.15	601.61	5.910	ES
JACKSON 33-6H - Verdad PR Well - Actual BHI Surveys	10,500.00	6,879.53	734.84	610.49	5.910	SF
JACKSON 33-7H - Verdad PR Well - Actual BHI Surveys	10,209.66	7,027.81	548.73	429.29	4.594	CC, ES
JACKSON 33-7H - Verdad PR Well - Actual BHI Surveys	10,300.00	7,030.15	556.10	434.07	4.557	SF
UPV 33-15K4 - Noble T/A Well - No Surveys						Out of range
UPV 33-7K4 - Noble PR Well - No Surveys						Out of range
2N-64W-34 Offsets Incomplete						
FRITZLER 12-34 - Noble PR Well - Actual VES Surveys						Out of range
Shufly State Y34-784 - Noble Planned Well - Planned Su	6,887.84	12,996.97	367.96	276.31	4.015	CC
Shufly State Y34-784 - Noble Planned Well - Planned Su	6,900.00	12,998.24	368.27	275.96	3.989	ES
Shufly State Y34-784 - Noble Planned Well - Planned Su	6,950.00	13,003.35	376.08	281.49	3.976	SF

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<b>Reference Well:</b>	GEORGENE 2828-02H	<b>Survey Calculation Method:</b>	Minimum Curvature
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<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.16 Single User Db
<b>Reference Design:</b>	Design #2	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to RKB = 24' @ 5040.00usft (RIG)  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000

Coordinates are relative to: GEORGENE 2828-02H  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.61°



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Reference Depths are relative to RKB = 24' @ 5040.00usft (RIG)

Offset Depths are relative to Offset Datum

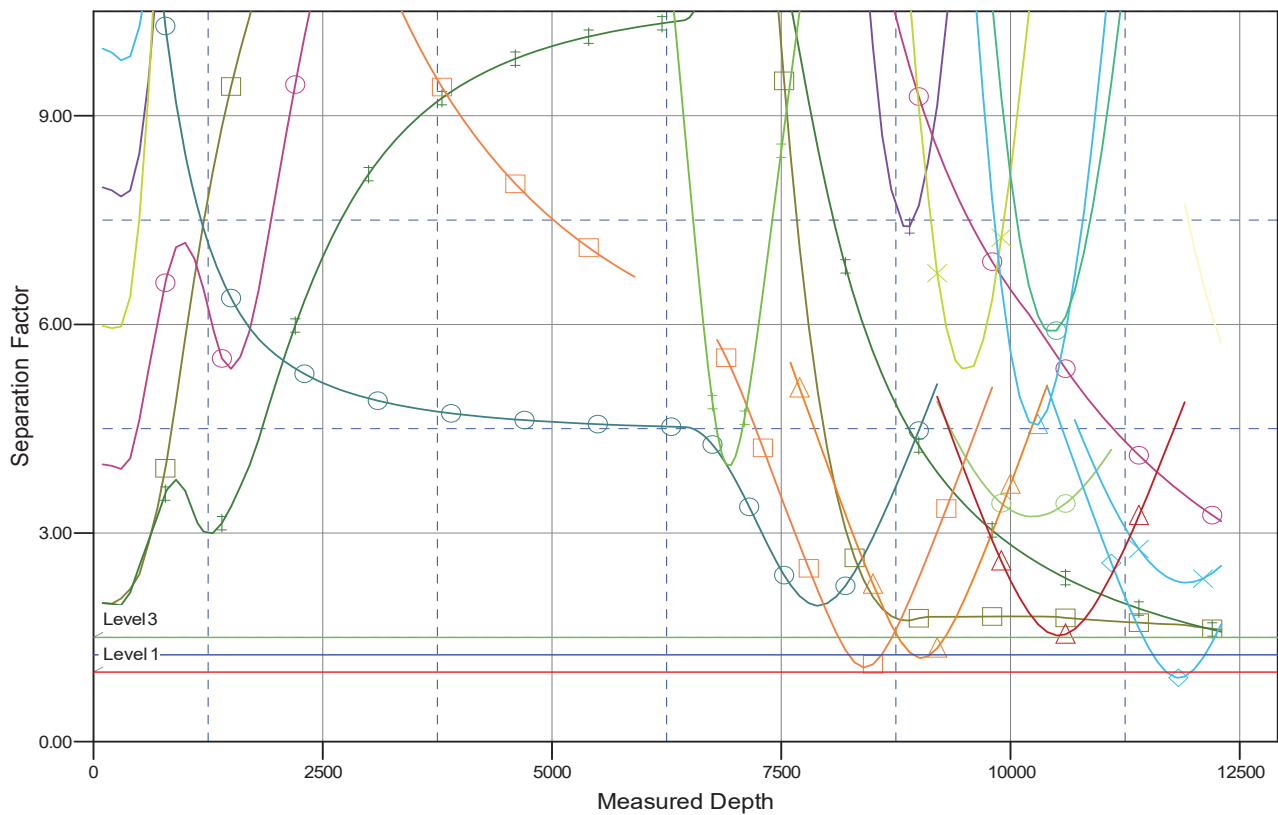
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Coordinates are relative to: GEORGENE 2828-02H

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Grid Convergence at Surface is: 0.61°

## Separation Factor Plot



## LEGEND

GEORGENE 2833-03H, Wellbore #1, Design #2 V0  
 GEORGENE 2828-01H, Wellbore #1, Design #2 V0  
 GEORGENE 2828-04H, Wellbore #1, Design #2 V0  
 GEORGENE 2833-02H, Wellbore #1, Design #2 V0  
 GEORGENE 2833-01H, Wellbore #1, Design #2 V0  
 GEORGENE 2833-04H, Wellbore #1, Design #2 V0

GEORGENE 2828-03H, Wellbore #1, Design #2 V0  
 GREER 23-28, Noble SI Well, No Surveys V0  
 BRNAK 44-28, Noble PR Well, No Surveys V0  
 GREER 14-28, Noble T/A Well, No Surveys V0  
 GREER 13-28, Noble SI Well, No Surveys V0  
 BRNAK 34-28, Noble PR Well, No Surveys V0

GREER 24-28, Noble T/A Well, No Surveys V0  
 BRNAK 77-28, Noble P/A Well, No Surveys V0  
 JACKSON 33-7H, Verdad PR Well, Actual BHI Surveys V0  
 JACKSON 33-6H, Verdad PR Well, Actual BHI Surveys V0  
 Shufly State Y34-784, Noble Planned Well, Planned Surveys (Grid to True) V0  
 NGL CSA, NGL LJ Well, Actual Ensign Surveys V0