

Crestone Peak Resources

DJ BASIN

S25-T1N-R66W (LOCHBUIE LAND)

LOCHBUIE LAND 2K-25H-D166

OH

PLAN #1

Anticollision Summary Report

25 May, 2018

Cathedral Energy Services

Anticollision Summary Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well LOCHBUIE LAND 2K-25H-D166 - Slot LOCHBUIE LAND 2K-25H-D166 SHL
Project:	DJ BASIN	TVD Reference:	KB @ 5099.00usft
Reference Site:	S25-T1N-R66W (LOCHBUIE LAND)	MD Reference:	KB @ 5099.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	LOCHBUIE LAND 2K-25H-D166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Reference	PLAN #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,933.21 usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	5/25/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	2,000.00	PLAN #1 (OH)	VESSI_GYROFLEX	VESSI Gyroflex Gyro
2,001.00	11,981.92	PLAN #1 (OH)	MWD+HDGM	OWSG MWD + HDGM

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
S25-T1N-R66W (LOCHBUIE LAND)						
AZUL 13-11HZ - KMG WELL - PLAN ONLY						Out of range
AZUL 13-12HZ - KMG WELL - PLAN ONLY						Out of range
AZUL 13-19HZ - KMG WELL - PLAN ONLY						Out of range
AZUL 13-1HZ - KMG WELL - PLAN ONLY						Out of range
AZUL 13-20HZ - KMG WELL - PLAN ONLY						Out of range
AZUL 13-21HZ - KMG WELL - PLAN ONLY						Out of range
AZUL 13-22HZ - KMG WELL - PLAN ONLY						Out of range
AZUL 13-23HZ - KMG WELL - PLAN ONLY						Out of range
AZUL 13-24HZ - KMG WELL - SURVEYS						Out of range
AZUL 13-25HZ - KMG WELL - SURVEYS						Out of range
AZUL 13-26HZ - KMG WELL - SURVEYS						Out of range
AZUL 13-27HZ - KMG WELL - SURVEYS						Out of range
AZUL 13-28HZ - KMG WELL - SURVEYS						Out of range
AZUL 13-29HZ - KMG WELL - SURVEYS						Out of range
AZUL 13-2HZ - KMG WELL - PLAN ONLY						Out of range
AZUL 13-3HZ - KMG WELL - PLAN ONLY						Out of range
AZUL 13-4HZ - KMG WELL - PLAN ONLY						Out of range
AZUL 13-9HZ - KMG WELL - PLAN ONLY						Out of range
BEIERLE 2 - KMG WELL - SURVEYS	2,479.91	2,272.87	1,206.13	1,198.45	157.135	CC
BEIERLE 2 - KMG WELL - SURVEYS	2,500.00	2,287.46	1,206.17	1,198.44	155.954	ES
BEIERLE 2 - KMG WELL - SURVEYS	7,500.00	7,402.77	1,662.98	1,624.23	42.914	SF
CRONIN 2 - RITTER OIL - NO SURVEYS	200.00	210.00	1,687.03	1,686.21	2,057.685	CC, ES
CRONIN 2 - RITTER OIL - NO SURVEYS	1,300.00	795.00	1,890.45	1,885.56	386.562	SF
JOHNSON 1N-65W-30-1S - VERDAD RESOURCES LL						Out of range
JOHNSON 1N-65W-30-2S - VERDAD RESOURCES LL						Out of range
LOCHBUIE LAND 2A-25H-D166 - OH - PLAN #1	200.00	202.00	100.00	99.50	201.373	CC, ES
LOCHBUIE LAND 2A-25H-D166 - OH - PLAN #1	7,000.00	6,726.08	1,932.61	1,896.16	53.019	SF
LOCHBUIE LAND 2B-25H-D166 - OH - PLAN #1	200.00	202.00	90.00	89.50	181.236	CC, ES
LOCHBUIE LAND 2B-25H-D166 - OH - PLAN #1	11,982.51	12,106.34	1,825.66	1,526.08	6.094	SF
LOCHBUIE LAND 2C-25H-D166 - OH - PLAN #1	0.00	1.95	80.00			
LOCHBUIE LAND 2C-25H-D166 - OH - PLAN #1	11,982.51	11,856.76	1,717.24	1,416.80	5.716	SF
LOCHBUIE LAND 2D-25H-D166 - OH - PLAN #1	200.00	201.00	70.00	69.51	141.468	CC, ES
LOCHBUIE LAND 2D-25H-D166 - OH - PLAN #1	11,982.51	11,904.29	1,319.77	1,019.17	4.391	SF
LOCHBUIE LAND 2E-25H-D166 - OH - PLAN #1	200.00	201.00	60.00	59.51	121.259	CC, ES
LOCHBUIE LAND 2E-25H-D166 - OH - PLAN #1	11,982.51	11,831.24	1,058.05	758.25	3.529	SF

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

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Anticollision Summary Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well LOCHBUIE LAND 2K-25H-D166 - Slot LOCHBUIE LAND 2K-25H-D166 SHL
Project:	DJ BASIN	TVD Reference:	KB @ 5099.00usft
Reference Site:	S25-T1N-R66W (LOCHBUIE LAND)	MD Reference:	KB @ 5099.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	LOCHBUIE LAND 2K-25H-D166	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #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
S25-T1N-R66W (LOCHBUIE LAND)						
LOCHBUIE LAND 2F-25H-D166 - OH - PLAN #1	200.00	201.00	50.00	49.51	101.049	CC, ES
LOCHBUIE LAND 2F-25H-D166 - OH - PLAN #1	11,982.51	12,077.35	1,002.60	705.74	3.377	SF
LOCHBUIE LAND 2G-25H-D166 - OH - PLAN #1	205.53	206.60	40.00	39.48	77.794	CC
LOCHBUIE LAND 2G-25H-D166 - OH - PLAN #1	300.00	302.15	40.23	39.39	47.483	ES
LOCHBUIE LAND 2G-25H-D166 - OH - PLAN #1	11,982.51	11,748.88	729.12	436.35	2.490	SF
LOCHBUIE LAND 2H-25H-D166 - OH - PLAN #1	206.80	207.86	30.00	29.48	57.849	CC
LOCHBUIE LAND 2H-25H-D166 - OH - PLAN #1	300.00	301.89	30.19	29.34	35.641	ES
LOCHBUIE LAND 2H-25H-D166 - OH - PLAN #1	11,982.51	11,916.21	660.07	359.42	2.195	SF
LOCHBUIE LAND 2I-25H-D166 - OH - PLAN #1	200.00	200.00	20.00	19.51	40.565	CC
LOCHBUIE LAND 2I-25H-D166 - OH - PLAN #1	400.00	401.29	20.28	19.08	16.895	ES
LOCHBUIE LAND 2I-25H-D166 - OH - PLAN #1	11,982.51	11,869.00	402.11	106.12	1.359	Level 3, SF
LOCHBUIE LAND 2J-25H-D166 - OH - PLAN #1	200.00	200.00	10.00	9.51	20.283	CC
LOCHBUIE LAND 2J-25H-D166 - OH - PLAN #1	600.00	601.31	10.36	8.43	5.383	ES
LOCHBUIE LAND 2J-25H-D166 - OH - PLAN #1	11,982.51	12,138.38	233.62	19.91	1.093	Level 2, SF
LOCHBUIE LAND 2L-25H-D166 - OH - PLAN #1	200.00	200.00	10.00	9.51	20.283	CC
LOCHBUIE LAND 2L-25H-D166 - OH - PLAN #1	11,982.51	11,959.63	272.87	-19.43	0.934	Level 1, ES, SF
SAM 13-25 - CPR WELL - SURVEYS	7,664.06	7,454.29	1,190.12	1,142.78	25.140	CC
SAM 13-25 - CPR WELL - SURVEYS	7,700.00	7,464.16	1,190.68	1,142.57	24.750	ES
SAM 13-25 - CPR WELL - SURVEYS	8,300.00	7,494.82	1,334.31	1,271.90	21.379	SF
TEMPLIN 1 - VESSELS THOMAS G - SURVEYS	11,407.08	7,306.10	1,113.16	965.81	7.554	CC, ES
TEMPLIN 1 - VESSELS THOMAS G - SURVEYS	11,500.00	7,305.75	1,117.03	967.54	7.472	SF
S25-T1N-R66W (SAM)						
SAM 3A-25H-M166 - OH - PLAN #2	11,982.51	11,996.87	663.43	362.91	2.208	CC, ES, SF
SAM 3A-25H-M166 - OH - SURVEYS						Out of range
SAM 3B-25H-M166 - OH - PLAN #2	11,976.16	12,146.90	815.67	521.42	2.772	CC
SAM 3B-25H-M166 - OH - PLAN #2	11,982.51	12,147.94	815.68	521.21	2.770	ES, SF
SAM 3B-25H-M166 - OH - SURVEYS						Out of range
SAM 3C-25H-M166 - OH - PLAN #2	11,982.51	11,900.34	910.10	610.37	3.036	CC, ES, SF
SAM 3C-25H-M166 - OH - SURVEYS						Out of range
SAM 3D-25H-M166 - OH - PLAN #2	11,976.32	11,939.65	1,127.43	826.36	3.745	CC
SAM 3D-25H-M166 - OH - PLAN #2	11,982.51	11,938.59	1,127.44	826.22	3.743	ES, SF
SAM 3E-25H-M166 - OH - PLAN #2	11,975.76	11,846.22	1,424.21	1,123.58	4.737	CC
SAM 3E-25H-M166 - OH - PLAN #2	11,982.51	11,844.31	1,424.23	1,123.44	4.735	ES, SF
SAM 3F-25H-M166 - OH - PLAN #2	11,982.51	11,916.98	1,572.56	1,272.00	5.232	CC, ES, SF
SAM 3F-25H-M166 - OH - SURVEYS						Out of range
SAM 3G-25H-M166 - OH - PLAN #1	11,973.49	11,831.03	1,784.14	1,484.01	5.945	CC
SAM 3G-25H-M166 - OH - PLAN #1	11,982.51	11,831.03	1,784.16	1,483.75	5.939	ES, SF
SAM 3H-25H-M166 - OH - PLAN #2						Out of range
SAM 3I-25H-M166 - OH - PLAN #3						Out of range
SAM 3J-25H-M166 - OH - PLAN #2						Out of range
SAM 3K-25H-M166 - OH - PLAN #2						Out of range
SAM 3L-25H-M166 - OH - PLAN #2						Out of range

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

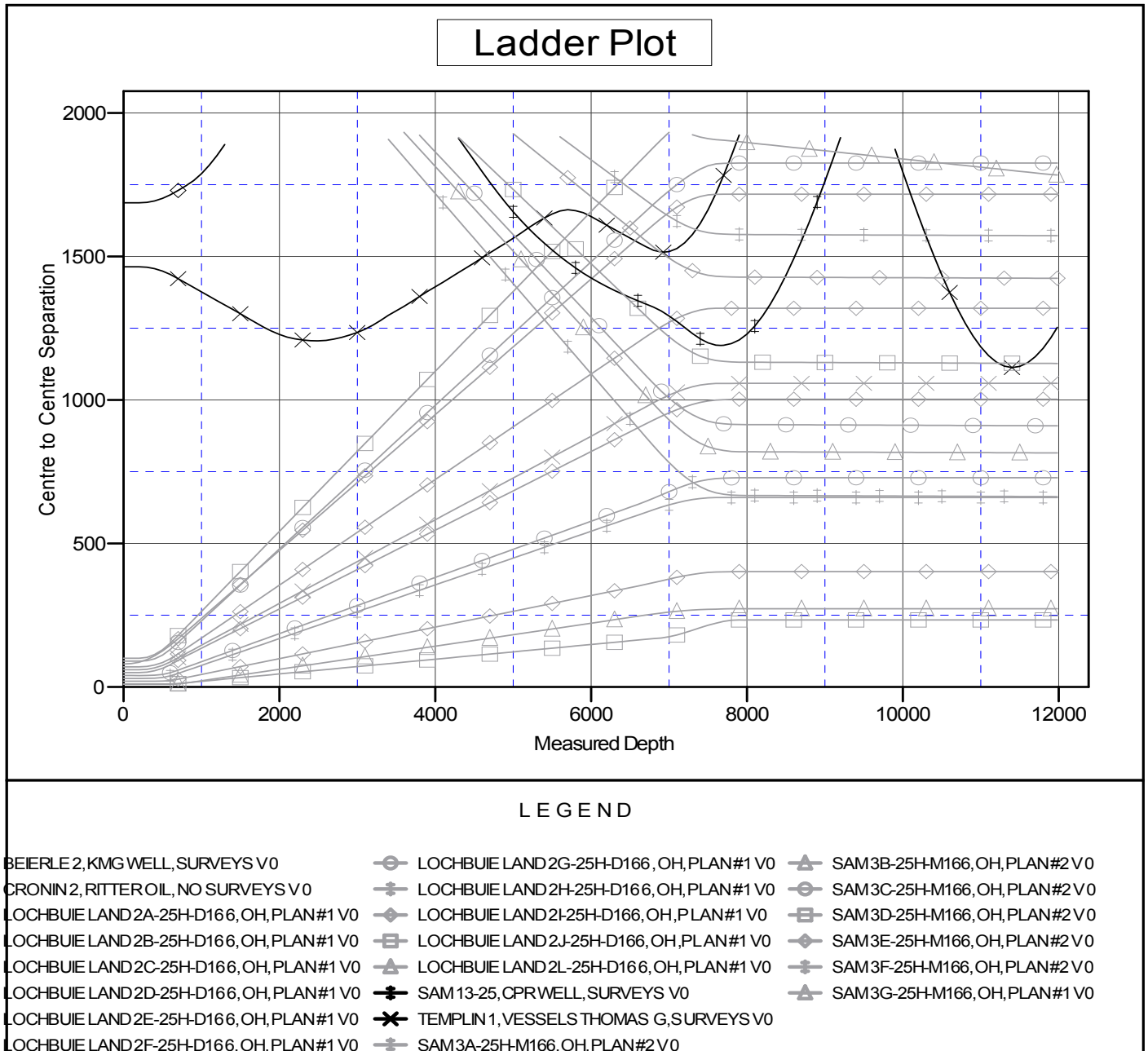
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Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 5099.00usft
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: LOCHBUIE LAND 2K-25H-D166 - Slot LOCHBUIE LA
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.50°



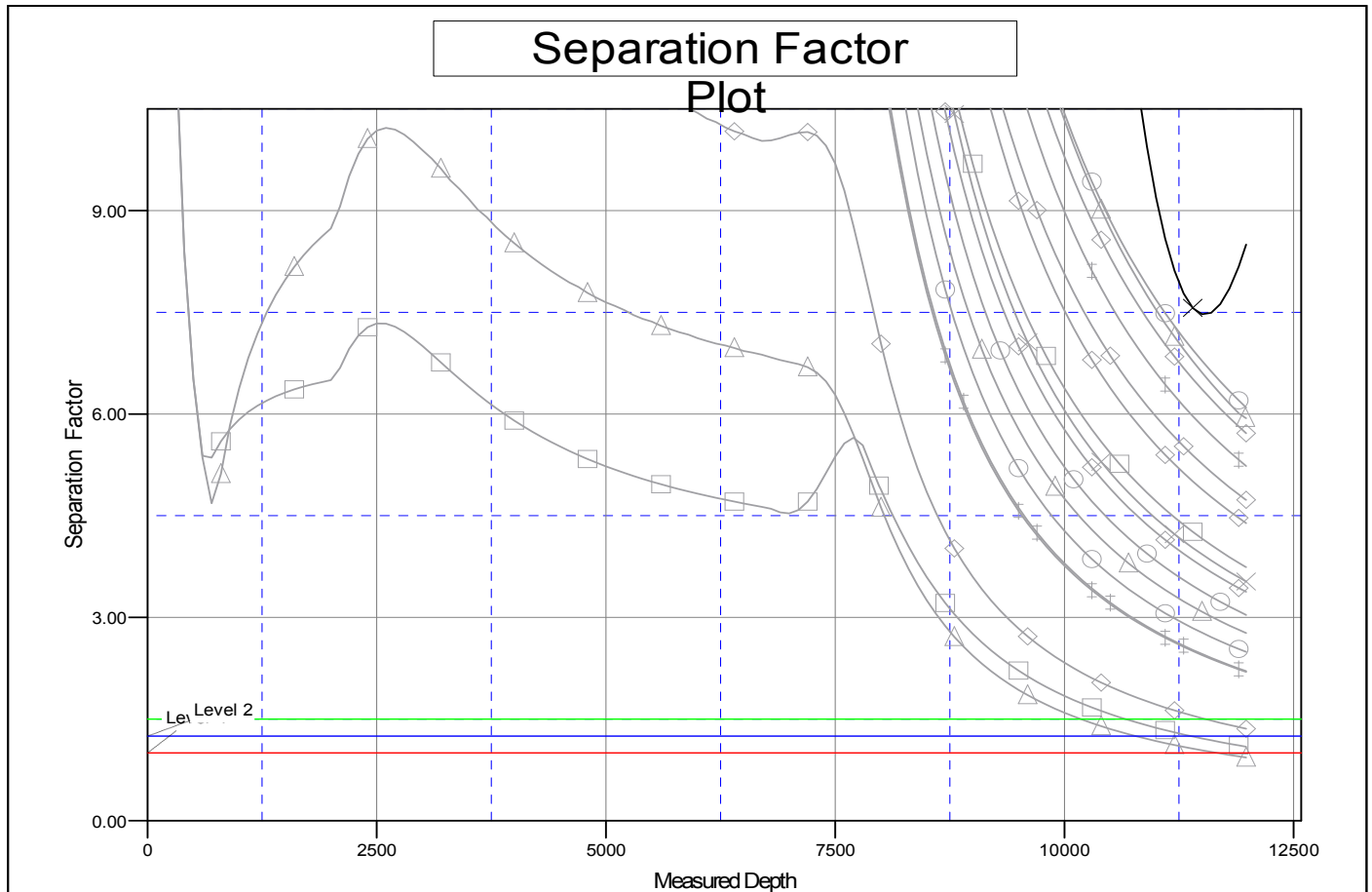
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Reference Well:	LOCHBUIE LAND 2K-25H-D166	Survey Calculation Method:	Minimum Curvature
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Reference Wellbore	OH	Database:	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 5099.00usft
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: LOCHBUIE LAND 2K-25H-D166 - Slot LOCHBUIE LA
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.50°



LEGEND

- | | | |
|--|--|-----------------------------------|
| • BEIERLE 2,KMG WELL, SURVEYS V0 | —○— LOCHBUIE LAND 2G-25H-D166, OH, PLAN#1 V0 | —△— SAM3B-25H-M166, OH, PLAN#2 V0 |
| • CRONIN 2, RITTER OIL, NO SURVEYS V0 | —+— LOCHBUIE LAND 2H-25H-D166, OH, PLAN#1 V0 | —○— SAM3C-25H-M166, OH, PLAN#2 V0 |
| • LOCHBUIE LAND 2A-25H-D166, OH, PLAN#1 V0 | —◇— LOCHBUIE LAND 2I-25H-D166, OH, PLAN#1 V0 | —□— SAM3D-25H-M166, OH, PLAN#2 V0 |
| • LOCHBUIE LAND 2B-25H-D166, OH, PLAN#1 V0 | —□— LOCHBUIE LAND 2J-25H-D166, OH, PLAN#1 V0 | —◇— SAM3E-25H-M166, OH, PLAN#2 V0 |
| • LOCHBUIE LAND 2C-25H-D166, OH, PLAN#1 V0 | —△— LOCHBUIE LAND 2L-25H-D166, OH, PLAN#1 V0 | —+— SAM3F-25H-M166, OH, PLAN#2 V0 |
| • LOCHBUIE LAND 2D-25H-D166, OH, PLAN#1 V0 | —+— SAM 13-25, CPR WELL, SURVEYS V0 | —△— SAM3G-25H-M166, OH, PLAN#1 V0 |
| • LOCHBUIE LAND 2E-25H-D166, OH, PLAN#1 V0 | —X— TEMPLIN 1, VESSELS THOMAS G, SURVEYS V0 | |
| • LOCHBUIE LAND 2F-25H-D166, OH, PLAN#1 V0 | —+— SAM3A-25H-M166, OH, PLAN#2 V0 | |