

# **VERDAD RESOURCES**

**WATTENBERG FIELD**

**1N-64W-10 TIGER 0916 PAD**

**TIGER 0916-04H**

**Wellbore #1**

**Design #1**

## **Anticollision Summary Report**

**27 December, 2022**

## Anticollision Summary Report

<b>Company:</b>	VERDAD RESOURCES	<b>Local Co-ordinate Reference:</b>	Well TIGER 0916-04H
<b>Project:</b>	WATTENBERG FIELD	<b>TVD Reference:</b>	RKB = 24' @ 5129.00usft (RIG)
<b>Reference Site:</b>	1N-64W-10 TIGER 0916 PAD	<b>MD Reference:</b>	RKB = 24' @ 5129.00usft (RIG)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	TIGER 0916-04H	<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 #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>	12/27/2022		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	2,502.32	Design #1 (Wellbore #1)	ISCWSA MWD	Fixed:v2:standard declination
2,502.32	18,715.32	Design #1 (Wellbore #1)	ISCWSA MWD	Fixed:v2:standard declination

<b>Summary</b>						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
1N-64W-05 Offsets						
BROOKMAN #1 - Bill Barrett PR Well - No Surveys						Out of range
Grinde #01-64-05-3340B - Highpoint Planned Well - Plan						Out of range
Grinde #01-64-05-4841B - Highpoint Planned Well - Plan	7,980.88	14,759.06	1,295.09	930.50	3.552	CC
Grinde #01-64-05-4841B - Highpoint Planned Well - Plan	8,000.00	14,747.91	1,295.46	930.11	3.546	ES
Grinde #01-64-05-4841B - Highpoint Planned Well - Plan	8,050.00	14,719.09	1,300.02	932.89	3.541	SF
Grinde #01-64-05-4841C - Highpoint Planned Well - Plan						Out of range
GRINDE 01-64-05 0108C - HPR PR Well - Actual Atlas S						Out of range
GRINDE 01-64-05-4956C - HPR PR Well - Actual Atlas S	8,049.87	14,867.24	855.11	504.18	2.437	CC
GRINDE 01-64-05-4956C - HPR PR Well - Actual Atlas S	8,100.00	14,840.57	858.04	501.77	2.408	ES
GRINDE 01-64-05-4956C - HPR PR Well - Actual Atlas S	8,150.00	14,818.41	866.90	506.00	2.402	SF
GRINDE 01-64-05-6457B - HPR PR Well - Actual Atlas S	8,159.52	14,855.06	434.32	113.07	1.352	Level 3, CC
GRINDE 01-64-05-6457B - HPR PR Well - Actual Atlas S	8,250.00	14,810.31	447.31	99.91	1.288	Level 3, ES, SF
GRINDE 01-64-05-6457CB - HPR PR Well - Actual Atlas	8,414.76	14,921.40	71.47	-158.83	0.310	Level 1, CC
GRINDE 01-64-05-6457CB - HPR PR Well - Actual Atlas	8,450.00	14,908.33	79.37	-245.08	0.245	Level 1, SF
GRINDE 01-64-05-6457CB - HPR PR Well - Actual Atlas	8,500.00	14,891.40	110.31	-256.81	0.300	Level 1, ES
1N-64W-09 Offsets						
MCMILLAN #1 - Rock Oil D/A Well - No Surveys	10,040.14	7,067.00	1,378.54	1,082.90	4.663	CC
MCMILLAN #1 - Rock Oil D/A Well - No Surveys	10,100.00	7,067.00	1,379.84	1,080.80	4.614	ES
MCMILLAN #1 - Rock Oil D/A Well - No Surveys	10,500.00	7,067.00	1,453.22	1,127.83	4.466	SF
1N-64W-10 BRNAK EAST PAD						
BRNAK EAST 1015-01H - Plan A - Design #1						Out of range
BRNAK EAST 1015-02H - Plan A - Design #1						Out of range
BRNAK EAST 1015-03H - Wellbore #1 - Design #1						Out of range
BRNAK EAST 1015-04H - Plan A - Design #1						Out of range
BRNAK EAST 1015-05H - Plan A - Design #1						Out of range
BRNAK EAST 1015-06H - Plan A - Design #1						Out of range
BRNAK EAST 1015-07H - Plan A - Design #1						Out of range

# Anticollision Summary Report

<b>Company:</b>	VERDAD RESOURCES	<b>Local Co-ordinate Reference:</b>	Well TIGER 0916-04H
<b>Project:</b>	WATTENBERG FIELD	<b>TVD Reference:</b>	RKB = 24' @ 5129.00usft (RIG)
<b>Reference Site:</b>	1N-64W-10 TIGER 0916 PAD	<b>MD Reference:</b>	RKB = 24' @ 5129.00usft (RIG)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	TIGER 0916-04H	<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 #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						
1N-64W-10 Offsets						
BRNAK #21-10 - Goodwin PR Well - No Surveys	276.00	267.00	776.37	763.89	62.193	CC
BRNAK #21-10 - Goodwin PR Well - No Surveys	400.00	390.96	778.75	762.04	46.592	ES
BRNAK #21-10 - Goodwin PR Well - No Surveys	2,085.00	1,958.15	1,291.41	1,214.31	16.748	SF
BRNAK #32-10 - Toltek D/A Well - No Surveys						Out of range
BRNAK 01-64-10-1H - VERDAD PR Well - Actual BKR S	1,336.73	1,307.29	19.31	6.60	1.519	CC, ES, SF
BRNAK 01-64-10-2H - VERDAD PR Well - Actual BKR S	1,196.22	1,171.60	55.21	44.13	4.983	CC
BRNAK 01-64-10-2H - VERDAD PR Well - Actual BKR S	1,200.00	1,175.34	55.22	44.09	4.962	ES
BRNAK 01-64-10-2H - VERDAD PR Well - Actual BKR S	1,300.00	1,273.69	58.17	45.69	4.660	SF
BRNAK 01-64-10-3H - VERDAD PR Well - Actual BKR S	931.66	913.35	44.11	34.81	4.744	CC, ES
BRNAK 01-64-10-3H - VERDAD PR Well - Actual BKR S	1,000.00	980.61	45.26	35.50	4.637	SF
1N-64W-10 TIGER 0916 PAD						
TIGER 0916-01H - Wellbore #1 - Design #1	200.00	200.00	48.14	40.57	6.361	CC, ES
TIGER 0916-01H - Wellbore #1 - Design #1	2,300.00	2,259.03	102.69	72.20	3.367	SF
TIGER 0916-02H - Wellbore #1 - Design #1	200.00	200.00	32.18	24.62	4.253	CC, ES
TIGER 0916-02H - Wellbore #1 - Design #1	18,715.32	19,457.07	1,233.95	752.50	2.563	SF
TIGER 0916-03H - Wellbore #1 - Design #1	207.17	207.17	16.23	8.66	2.144	CC, ES
TIGER 0916-03H - Wellbore #1 - Design #1	18,715.32	19,072.20	616.83	135.68	1.282	Level 3, SF
TIGER 0916-05H - Wellbore #1 - Design #1	276.00	276.00	15.95	8.32	2.091	CC, ES
TIGER 0916-05H - Wellbore #1 - Design #1	18,715.32	18,373.95	678.65	199.42	1.416	Level 3, SF
TIGER 0916-06H - Wellbore #1 - Design #1	276.00	276.00	31.90	24.28	4.182	CC, ES
TIGER 0916-06H - Wellbore #1 - Design #1	18,715.32	18,086.07	1,295.43	816.47	2.705	SF
TIGER 0916-07H - Wellbore #1 - Design #1	276.00	276.00	47.86	40.23	6.273	CC, ES
TIGER 0916-07H - Wellbore #1 - Design #1	300.00	300.00	47.96	40.30	6.267	SF
TIGER 0916-08H - Wellbore #1 - Design #1	276.00	276.00	63.81	56.18	8.364	CC, ES
TIGER 0916-08H - Wellbore #1 - Design #1	300.00	300.00	63.91	56.25	8.351	SF
1N-64W-16 Offsets						
EAST HUDSON B STATE #1-16 - Gusher Oil & Gas P/A						Out of range
STATE #1 - Karen Oil D/A Well - No Surveys	17,200.00	7,160.00	954.95	489.87	2.053	SF
STATE #1 - Karen Oil D/A Well - No Surveys	17,300.00	7,160.00	947.06	485.84	2.053	ES
STATE #1 - Karen Oil D/A Well - No Surveys	17,324.96	7,160.00	946.73	486.79	2.058	CC
STATE #14-16 - Kaiser-Francis Oil P/A Well - No Survey	17,833.72	7,106.00	1,035.69	565.87	2.204	CC
STATE #14-16 - Kaiser-Francis Oil P/A Well - No Survey	17,900.00	7,106.00	1,037.81	562.19	2.182	ES
STATE #14-16 - Kaiser-Francis Oil P/A Well - No Survey	18,000.00	7,106.00	1,048.96	566.18	2.173	SF
TURECEK STATE 16-1H - VERDAD PR Well - Actual M	18,300.00	11,465.83	40.40	-236.73	0.146	Level 1, ES
TURECEK STATE 16-1H - VERDAD PR Well - Actual M	18,373.74	11,530.00	12.03	-145.37	0.076	Level 1, CC, SF

## Anticollision Summary Report

<b>Company:</b>	VERDAD RESOURCES	<b>Local Co-ordinate Reference:</b>	Well TIGER 0916-04H
<b>Project:</b>	WATTENBERG FIELD	<b>TVD Reference:</b>	RKB = 24' @ 5129.00usft (RIG)
<b>Reference Site:</b>	1N-64W-10 TIGER 0916 PAD	<b>MD Reference:</b>	RKB = 24' @ 5129.00usft (RIG)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	TIGER 0916-04H	<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 #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to RKB = 24' @ 5129.00usft (RIG)

Offset Depths are relative to Offset Datum

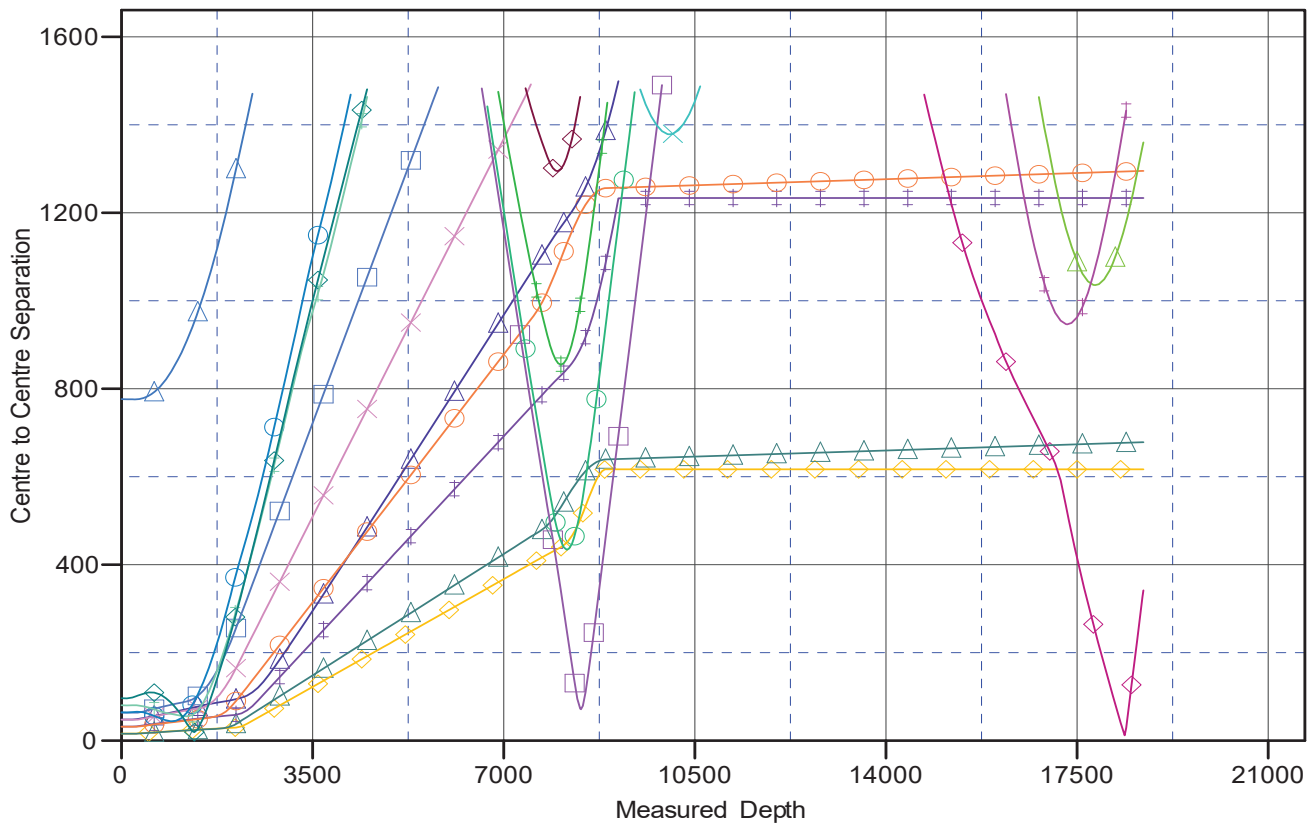
Central Meridian is -105.500000

Coordinates are relative to: TIGER 0916-04H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.62°

### Ladder Plot



#### LEGEND

TIGER 091601H, Wellbore #1, Design #1 V0	GRINDE 0164-05-6457CB, HPR PR Well, Actual Atlas Surveys V0	BRNAK 0164-10-1H, VERDAD PR Well, Actual BKR Surveys V0
TIGER 091603H, Wellbore #1, Design #1 V0	GRINDE 0164-05-4956C, HPR PR Well, Actual Atlas Surveys V0	STATE #14-16, Kaiser-Francis Oil P/A Well, No Surveys V0
TIGER 091602H, Wellbore #1, Design #1 V0	GRINDE 0164-05-6457B, HPR PR Well, Actual Atlas Surveys V0	STATE #1, Karen Oil P/A Well, No Surveys V0
TIGER 091608H, Wellbore #1, Design #1 V0	Grinde #01-94-05-4841B, Highpoint Planned Well, Planned Meriwether Surveys V0	TURECEK STATE 16-1H, VERDAD PR Well, Actual MS Directional Surveys V0
TIGER 091607H, Wellbore #1, Design #1 V0	BRNAK #2-10, Goodwin PR Well, No Surveys V0	MOMILLAN#1, Rock Oil P/A Well, No Surveys V0
TIGER 091606H, Wellbore #1, Design #1 V0	BRNAK 0164-10-2H, VERDAD PR Well, Actual BKR Surveys V0	
TIGER 091605H, Wellbore #1, Design #1 V0	BRNAK 0164-10-3H, VERDAD PR Well, Actual BKR Surveys V0	

## Anticollision Summary Report

<b>Company:</b>	VERDAD RESOURCES	<b>Local Co-ordinate Reference:</b>	Well TIGER 0916-04H
<b>Project:</b>	WATTENBERG FIELD	<b>TVD Reference:</b>	RKB = 24' @ 5129.00usft (RIG)
<b>Reference Site:</b>	1N-64W-10 TIGER 0916 PAD	<b>MD Reference:</b>	RKB = 24' @ 5129.00usft (RIG)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	TIGER 0916-04H	<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 #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to RKB = 24' @ 5129.00usft (RIG)

Offset Depths are relative to Offset Datum

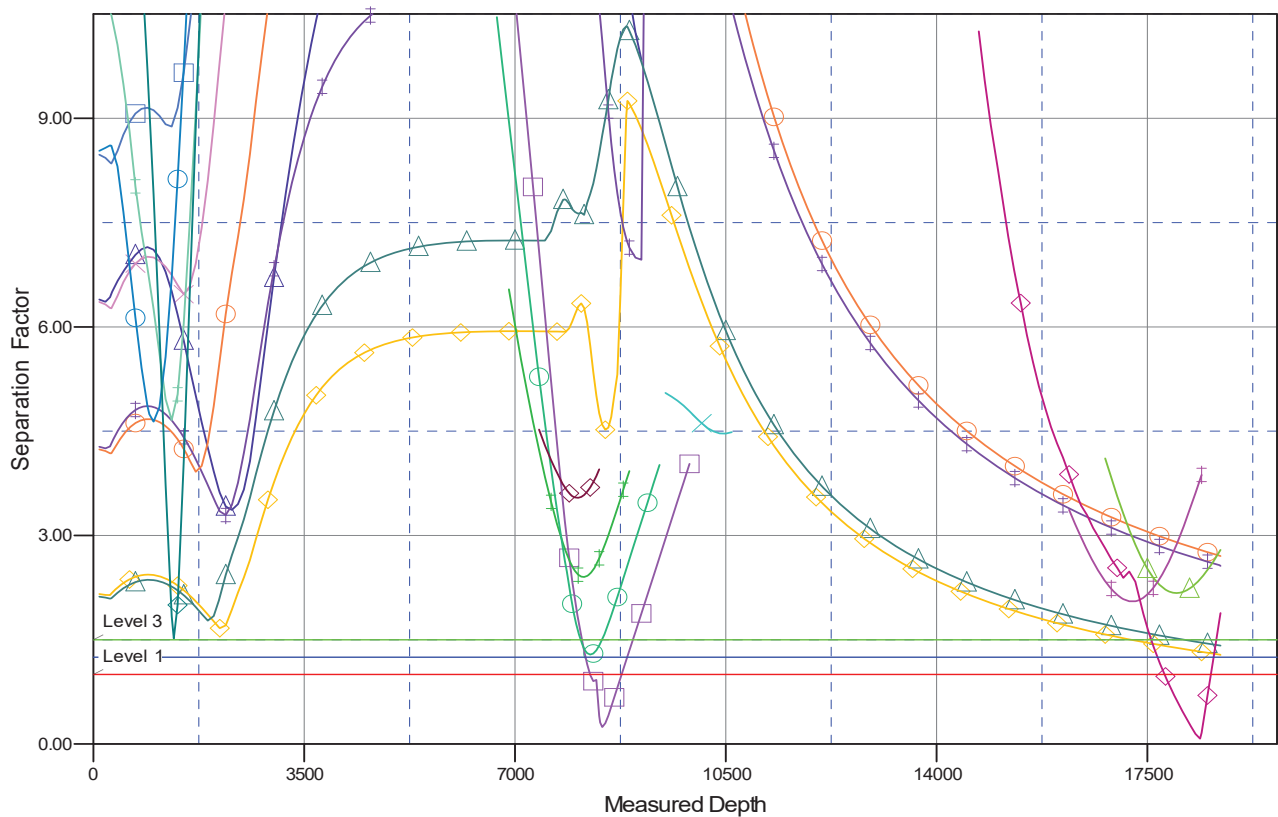
Central Meridian is -105.500000

Coordinates are relative to: TIGER 0916-04H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.62°

### Separation Factor Plot



#### LEGEND

TIGER 091601H, Wellbore #1, Design #1 V0	GRINDE 0164-05-6457CB, HPR PR Well, Actual Atlas Surveys V0	BRNAK 0164-10-1H, VERDAD PR Well, Actual BKR Surveys V0
TIGER 091603H, Wellbore #1, Design #1 V0	GRINDE 0164-05-4056C, HPR PR Well, Actual Atlas Surveys V0	STATE #1416, Kaiser-Francis Oil/A Well, No Surveys V0
TIGER 091602H, Wellbore #1, Design #1 V0	GRINDE 0164-05-6457B, HPR PR Well, Actual Atlas Surveys V0	STATE #1, Karen Oil/A Well, No Surveys V0
TIGER 091608H, Wellbore #1, Design #1 V0	Grinde #01-66-05-4541B, Highpoint Planned Well, Planned Meriwether Surveys V0	TURECEK STATE 16-1H, VERDAD PR Well, Actual MS Directional Surveys V0
TIGER 091607H, Wellbore #1, Design #1 V0	BRNAK #25-10, Goodwin PR Well, No Surveys V0	MOMILLAN#1, Rock Oil/A Well, No Surveys V0
TIGER 091609H, Wellbore #1, Design #1 V0	BRNAK 0164-10-2H, VERDAD PR Well, Actual BKR Surveys V0	
TIGER 091605H, Wellbore #1, Design #1 V0	BRNAK 0164-10-3H, VERDAD PR Well, Actual BKR Surveys V0	