

# **VERDAD RESOURCES**

**WATTENBERG FIELD**

**2N-63W-19 KBL PAD**

**KBL 1830-17H**

**Plan A**

**Design #1**

## **Anticollision Summary Report**

**17 September, 2024**

## Anticollision Summary Report

<b>Company:</b>	VERDAD RESOURCES	<b>Local Co-ordinate Reference:</b>	Well KBL 1830-17H
<b>Project:</b>	WATTENBERG FIELD	<b>TVD Reference:</b>	RKB = 21' @ 4882.00usft (RIG)
<b>Reference Site:</b>	2N-63W-19 KBL PAD	<b>MD Reference:</b>	RKB = 21' @ 4882.00usft (RIG)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	KBL 1830-17H	<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>	Reference 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	9/17/2024		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	1,816.00	Design #1 (Plan A)	ISCWSA MWD	Fixed:v2:standard declination	
1,816.00	22,786.75	Design #1 (Plan A)	ISCWSA MWD	Fixed:v2:standard declination	

<b>Summary</b>						
<b>Site Name</b>	<b>Reference Measured Depth (usft)</b>	<b>Offset Measured Depth (usft)</b>	<b>Distance Between Centres (usft)</b>	<b>Distance Between Ellipses (usft)</b>	<b>Separation Factor</b>	<b>Warning</b>
<b>Offset Well - Wellbore - Design</b>						
2N-63W-08 OFFSETS						
FEDERAL 14 - NOBLE P&A Well - No Surveys						Out of range
L F RANCHES 2-A - VOG P&A Well - No Surveys						Out of range
2N-63W-17 Offsets						
CHAMPLIN #1-17 - Rex Family D/A Well - No Surveys						Out of range
EWS #4A - EWS IJ Well - No Surveys						Out of range
PHILLIP #1 - EMC P&A Well - No Surveys						Out of range
UPRR 34 PAN AM #1 - Amoco D/A Well - No Surveys						Out of range
UPV #17-1K3 - Patina D/A Well - No Surveys						Out of range
UPV #17-3K3 - Snyder D/A Well - No Surveys						Out of range
2N-63W-18 Offsets						
CUYKENDALL-LAUCK #1 - Habersham Energy P&A We						Out of range
CUYKENDALL-LAUCK #2 - ARCH SI Well - No Surveys						Out of range
CUYKENDALL-LAUCK #3 - Sands-American P&A Well -						Out of range
ELMER KAUFMAN #1 - Sands-American P&A Well - No	10,560.50	6,696.00	27.05	-336.71	0.074	Level 1, CC, ES, SF
ELMER KAUFMAN #2 - ARCH SI Well - No Surveys	11,921.79	6,694.00	151.40	-192.37	0.440	Level 1, CC, ES, SF
ELMER KAUFMAN #3 - US Minerals P&A Well - No Surv	9,093.24	5,785.15	1,223.88	890.90	3.675	CC
ELMER KAUFMAN #3 - US Minerals P&A Well - No Surv	9,150.00	5,840.02	1,225.16	889.28	3.648	ES
ELMER KAUFMAN #3 - US Minerals P&A Well - No Surv	9,300.00	5,987.69	1,240.12	897.74	3.622	SF
EWS #4 - EWS 4 IJ Well - No Surveys	8,172.06	5,172.50	1,245.71	934.36	4.001	CC
EWS #4 - EWS 4 IJ Well - No Surveys	8,200.00	5,186.24	1,245.94	933.57	3.989	ES
EWS #4 - EWS 4 IJ Well - No Surveys	8,300.00	5,235.42	1,250.68	935.01	3.962	SF
EWS 4B - EWS IJ Well - Actual Ensign Surveys						Out of range
GUTTERSEN #YY18-715 - NOBLE Drilled Well - Actual	8,550.00	5,631.30	581.46	422.49	3.658	ES, SF
GUTTERSEN #YY18-715 - NOBLE Drilled Well - Actual	8,551.58	5,631.53	581.46	422.49	3.658	CC
GUTTERSEN #YY18-726 - NOBLE Drilled Well - Actual	8,530.06	5,696.29	206.49	42.31	1.258	Level 3, CC, ES, SF
GUTTERSEN #YY18-736 - NOBLE Drilled Well - Actual	10,055.03	7,053.05	179.45	19.81	1.124	Level 2, CC, ES, SF
GUTTERSEN #YY18-746 - NOBLE Drilled Well - No EC	10,150.00	7,010.25	456.23	284.82	2.662	SF
GUTTERSEN #YY18-746 - NOBLE Drilled Well - No EC	10,200.00	6,986.29	453.80	284.70	2.684	ES
GUTTERSEN #YY18-746 - NOBLE Drilled Well - No EC	10,203.62	6,984.56	453.79	284.90	2.687	CC
GUTTERSEN #YY18-754 - NOBLE Drilled Well - No EC	10,250.00	6,888.19	1,095.71	925.23	6.427	SF
GUTTERSEN #YY18-754 - NOBLE Drilled Well - No EC	10,350.00	6,848.49	1,088.47	920.02	6.461	ES
GUTTERSEN #YY18-754 - NOBLE Drilled Well - No EC	10,401.88	6,830.00	1,087.49	920.31	6.505	CC

# Anticollision Summary Report

<b>Company:</b>	VERDAD RESOURCES	<b>Local Co-ordinate Reference:</b>	Well KBL 1830-17H
<b>Project:</b>	WATTENBERG FIELD	<b>TVD Reference:</b>	RKB = 21' @ 4882.00usft (RIG)
<b>Reference Site:</b>	2N-63W-19 KBL PAD	<b>MD Reference:</b>	RKB = 21' @ 4882.00usft (RIG)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	KBL 1830-17H	<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>	Reference 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-63W-18 Offsets						
GUTTERSEN #YY18-764 - NOBLE Drilled Well - No EC						Out of range
GUTTERSEN #YY18-775 - NOBLE Drilled Well - No EC						Out of range
GUTTERSEN #YY18-785 - NOBLE Drilled Well - No EC						Out of range
JOHN CUYKENDALL UNIT #2 - NOBLE P&A Well - No S						Out of range
KAUFMAN #4 - ARCH SI Well - No Surveys	6,430.12	4,317.79	1,130.89	885.03	4.600	CC
KAUFMAN #4 - ARCH SI Well - No Surveys	6,500.00	4,352.16	1,132.53	884.17	4.560	ES
KAUFMAN #4 - ARCH SI Well - No Surveys	11,800.00	6,667.00	1,476.61	1,132.24	4.288	SF
2N-63W-19 KBL PAD						
KBL 1830-18H - Plan A - Design #1	200.42	200.42	15.10	7.53	1.995	CC
KBL 1830-18H - Plan A - Design #1	300.50	300.47	15.15	7.49	1.979	ES
KBL 1830-18H - Plan A - Design #1	8,519.20	8,486.21	306.38	36.02	1.133	Level 2, SF
KBL 1830-19H - Plan A - Design #1	200.00	200.00	29.93	22.36	3.954	CC, ES
KBL 1830-19H - Plan A - Design #1	22,786.75	21,342.98	1,439.77	1,012.46	3.369	SF
KBL 1918-13H - Plan A - Design #1	264.83	264.83	60.13	52.51	7.895	CC
KBL 1918-13H - Plan A - Design #1	300.50	300.48	60.13	52.48	7.861	ES
KBL 1918-13H - Plan A - Design #1	400.00	399.59	60.71	52.94	7.813	SF
KBL 1918-14H - Plan A - Design #1	300.50	300.50	45.03	37.37	5.882	CC
KBL 1918-14H - Plan A - Design #1	400.00	399.98	45.10	37.31	5.793	ES, SF
KBL 1918-15H - Plan A - Design #1	300.50	300.50	29.93	22.27	3.909	CC
KBL 1918-15H - Plan A - Design #1	400.00	399.98	30.01	22.23	3.856	ES, SF
KBL 1918-16H - Plan A - Design #1	300.50	300.50	15.11	7.45	1.973	CC
KBL 1918-16H - Plan A - Design #1	400.00	399.98	15.22	7.44	1.956	ES, SF
KBL 1930-07H - VERDAD PR Well - Actual SLB Surveys	224.31	223.31	134.25	126.66	17.674	CC, ES
KBL 1930-07H - VERDAD PR Well - Actual SLB Surveys	300.50	295.78	135.31	127.64	17.655	SF
KBL 1930-08H - VERDAD PR Well - Actual SLB Surveys	152.13	151.13	119.88	112.33	15.878	CC, ES
KBL 1930-08H - VERDAD PR Well - Actual SLB Surveys	300.50	296.96	121.09	113.43	15.799	SF
KBL 1930-09H - VERDAD PR Well - Actual SLB Surveys	0.00	0.00	105.17			
KBL 1930-09H - VERDAD PR Well - Actual SLB Surveys	300.50	298.02	105.95	98.28	13.812	SF
KBL 1930-11H - VERDAD PR Well - Actual SLB Surveys	221.43	220.43	89.52	81.92	11.789	CC, ES
KBL 1930-11H - VERDAD PR Well - Actual SLB Surveys	20,200.00	11,837.96	1,499.17	1,240.04	5.785	SF
KBL 1930-12H - VERDAD PR Well - Actual SLB Surveys	255.33	254.34	74.18	66.56	9.726	CC, ES
KBL 1930-12H - VERDAD PR Well - Actual SLB Surveys	22,786.75	14,412.02	893.61	522.41	2.407	SF
2N-63W-19 Offsets						
BERGLUND #1 - Texaco P/A Well - No Surveys						Out of range
BERGLUND MYERS #42-19 - Simmons Energy D/A We	4,213.00	3,218.37	1,181.62	1,019.26	7.278	CC
BERGLUND MYERS #42-19 - Simmons Energy D/A We	4,300.00	3,261.16	1,184.04	1,018.53	7.154	ES
BERGLUND MYERS #42-19 - Simmons Energy D/A We	13,885.61	6,658.00	1,349.88	1,025.59	4.163	SF
BERGLUND-MYERS #1 - Barrett Resources P/A Well - N						Out of range
OSCAR & JENNIE BERGLUND #1 - Amoco D/A Well - N	13,217.75	6,680.00	77.37	-251.23	0.235	Level 1, CC, ES, SF
2N-63W-20 Offsets						
WRIGHT #1 - Summit D/A Well - No Surveys						Out of range
2N-63W-30 Offsets						
LAUCK #1 - Siler Earl F DA Well - No Surveys	19,854.32	6,632.00	10.60	-380.07	0.027	Level 1, CC, ES, SF

## Anticollision Summary Report

<b>Company:</b>	VERDAD RESOURCES	<b>Local Co-ordinate Reference:</b>	Well KBL 1830-17H
<b>Project:</b>	WATTENBERG FIELD	<b>TVD Reference:</b>	RKB = 21' @ 4882.00usft (RIG)
<b>Reference Site:</b>	2N-63W-19 KBL PAD	<b>MD Reference:</b>	RKB = 21' @ 4882.00usft (RIG)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	KBL 1830-17H	<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>	Reference Datum

Reference Depths are relative to RKB = 21' @ 4882.00usft (RIG)

Offset Depths are relative to Offset Datum

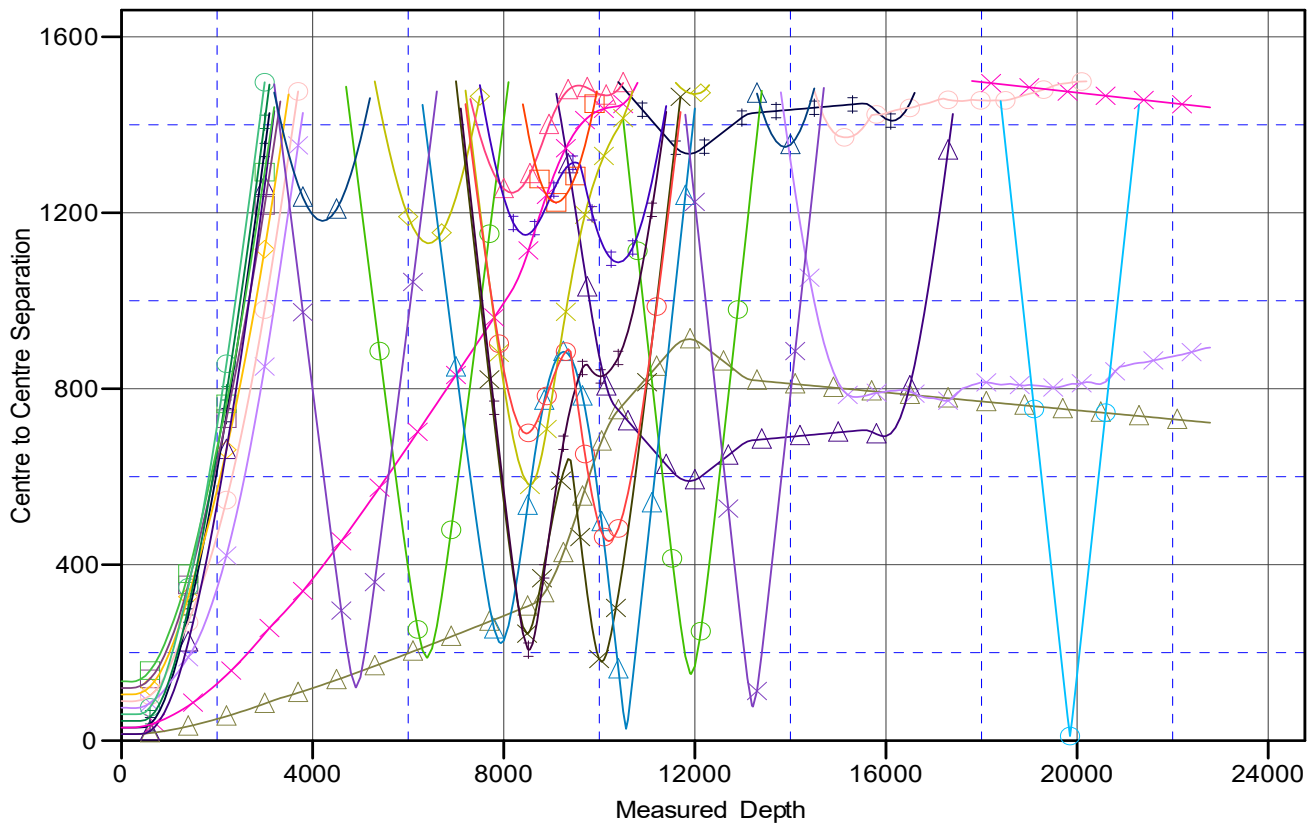
Central Meridian is -105.500000

Coordinates are relative to: KBL 1830-17H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.66°

### Ladder Plot



### LEGEND

■ KBL 1830-18H, Plan A, Design #1 V0	✱ KBL 1830-18H, Plan A, Design #1 V0	▲ ELMER KAUFMAN #1, Sands-American P&A Well, No Surveys V0
■ KBL 1918-16H, Plan A, Design #1 V0	✱ KBL 1930-09H, VERDAD PR Well, Actual SLB Surveys V0	▲ GUTTERSEN #Y18-726, NOBLE Drilled Well, Actual BKR Surveys V0
■ KBL 1930-09H, VERDAD PR Well, Actual SLB Surveys V0	✱ KBL 1918-18H, Plan A, Design #1 V0	▲ GUTTERSEN #Y18-754, NOBLE Drilled Well - No ECOMCA Actual Surveys, BKR Planned Well - Low I
■ KBL 1930-09H, VERDAD PR Well, Actual SLB Surveys V0	✱ ELMER KAUFMAN #2, ARCH SI Well, No Surveys V0	▲ GUTTERSEN #Y18-746, NOBLE Drilled Well - No ECOMCA Actual Surveys, BKR Planned Well - Low I
■ KBL 1930-11H, VERDAD PR Well, Actual SLB Surveys V0	✱ KAUFMAN #4, ARCH SI Well, No Surveys V0	▲ ELMER KAUFMAN #3, US Minerals P&A Well, No Surveys V0
■ KBL 1930-12H, VERDAD PR Well, Actual SLB Surveys V0	✱ GUTTERSEN #Y18-736, NOBLE Drilled Well, Actual BKR Surveys V0	▲ OSCAR & JENNIE BERGLUND #1, Amoco D/A Well, No Surveys V0
■ KBL 1918-16H, Plan A, Design #1 V0	✱ GUTTERSEN #Y18-715, NOBLE Drilled Well, Actual BKR Surveys V0	▲ BERGLUND MYERS #42-19, Simmons Energy D/A Well, No Surveys V0
■ KBL 1918-16H, Plan A, Design #1 V0	✱ EWS #4, EWS 4 U Well, No Surveys V0	▲ LAUCK #1, Slicker Ear F DA Well, No Surveys V0

## Anticollision Summary Report

<b>Company:</b>	VERDAD RESOURCES	<b>Local Co-ordinate Reference:</b>	Well KBL 1830-17H
<b>Project:</b>	WATTENBERG FIELD	<b>TVD Reference:</b>	RKB = 21' @ 4882.00usft (RIG)
<b>Reference Site:</b>	2N-63W-19 KBL PAD	<b>MD Reference:</b>	RKB = 21' @ 4882.00usft (RIG)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	KBL 1830-17H	<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>	Reference Datum

Reference Depths are relative to RKB = 21' @ 4882.00usft (RIG)

Offset Depths are relative to Offset Datum

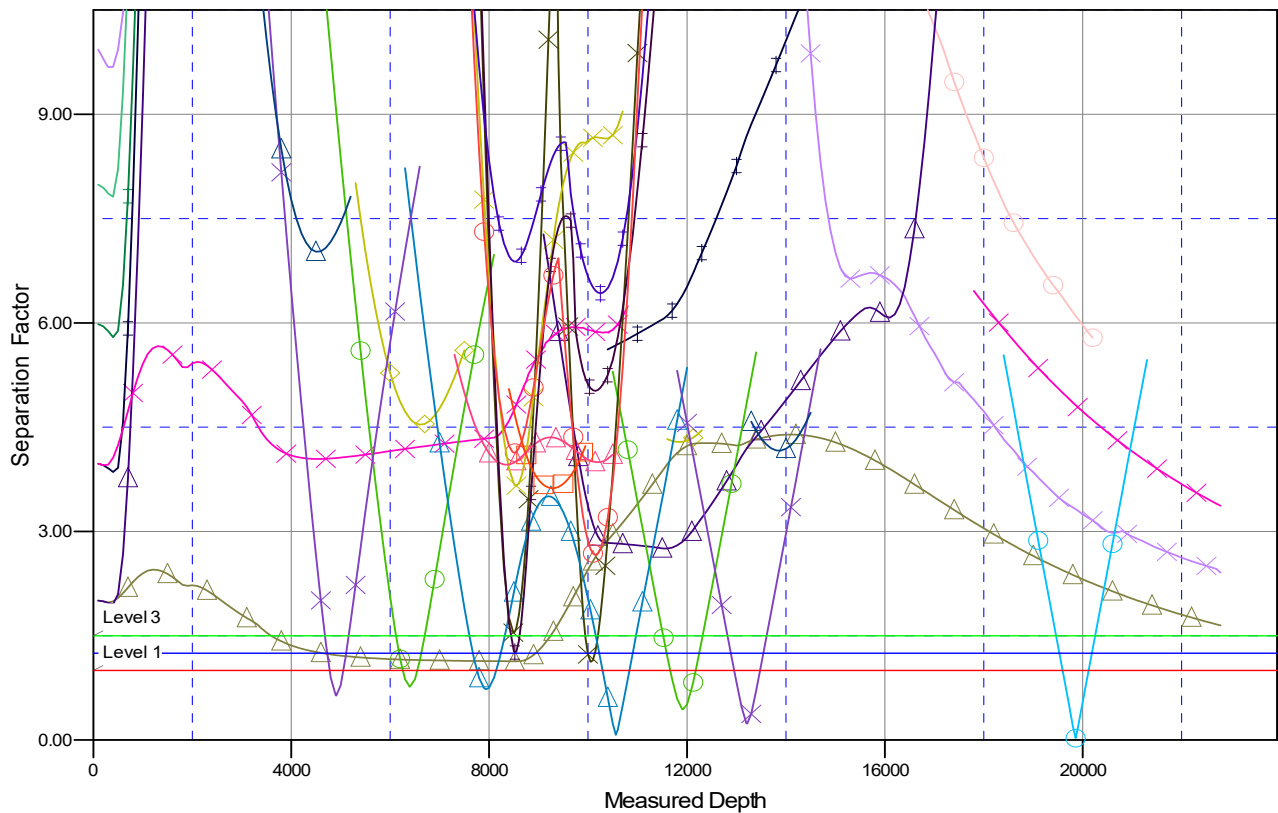
Central Meridian is -105.500000

Coordinates are relative to: KBL 1830-17H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.66°

### Separation Factor Plot



### LEGEND

KBL 1830-18H, Plan A, Design #1 V0	KBL 1830-18H, Plan A, Design #1 V0	ELMER KAUFMAN #1, Sands-American P&A Well, No Surveys V0
KBL 1918-16H, Plan A, Design #1 V0	KBL 1930-09H, VERDAD PR Well, Actual SLB Surveys V0	GUTTERSEN #Y18-726, NOBLE Drilled Well, Actual BKR Surveys V0
KBL 1930-09H, VERDAD PR Well, Actual SLB Surveys V0	KBL 1918-16H, Plan A, Design #1 V0	GUTTERSEN #Y18-754, NOBLE Drilled Well - No ECMCA Actual Surveys, BKR Planned Well - Low
KBL 1930-09H, VERDAD PR Well, Actual SLB Surveys V0	ELMER KAUFMAN #2, ARCH SI Well, No Surveys V0	GUTTERSEN #Y18-746, NOBLE Drilled Well - No ECMCA Actual Surveys, BKR Planned Well - Low
KBL 1930-11H, VERDAD PR Well, Actual SLB Surveys V0	KAUFMAN #4, ARCH SI Well, No Surveys V0	ELMER KAUFMAN #3, US Minerals P&A Well, No Surveys V0
KBL 1930-12H, VERDAD PR Well, Actual SLB Surveys V0	GUTTERSEN #Y18-736, NOBLE Drilled Well, Actual BKR Surveys V0	OSCAR & JENNIE BERGLUND #1, Amoco D/A Well, No Surveys V0
KBL 1918-16H, Plan A, Design #1 V0	GUTTERSEN #Y18-715, NOBLE Drilled Well, Actual BKR Surveys V0	BERGLUND MYERS #42-19, Simmons Energy D/A Well, No Surveys V0
KBL 1918-16H, Plan A, Design #1 V0	EWS #4, EWS 4 U Well, No Surveys V0	LAUCK #1, Sier Earl F DA Well, No Surveys V0