

VERDAD RESOURCES

**WATTENBERG FIELD
8N-60W-14 SCHNEIDER 1414 PAD
SCHNEIDER 1414-04H**

**Plan C
Design #1**

Anticollision Summary Report

09 March, 2021

HP

Anticollision Summary Report

Company:	VERDAD RESOURCES	Local Co-ordinate Reference:	Well SCHNEIDER 1414-04H
Project:	WATTENBERG FIELD	TVD Reference:	RKB = 20' @ 4963.00usft (RIG)
Reference Site:	8N-60W-14 SCHNEIDER 1414 PAD	MD Reference:	RKB = 20' @ 4963.00usft (RIG)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	SCHNEIDER 1414-04H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.28 usft	Output errors are at	2.45 sigma
Reference Wellbore	Plan C	Database:	EDM 5000.16 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

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 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	3/9/2021			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	1,700.00	Design #1 (Plan C)	ISCWSA MWD	Fixed:v2:standard declination	
1,700.00	12,109.34	Design #1 (Plan C)	ISCWSA MWD	Fixed:v2:standard declination	

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						
8N-60W-11 SONIC STAR 1101 PAD						
SONIC STAR 1101-01H - Plan B - Design #2	7,347.25	5,994.60	975.16	928.16	20.748	CC
SONIC STAR 1101-01H - Plan B - Design #2	7,350.00	5,993.37	975.16	928.12	20.728	ES
SONIC STAR 1101-01H - Plan B - Design #2	8,200.00	5,800.00	1,281.70	1,192.05	14.297	SF
SONIC STAR 1101-03H - Plan B - Design #2						Out of range
SONIC STAR 1101-05H - Plan B - Design #2						Out of range
SONIC STAR 1101-07H - Plan B - Design #2						Out of range
SONIC STAR 1101-09H - Plan B - Design #2						Out of range
SONIC STAR 1101-11H - Plan B - Design #2						Out of range
SONIC STAR 1101-13H - Plan B - Design #2						Out of range
SONIC STAR 1101-16H - Plan B - Design #2						Out of range
8N-60W-12 Offsets						
COLORADO NATIONAL BANK #1 - Shell P&A Well - No						Out of range

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Reference Well:	SCHNEIDER 1414-04H	Survey Calculation Method:	Minimum Curvature
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Reference Wellbore	Plan C	Database:	EDM 5000.16 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	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						
8N-60W-14 Offsets						
BOOMSLANG FED 8-60 14A-13-18-1 - Bison Planned W	7,200.00	5,957.44	674.90	585.78	7.573	SF
BOOMSLANG FED 8-60 14A-13-18-1 - Bison Planned W	7,600.00	5,949.41	541.31	483.16	9.308	ES
BOOMSLANG FED 8-60 14A-13-18-1 - Bison Planned W	7,601.43	5,949.32	541.31	483.16	9.309	CC
BOOMSLANG FED 8-60 14A-13-18-2 - Bison PR Well - A	7,444.15	5,972.43	494.20	446.07	10.267	CC, ES
BOOMSLANG FED 8-60 14A-13-18-2 - Bison PR Well - A	7,800.00	5,987.14	608.76	533.59	8.098	SF
BOOMSLANG FED 8-60 14A-13-18-3 - Bison PR Well - A	8,051.61	5,952.00	441.73	391.22	8.745	CC
BOOMSLANG FED 8-60 14A-13-18-3 - Bison PR Well - A	8,100.00	5,952.00	444.37	390.08	8.184	ES
BOOMSLANG FED 8-60 14A-13-18-3 - Bison PR Well - A	8,400.00	5,952.00	562.58	478.26	6.671	SF
BOOMSLANG FED 8-60 14A-13-18-4 - Bison PR Well - A	8,726.07	5,908.91	438.05	377.94	7.288	CC
BOOMSLANG FED 8-60 14A-13-18-4 - Bison PR Well - A	8,800.00	5,905.71	444.22	375.74	6.487	ES
BOOMSLANG FED 8-60 14A-13-18-4 - Bison PR Well - A	9,000.00	5,895.28	516.42	427.10	5.782	SF
BOOMSLANG FED 8-60 14A-13-18-5 - Bison PR Well - A	9,262.02	5,952.00	424.59	349.98	5.690	CC
BOOMSLANG FED 8-60 14A-13-18-5 - Bison PR Well - A	9,300.00	5,952.00	426.29	346.96	5.374	ES
BOOMSLANG FED 8-60 14A-13-18-5 - Bison PR Well - A	9,500.00	5,985.30	484.85	382.92	4.757	SF
BOOMSLANG FED 8-60 14A-13-18-6 - Bison Planned W	9,716.64	6,000.00	531.68	435.40	5.522	CC
BOOMSLANG FED 8-60 14A-13-18-6 - Bison Planned W	9,800.00	6,000.00	538.18	431.50	5.045	ES
BOOMSLANG FED 8-60 14A-13-18-6 - Bison Planned W	9,900.00	6,000.00	562.41	445.04	4.792	SF
BOOMSLANG FED 8-60 14B-13-18-1 - Bison Planned W	9,932.52	6,000.00	532.26	434.76	5.459	CC
BOOMSLANG FED 8-60 14B-13-18-1 - Bison Planned W	10,000.00	6,000.00	536.52	432.17	5.141	ES
BOOMSLANG FED 8-60 14B-13-18-1 - Bison Planned W	10,100.00	6,000.00	557.99	444.97	4.937	SF
BOOMSLANG FED 8-60 14B-13-18-2 - Bison PR Well - A	10,135.36	5,981.27	424.70	333.36	4.650	CC
BOOMSLANG FED 8-60 14B-13-18-2 - Bison PR Well - A	10,200.00	5,973.65	429.47	329.71	4.305	ES
BOOMSLANG FED 8-60 14B-13-18-2 - Bison PR Well - A	10,300.00	5,948.00	455.14	345.67	4.158	SF
BOOMSLANG FED 8-60 14B-13-18-3 - Bison PR Well - A	10,779.63	5,862.43	468.20	368.30	4.687	CC
BOOMSLANG FED 8-60 14B-13-18-3 - Bison PR Well - A	10,800.00	5,860.37	468.63	366.18	4.574	ES
BOOMSLANG FED 8-60 14B-13-18-3 - Bison PR Well - A	11,000.00	5,851.00	517.13	395.41	4.249	SF
BOOMSLANG FED 8-60 14B-13-18-4 - Bison PR Well - A	11,336.01	5,917.70	419.96	306.36	3.697	CC
BOOMSLANG FED 8-60 14B-13-18-4 - Bison PR Well - A	11,400.00	5,921.16	424.79	301.88	3.456	ES
BOOMSLANG FED 8-60 14B-13-18-4 - Bison PR Well - A	11,500.00	5,926.67	450.72	317.28	3.378	SF
BOOMSLANG FED 8-60 14B-13-18-5 - Bison PR Well - A	12,002.75	5,944.00	430.84	298.44	3.254	CC
BOOMSLANG FED 8-60 14B-13-18-5 - Bison PR Well - A	12,109.34	5,963.29	443.15	295.77	3.007	ES, SF
BOOMSLANG FED 8-60 14B-13-18-6 - Bison Planned W	11,848.73	5,900.00	537.60	408.55	4.166	CC
BOOMSLANG FED 8-60 14B-13-18-6 - Bison Planned W	11,900.00	5,900.00	540.04	404.69	3.990	ES
BOOMSLANG FED 8-60 14B-13-18-6 - Bison Planned W	12,000.00	5,900.00	558.47	413.52	3.853	SF
HNIZDIL 1-14 - Gemini D/A Well - No Surveys	11,600.00	6,067.00	1,288.71	964.74	3.978	SF
HNIZDIL 1-14 - Gemini D/A Well - No Surveys	11,700.00	6,067.00	1,282.50	960.56	3.984	ES
HNIZDIL 1-14 - Gemini D/A Well - No Surveys	11,729.77	6,067.00	1,282.16	960.91	3.991	CC
SCHNEIDER 1-14-8-60 - Verdad PR Well - Actual Precis	0.00	0.00	83.56			
SCHNEIDER 2-14-8-60 - Verdad PR Well - Actual Precis	202.10	201.10	68.55	58.26	6.662	CC
SCHNEIDER 2-14-8-60 - Verdad PR Well - Actual Precis	300.00	298.98	70.19	56.75	5.223	ES
SCHNEIDER 2-14-8-60 - Verdad PR Well - Actual Precis	600.00	597.72	95.74	71.78	3.996	SF
8N-60W-14 SCHNEIDER 1414 PAD						
SCHNEIDER 1414-01H - Plan C - Design #1	202.10	202.10	48.02	40.45	6.344	CC, ES, SF
SCHNEIDER 1414-02H - Plan C - Design #1	202.10	202.10	32.01	24.44	4.229	CC, ES, SF
SCHNEIDER 1414-03H - Plan C - Design #1	202.10	202.10	16.01	8.44	2.115	CC, ES
SCHNEIDER 1414-03H - Plan C - Design #1	1,600.00	1,608.44	32.29	15.50	1.923	SF
8N-60W-22 Offsets Incomplete						
HALE 8-60 22-23-1 - Bison Plan - Now PR - No COGCC						Out of range
8N-60W-26 Offsets Incomplete						
EWS 1B - Expedition Water Solutions Planned Well - Pla						Out of range

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Reference Well:	SCHNEIDER 1414-04H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.28 usft	Output errors are at	2.45 sigma
Reference Wellbore	Plan C	Database:	EDM 5000.16 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Summary						
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Offset Well - Wellbore - Design						
8N-60W-36 Offsets Incomplete						
*STATE C #1 (No GL on COGCC) - Williamson P&A Well						Out of range
STATE #1 - Chicago D/A Well - No Surveys						Out of range
9N-60W-35 Offsets Incomplete						
PINTAIL FED 2-11-1HN - Mallard Planned Well - Planned						Out of range
PINTAIL FED 2-11-2HN - Mallard Planned Well - Planned						Out of range
PINTAIL FED 2-11-3HC - Mallard Planned Well - Planned						Out of range
PINTAIL FED 2-11-4HN - Mallard Planned Well - Planned						Out of range
PINTAIL FED 2-11-5HN - Mallard Planned Well - Planned						Out of range
PINTAIL FED 2-11-6HN - Mallard Planned Well - Planned	6,290.69	16,939.01	1,457.03	1,206.18	5.808	CC
PINTAIL FED 2-11-6HN - Mallard Planned Well - Planned	6,400.00	16,930.09	1,461.10	1,202.25	5.645	ES
PINTAIL FED 2-11-6HN - Mallard Planned Well - Planned	6,650.00	16,977.70	1,499.20	1,226.15	5.491	SF
PINTAIL FED 2-11-7HN - Mallard Planned Well - Planned	6,656.80	17,245.49	897.96	643.07	3.523	CC
PINTAIL FED 2-11-7HN - Mallard Planned Well - Planned	6,750.00	17,255.29	902.38	639.30	3.430	ES
PINTAIL FED 2-11-7HN - Mallard Planned Well - Planned	6,800.00	17,255.29	908.58	642.67	3.417	SF
PINTAIL FED 2-11-8HN - Mallard Planned Well - Planned	6,904.87	17,549.49	385.68	198.92	2.065	CC
PINTAIL FED 2-11-8HN - Mallard Planned Well - Planned	6,950.00	17,549.49	389.16	197.89	2.035	ES, SF
PINTAIL FED 2-11-9HN - Mallard Planned Well - Planned	7,051.25	17,926.13	566.25	298.94	2.118	CC
PINTAIL FED 2-11-9HN - Mallard Planned Well - Planned	7,100.00	17,926.13	570.08	297.03	2.088	ES, SF
PINTAIL FED 3-15-9HN - Mallard Planned Well - Planned						Out of range
Shull 1-35-9-60 - Carrizo PR Well - Actual Precision Surv						Out of range
Shull 2-35-9-60 - Verdad PR Well - Actual Precision Surv						Out of range
Shull 3-35-9-60 - Verdad PR Well - Actual Precision Surv						Out of range

Anticollision Summary Report

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Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB = 20' @ 4963.00usft (RIG)

Offset Depths are relative to Offset Datum

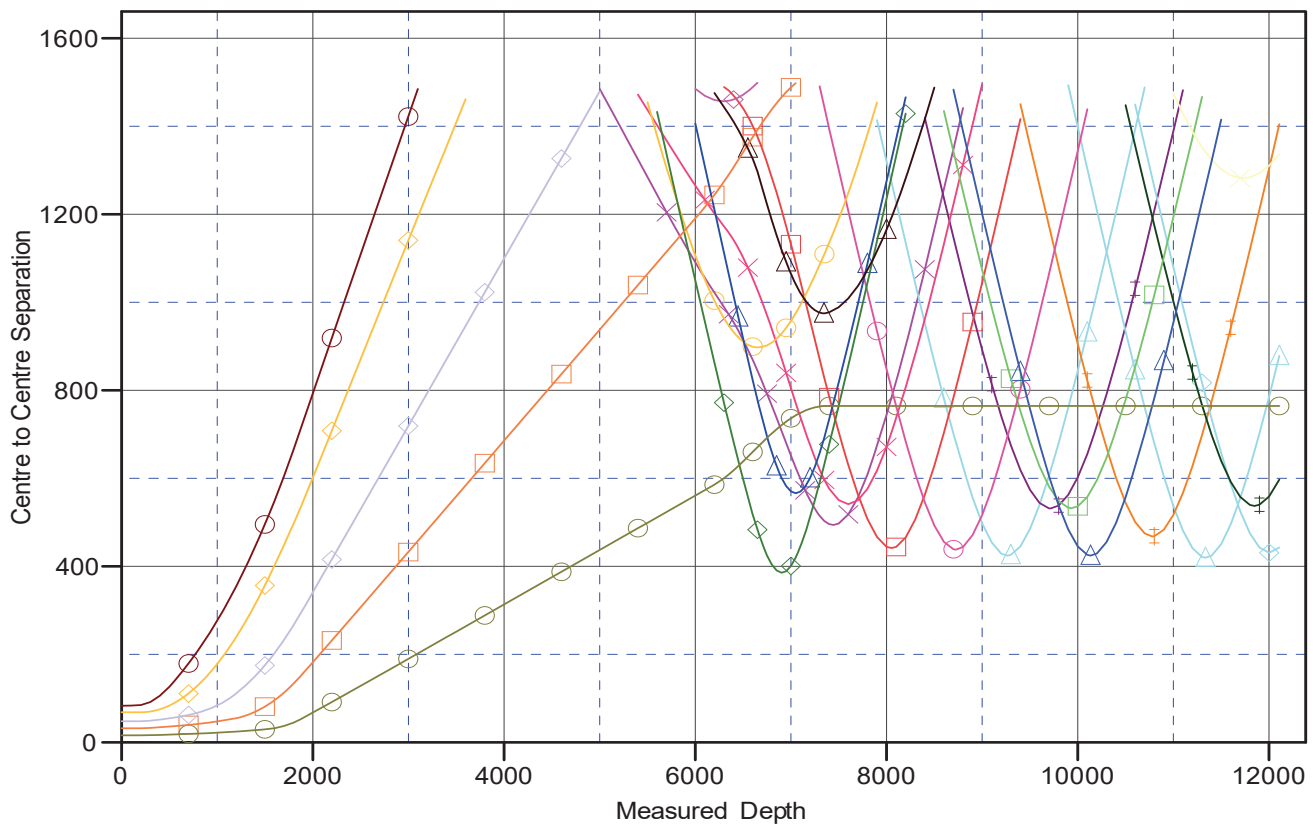
Central Meridian is -105.500000

Coordinates are relative to: SCHNEIDER 1414-04H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.93°

Ladder Plot



LEGEND

BOOMSLANG FED 8-60 14A-13-182, Bison PR Well, Actual Baker Surveys V0	BOOMSLANG FED 8-60 14A-13-181, Bison Planned Well, Planned Bison MWD Surveys V0	PINTAIL FED 2-11-8-4N, Mallard Planned Well, Planned Mallard Surveys V0
BOOMSLANG FED 8-60 14A-13-185, Bison PR Well, Actual Baker Surveys V0	BOOMSLANG FED 8-60 14B-13-186, Bison Planned Well, Planned MWD Surveys V0	PINTAIL FED 2-11-8-4N, Mallard Planned Well, Planned MWD Surveys V0
BOOMSLANG FED 8-60 14A-13-184, Bison Planned Well, Planned MWD Surveys V0	BOOMSLANG FED 8-60 14B-13-181, Bison Planned Well, Planned MWD Surveys V0	PINTAIL FED 2-11-8-4N, Mallard Planned Well, Planned MWD Surveys V0
BOOMSLANG FED 8-60 14A-13-183, Bison PR Well, Actual Baker Surveys V0	BOOMSLANG FED 8-60 14A-13-184, Bison PR Well, Actual Baker Surveys V0	SCHNEIDER 1414-02H, Plan C, Design #1 V0
BOOMSLANG FED 8-60 14B-13-184, Bison PR Well, Actual Baker Surveys V0	SCHNEIDER 2-14-8-60, Verdard PR Well, Actual Precision Surveys (Grid to True) V0	SCHNEIDER 1414-03H, Plan C, Design #1 V0
SCHNEIDER 1-14-8-60, Verdard PR Well, Actual Precision Surveys (Grid to True) V0	HNIZDIL 144, Gemini D/A Well, No Surveys V0	SCHNEIDER 1414-01H, Plan C, Design #1 V0
BOOMSLANG FED 8-60 14B-13-183, Bison PR Well, Actual Baker Surveys V0	BOOMSLANG FED 8-60 14B-13-182, Bison PR Well, Actual Baker Surveys V0	SCHNEIDER 1414-01H, Plan B, Design #2 V0
BOOMSLANG FED 8-60 14B-13-185, Bison PR Well, Actual Baker Surveys V0	PINTAIL FED 2-11-7-4N, Mallard Planned Well, Planned MWD Surveys V0	

Anticollision Summary Report

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Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB = 20' @ 4963.00usft (RIG)

Offset Depths are relative to Offset Datum

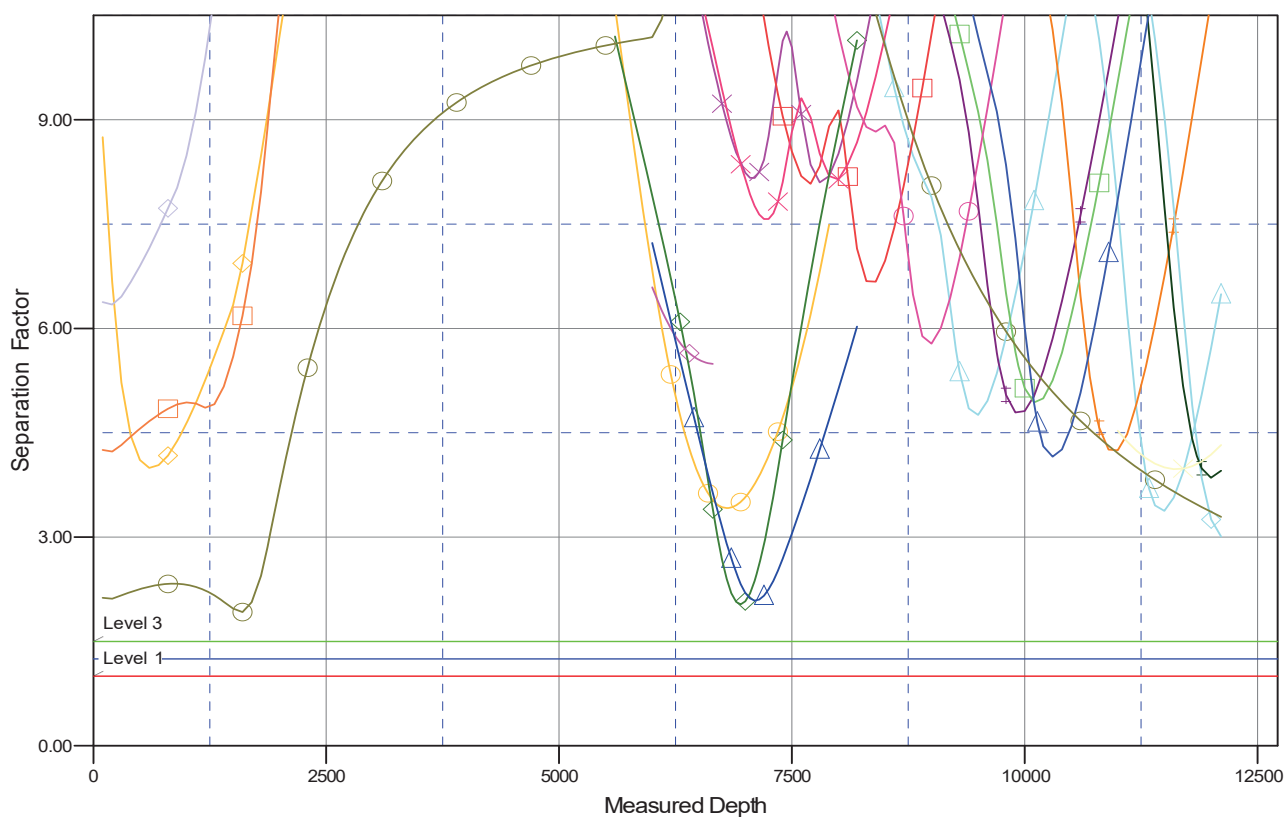
Central Meridian is -105.500000

Coordinates are relative to: SCHNEIDER 1414-04H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.93°

Separation Factor Plot



LEGEND

BOOMSLANG FED 8-60 14A-13-182, Bison PR Well, Actual Baker Surveys V0	BOOMSLANG FED 8-60 14A-13-181, Bison Planned Well, Planned Bison MWD Surveys V0	PINTAIL FED 2-11-84N, Mallard Planned Well, Planned Mallard Surveys V0
BOOMSLANG FED 8-60 14A-13-185, Bison PR Well, Actual Baker Surveys V0	BOOMSLANG FED 8-60 14B-13-186, Bison Planned Well, Planned Bison MWD Surveys V0	PINTAIL FED 2-11-84N, Mallard Planned Well, Planned MWD Surveys V0
BOOMSLANG FED 8-60 14A-13-186, Bison Planned Well, Planned MWD Surveys V0	BOOMSLANG FED 8-60 14B-13-181, Bison Planned Well, Planned MWD Surveys V0	PINTAIL FED 2-11-84N, Mallard Planned Well, Planned MWD Surveys V0
BOOMSLANG FED 8-60 14A-13-183, Bison PR Well, Actual Baker Surveys V0	BOOMSLANG FED 8-60 14A-13-184, Bison PR Well, Actual Baker Surveys V0	SCHNEIDER 1414-02H, Plan C, Design #1 V0
BOOMSLANG FED 8-60 14B-13-184, Bison PR Well, Actual Baker Surveys V0	SCHNEIDER 2-14-8-60, Verdard PR Well, Actual Precision Surveys (Grid to True) V0	SCHNEIDER 1414-03H, Plan C, Design #1 V0
SCHNEIDER 1-14-8-60, Verdard PR Well, Actual Precision Surveys (Grid to True) V0	HNZDIL 144, Gemini D/A Well, No Surveys V0	SCHNEIDER 1414-01H, Plan C, Design #1 V0
BOOMSLANG FED 8-60 14B-13-183, Bison PR Well, Actual Baker Surveys V0	BOOMSLANG FED 8-60 14B-13-182, Bison PR Well, Actual Baker Surveys V0	SCHNEIDER 1414-01H, Plan C, Design #2 V0
BOOMSLANG FED 8-60 14B-13-185, Bison PR Well, Actual Baker Surveys V0	PINTAIL FED 2-11-74N, Mallard Planned Well, Planned MWD Surveys V0	SONIC STAR 1101-01H, Plan B, Design #2 V0