

# **VERDAD RESOURCES**

**WATTENBERG FIELD  
2N-64W-28 GEORGENE PAD  
GEORGENE 2833-01H**

**Wellbore #1  
Design #3**

## **Anticollision Summary Report**

**17 September, 2020**

# HP

## Anticollision Summary Report

<b>Company:</b>	VERDAD RESOURCES	<b>Local Co-ordinate Reference:</b>	Well GEORGENE 2833-01H
<b>Project:</b>	WATTENBERG FIELD	<b>TVD Reference:</b>	RKB = 24' @ 5042.00usft (RIG)
<b>Reference Site:</b>	2N-64W-28 GEORGENE PAD	<b>MD Reference:</b>	RKB = 24' @ 5042.00usft (RIG)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	GEORGENE 2833-01H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Reference	Design #3		
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	9/17/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	1,700.00	Design #3 (Wellbore #1)	ISCWSA MWD	Fixed:v2:standard declination	
1,700.00	12,268.22	Design #3 (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
1N-64W-05 Offsets						
GRINDE 01-64-05 0108C - Highpoint Planned Well - Drill	12,268.22	17,117.40	943.48	583.27	2.619	CC, ES, SF
2N-64W-28 GEORGENE PAD						
GEORGENE 2828-01H - Wellbore #1 - Design #2	200.00	198.00	105.02	97.46	13.880	CC, ES
GEORGENE 2828-01H - Wellbore #1 - Design #2	7,100.00	7,408.62	158.15	123.95	4.625	SF
GEORGENE 2828-02H - Wellbore #1 - Design #2	300.00	298.00	90.01	82.36	11.764	CC, ES, SF
GEORGENE 2828-03H - Wellbore #1 - Design #2	400.00	398.00	75.02	67.24	9.642	CC, ES, SF
GEORGENE 2828-04H - Wellbore #1 - Design #2	500.00	499.00	60.00	52.05	7.546	CC, ES, SF
GEORGENE 2833-02H - Wellbore #1 - Design #3	609.40	609.40	15.02	6.84	1.836	CC
GEORGENE 2833-02H - Wellbore #1 - Design #3	700.00	699.97	15.07	6.67	1.794	ES, SF
GEORGENE 2833-03H - Wellbore #1 - Design #3	608.34	607.53	29.07	20.90	3.557	CC, ES, SF
GEORGENE 2833-04H - Wellbore #1 - Design #3	509.14	508.74	41.84	33.86	5.242	CC, ES, SF
2N-64W-28 Offsets Incomplete						
BRNAK 34-28 - Noble SI Well - No Surveys	800.00	748.00	1,392.85	1,363.26	47.060	CC
BRNAK 34-28 - Noble SI Well - No Surveys	6,550.00	6,480.69	1,482.18	1,236.86	6.042	ES
BRNAK 34-28 - Noble SI Well - No Surveys	6,850.00	6,757.04	1,498.62	1,243.83	5.882	SF
BRNAK 44-28 - Noble SI Well - No Surveys	3,196.22	3,157.27	261.83	143.07	2.205	CC
BRNAK 44-28 - Noble SI Well - No Surveys	6,900.00	6,816.79	350.55	93.85	1.366	Level 3, ES, SF
BRNAK 77-28 - Noble P&A Well - No Surveys	6,439.22	6,362.26	1,115.79	874.76	4.629	CC
BRNAK 77-28 - Noble P&A Well - No Surveys	6,500.00	6,422.98	1,117.70	874.41	4.594	ES
BRNAK 77-28 - Noble P&A Well - No Surveys	6,600.00	6,521.85	1,129.11	882.25	4.574	SF
GREER 13-28 - Noble SI Well - No Surveys						Out of range
GREER 14-28 - Noble T/A Well - No Surveys						Out of range
GREER 23-28 - Noble SI Well - No Surveys						Out of range
GREER 24-28 - Noble T/A Well - No Surveys						Out of range
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

# HP

## Anticollision Summary Report

<b>Company:</b>	VERDAD RESOURCES	<b>Local Co-ordinate Reference:</b>	Well GEORGENE 2833-01H
<b>Project:</b>	WATTENBERG FIELD	<b>TVD Reference:</b>	RKB = 24' @ 5042.00usft (RIG)
<b>Reference Site:</b>	2N-64W-28 GEORGENE PAD	<b>MD Reference:</b>	RKB = 24' @ 5042.00usft (RIG)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	GEORGENE 2833-01H	<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 #3	<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						Out of range
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						
JACKSON 33-1H - Verdad Planned Well - Surcon MWD						Out of range
JACKSON 33-2H - Verdad Planned Well - Surcon MWD						Out of range
JACKSON 33-3H - Verdad Planned Well - Surcon MWD						Out of range
JACKSON 33-4H - Verdad Planned Well - Surcon MWD						Out of range
JACKSON 33-5H - Verdad Planned Well - Surcon MWD						Out of range
JACKSON 33-6H - Verdad PR Well - Actual BHI Surveys						Out of range
JACKSON 33-7H - Verdad PR Well - Actual BHI Surveys						Out of range
JACKSON 33-S1H - Verdad Planned Well - Surcon MWD						Out of range
JACKSON 33-S2H - Verdad Planned Well - Surcon MWD						Out of range
UPV 33-13K4 - Noble SI Well - No Surveys						Out of range
UPV 33-15K4 - Noble T/A Well - No Surveys	11,721.67	7,064.00	1,175.59	817.06	3.279	CC, ES
UPV 33-15K4 - Noble T/A Well - No Surveys	11,800.00	7,064.00	1,178.19	818.30	3.274	SF
UPV 33-7K4 - Noble SI Well - No Surveys	9,083.54	7,068.00	1,179.38	881.13	3.954	CC
UPV 33-7K4 - Noble SI Well - No Surveys	9,100.00	7,068.00	1,179.49	880.92	3.950	ES
UPV 33-7K4 - Noble SI Well - No Surveys	9,200.00	7,068.00	1,185.11	884.78	3.946	SF
2N-64W-34 Offsets Incomplete						
FRITZLER 12-34 - Noble PR Well - Actual VES Surveys	9,632.51	7,080.53	933.84	856.26	12.037	CC, ES
FRITZLER 12-34 - Noble PR Well - Actual VES Surveys	9,800.00	7,082.81	948.74	867.77	11.717	SF
Shufly State Y34-784 - Noble Planned Well - Planned Su	7,150.22	12,299.22	854.36	771.18	10.272	CC
Shufly State Y34-784 - Noble Planned Well - Planned Su	12,100.00	7,400.00	861.33	723.19	6.235	ES
Shufly State Y34-784 - Noble Planned Well - Planned Su	12,268.22	7,271.91	871.82	730.82	6.183	SF

## Anticollision Summary Report

<b>Company:</b>	VERDAD RESOURCES	<b>Local Co-ordinate Reference:</b>	Well GEORGENE 2833-01H
<b>Project:</b>	WATTENBERG FIELD	<b>TVD Reference:</b>	RKB = 24' @ 5042.00usft (RIG)
<b>Reference Site:</b>	2N-64W-28 GEORGENE PAD	<b>MD Reference:</b>	RKB = 24' @ 5042.00usft (RIG)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	GEORGENE 2833-01H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to RKB = 24' @ 5042.00usft (RIG)

Offset Depths are relative to Offset Datum

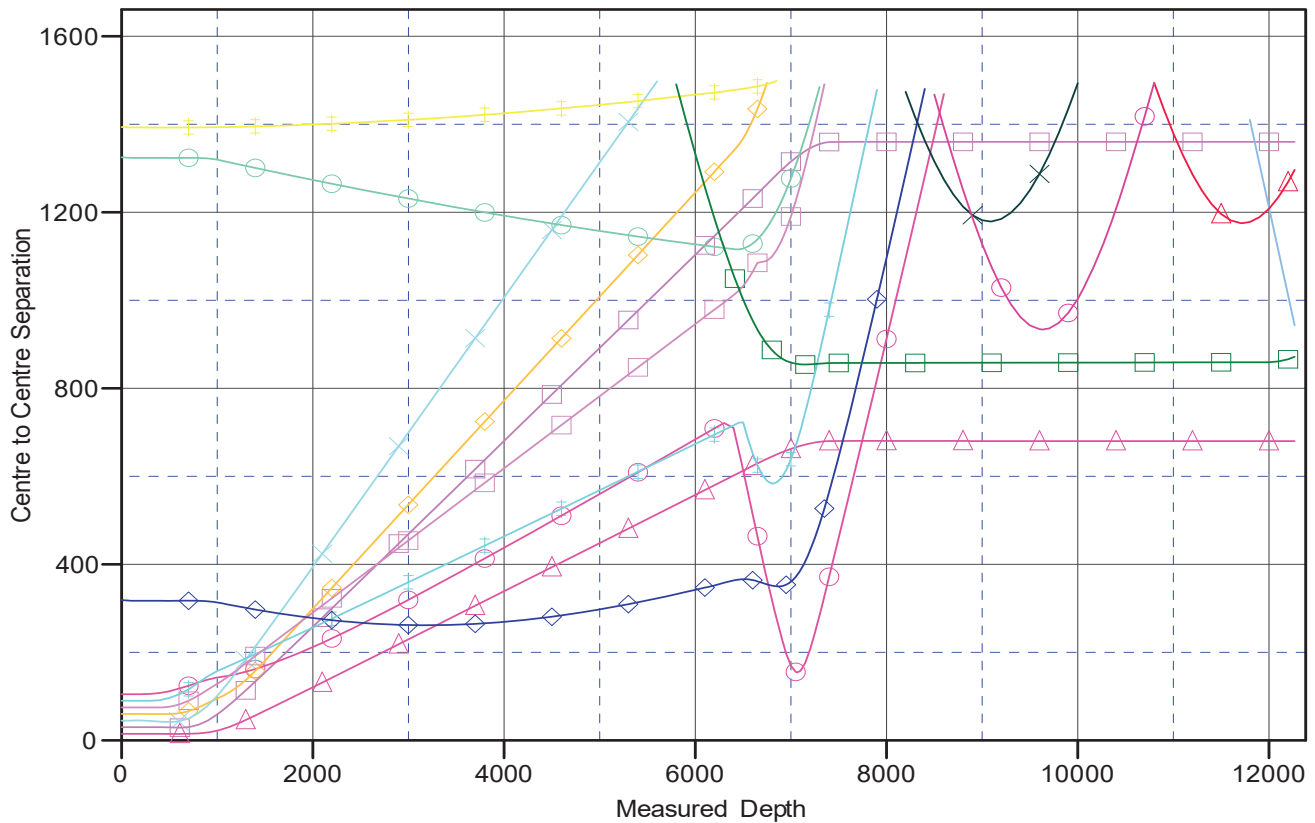
Central Meridian is -105.500000

Coordinates are relative to: GEORGENE 2833-01H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.61°

## Ladder Plot



## LEGEND

833-03H, Wellbore #1, Design #3 V0  
 828-01H, Wellbore #1, Design #2 V0  
 828-04H, Wellbore #1, Design #2 V0  
 833-02H, Wellbore #1, Design #3 V0  
 833-04H, Wellbore #1, Design #3 V0

GEORGENE 2828-02H, Wellbore #1, Design #2 V0  
 GEORGENE 2828-03H, Wellbore #1, Design #2 V0  
 GRINDE 01-64-05 0108C, Highpoint Planned Well - Drilled but no actual svys on COGCC, Planned Highpoint Surveys V0  
 BRNAK 4428, Noble SI Well, No Surveys V0  
 BRNAK 3428, Noble SI Well, No Surveys V0

BRNAK 7728, Noble P&A Well, No Surveys V0  
 UPV 33-19K, Noble T/A Well, No Surveys V0  
 UPV 33-7K4, Noble SI Well, No Surveys V0  
 Shufly State Y34-784, Noble Planned Well, Planned Surveys (Grid to True) V0  
 FRETZLER 12-34, Noble PR Well, Actual VES Surveys (Grid to True) V0

## Anticollision Summary Report

<b>Company:</b>	VERDAD RESOURCES	<b>Local Co-ordinate Reference:</b>	Well GEORGENE 2833-01H
<b>Project:</b>	WATTENBERG FIELD	<b>TVD Reference:</b>	RKB = 24' @ 5042.00usft (RIG)
<b>Reference Site:</b>	2N-64W-28 GEORGENE PAD	<b>MD Reference:</b>	RKB = 24' @ 5042.00usft (RIG)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	GEORGENE 2833-01H	<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 #3	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to RKB = 24' @ 5042.00usft (RIG)

Offset Depths are relative to Offset Datum

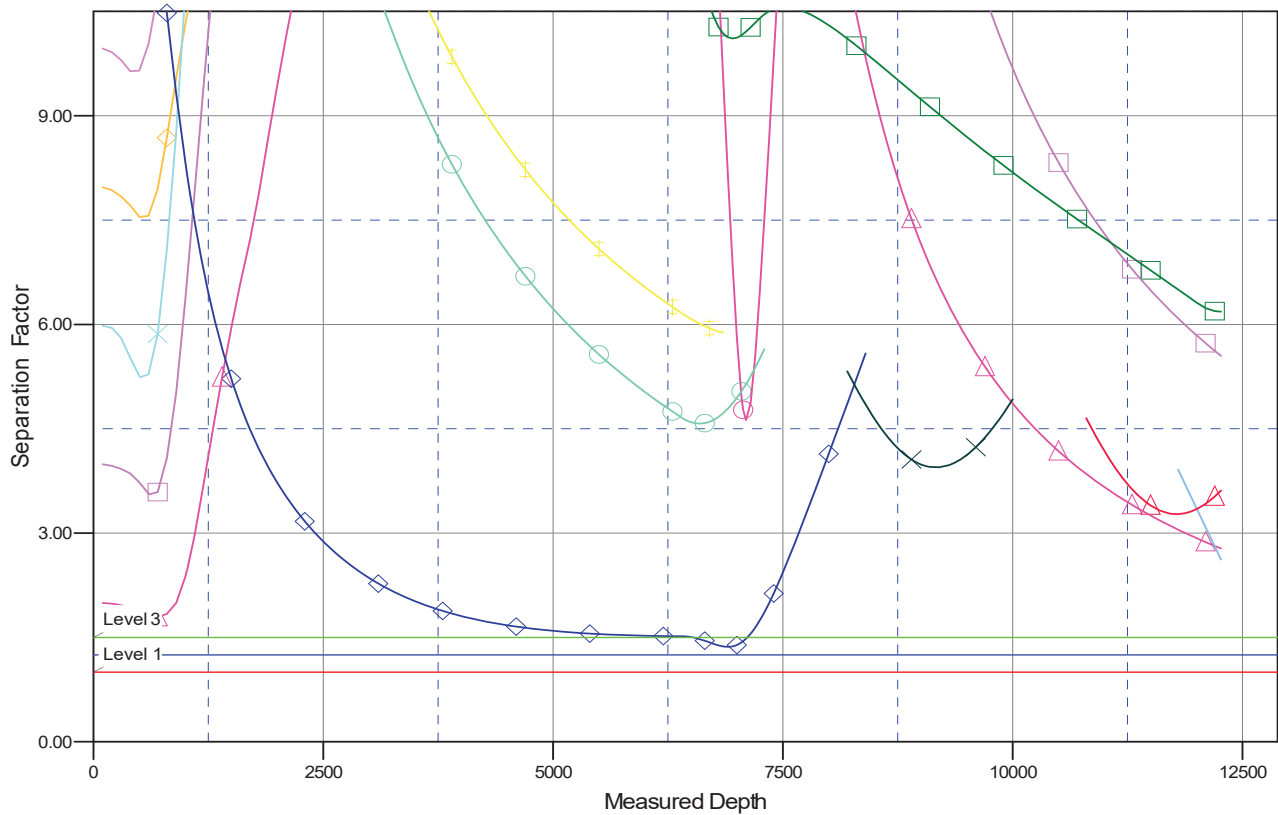
Central Meridian is -105.500000

Coordinates are relative to: GEORGENE 2833-01H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.61°

## Separation Factor Plot



## LEGEND

2833-03H, Wellbore #1, Design #3 V0  
2828-01H, Wellbore #1, Design #2 V0  
2828-04H, Wellbore #1, Design #2 V0  
2833-02H, Wellbore #1, Design #3 V0  
2833-04H, Wellbore #1, Design #3 V0

GEORGENE 2828-02H, Wellbore #1, Design #2 V0  
GEORGENE 2828-03H, Wellbore #1, Design #2 V0  
GRINDE 01-64-05 0108C, Highpoint Planned Well - Drilled but no actual svys on COGCC, Planned Highpoint Surveys V0  
BRNAK 4428, Noble SI Well, No Surveys V0  
BRNAK 3428, Noble SI Well, No Surveys V0

BRNAK 7728, Noble P&A Well, No Surveys V0  
UPV 33-194, Noble T/A Well, No Surveys V0  
UPV 33-7K4, Noble SI Well, No Surveys V0  
Shuffy State Y34-784, Noble Planned Well, Planned Surveys (Grid to True) V0  
F RITZLER 12-34, Noble PR Well, Actual VES Surveys (Old to True) V0