

Crestone Peak Resources

DJ BASIN

S25-T1N-R66W (LOCHBUIE LAND)

LOCHBUIE LAND 2E-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 2E-25H-D166 - Slot LOCHBUIE LAND 2E-25H-D166 SHL
Project:	DJ BASIN	TVD Reference:	KB @ 5100.00usft
Reference Site:	S25-T1N-R66W (LOCHBUIE LAND)	MD Reference:	KB @ 5100.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	LOCHBUIE LAND 2E-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	11,835.15	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	8,649.76	12,171.49	1,517.09	1,437.42	19.043	CC
AZUL 13-11HZ - KMG WELL - PLAN ONLY	8,700.00	12,171.49	1,517.92	1,437.29	18.826	ES
AZUL 13-11HZ - KMG WELL - PLAN ONLY	9,600.00	12,171.49	1,790.11	1,671.36	15.074	SF
AZUL 13-12HZ - KMG WELL - PLAN ONLY	8,934.71	12,521.28	1,526.30	1,436.93	17.078	CC, ES
AZUL 13-12HZ - KMG WELL - PLAN ONLY	9,900.00	12,521.28	1,805.93	1,681.34	14.495	SF
AZUL 13-19HZ - KMG WELL - PLAN ONLY	10,285.70	12,512.25	1,553.05	1,419.14	11.598	CC
AZUL 13-19HZ - KMG WELL - PLAN ONLY	10,300.00	12,512.25	1,553.12	1,419.11	11.589	ES
AZUL 13-19HZ - KMG WELL - PLAN ONLY	10,900.00	12,512.25	1,670.13	1,523.03	11.354	SF
AZUL 13-1HZ - KMG WELL - PLAN ONLY	7,282.32	12,639.08	1,519.20	1,461.56	26.356	CC
AZUL 13-1HZ - KMG WELL - PLAN ONLY	7,300.00	12,639.08	1,519.34	1,461.16	26.115	ES
AZUL 13-1HZ - KMG WELL - PLAN ONLY	8,300.00	12,639.08	1,908.14	1,804.59	18.427	SF
AZUL 13-20HZ - KMG WELL - PLAN ONLY	9,978.27	12,681.44	1,563.86	1,441.74	12.806	CC
AZUL 13-20HZ - KMG WELL - PLAN ONLY	10,000.00	12,681.44	1,564.01	1,441.59	12.776	ES
AZUL 13-20HZ - KMG WELL - PLAN ONLY	10,700.00	12,681.44	1,722.37	1,579.13	12.024	SF
AZUL 13-21HZ - KMG WELL - PLAN ONLY	9,745.26	12,502.03	1,541.94	1,428.71	13.618	CC
AZUL 13-21HZ - KMG WELL - PLAN ONLY	9,800.00	12,502.03	1,542.91	1,428.68	13.508	ES
AZUL 13-21HZ - KMG WELL - PLAN ONLY	10,500.00	12,502.03	1,716.74	1,577.74	12.351	SF
AZUL 13-22HZ - KMG WELL - PLAN ONLY	9,515.56	12,413.56	1,532.92	1,428.14	14.630	CC, ES
AZUL 13-22HZ - KMG WELL - PLAN ONLY	10,300.00	12,413.56	1,721.97	1,586.86	12.745	SF
AZUL 13-23HZ - KMG WELL - PLAN ONLY	9,266.52	12,625.16	1,545.12	1,447.84	15.883	CC
AZUL 13-23HZ - KMG WELL - PLAN ONLY	9,300.00	12,625.16	1,545.48	1,447.24	15.731	ES
AZUL 13-23HZ - KMG WELL - PLAN ONLY	10,100.00	12,625.16	1,755.59	1,623.45	13.286	SF
AZUL 13-24HZ - KMG WELL - SURVEYS	11,847.40	13,242.00	1,526.92	1,303.70	6.840	CC, ES, SF
AZUL 13-25HZ - KMG WELL - SURVEYS	11,847.40	13,364.00	1,505.92	1,297.36	7.221	CC, ES, SF
AZUL 13-26HZ - KMG WELL - SURVEYS	11,847.40	12,966.00	1,494.72	1,303.03	7.797	CC, ES, SF
AZUL 13-27HZ - KMG WELL - SURVEYS	11,800.00	12,904.00	1,578.49	1,401.81	8.934	ES, SF
AZUL 13-27HZ - KMG WELL - SURVEYS	11,847.40	12,904.00	1,578.35	1,401.95	8.947	CC
AZUL 13-28HZ - KMG WELL - SURVEYS	10,937.44	12,857.00	1,589.74	1,428.12	9.836	CC, ES
AZUL 13-28HZ - KMG WELL - SURVEYS	11,000.00	12,857.00	1,590.97	1,429.10	9.829	SF
AZUL 13-29HZ - KMG WELL - SURVEYS	10,621.66	12,714.00	1,560.56	1,413.13	10.585	CC, ES
AZUL 13-29HZ - KMG WELL - SURVEYS	10,800.00	12,714.00	1,570.72	1,421.99	10.561	SF
AZUL 13-2HZ - KMG WELL - PLAN ONLY	7,482.34	12,395.56	1,524.24	1,466.56	26.426	CC
AZUL 13-2HZ - KMG WELL - PLAN ONLY	7,500.00	12,395.56	1,524.28	1,466.00	26.156	ES
AZUL 13-2HZ - KMG WELL - PLAN ONLY	8,500.00	12,395.56	1,902.24	1,797.00	18.076	SF
AZUL 13-3HZ - KMG WELL - PLAN ONLY	7,642.80	12,283.07	1,492.19	1,438.69	27.891	CC

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

Cathedral Energy Services

Anticollision Summary Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well LOCHBUIE LAND 2E-25H-D166 - Slot LOCHBUIE LAND 2E-25H-D166 SHL
Project:	DJ BASIN	TVD Reference:	KB @ 5100.00usft
Reference Site:	S25-T1N-R66W (LOCHBUIE LAND)	MD Reference:	KB @ 5100.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	LOCHBUIE LAND 2E-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)						
AZUL 13-3HZ - KMG WELL - PLAN ONLY	7,700.00	12,283.07	1,493.49	1,438.02	26.923	ES
AZUL 13-3HZ - KMG WELL - PLAN ONLY	8,800.00	12,283.07	1,900.20	1,789.99	17.242	SF
AZUL 13-4HZ - KMG WELL - PLAN ONLY	7,970.02	12,546.66	1,502.39	1,442.68	25.161	CC
AZUL 13-4HZ - KMG WELL - PLAN ONLY	8,000.00	12,546.66	1,502.69	1,442.12	24.810	ES
AZUL 13-4HZ - KMG WELL - PLAN ONLY	9,100.00	12,546.66	1,879.90	1,766.20	16.533	SF
AZUL 13-9HZ - KMG WELL - PLAN ONLY	8,306.74	12,663.20	1,527.61	1,457.75	21.868	CC, ES
AZUL 13-9HZ - KMG WELL - PLAN ONLY	9,400.00	12,663.20	1,878.51	1,760.46	15.913	SF
BEIERLE 2 - KMG WELL - SURVEYS	1,836.38	1,804.30	1,498.46	1,492.67	259.031	CC, ES
BEIERLE 2 - KMG WELL - SURVEYS	4,000.00	3,426.11	1,921.78	1,907.58	135.383	SF
CRONIN 2 - RITTER OIL - NO SURVEYS	600.00	589.00	1,628.27	1,625.38	563.456	CC, ES
CRONIN 2 - RITTER OIL - NO SURVEYS	1,700.00	795.00	1,875.67	1,870.20	343.027	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	201.00	40.00	39.51	80.839	CC, ES
LOCHBUIE LAND 2A-25H-D166 - OH - PLAN #1	11,847.40	11,960.64	966.34	667.01	3.228	SF
LOCHBUIE LAND 2B-25H-D166 - OH - PLAN #1	300.00	301.00	30.00	29.15	35.261	CC, ES
LOCHBUIE LAND 2B-25H-D166 - OH - PLAN #1	11,847.40	12,110.30	799.26	512.62	2.788	SF
LOCHBUIE LAND 2C-25H-D166 - OH - PLAN #1	0.00	0.99	20.00			
LOCHBUIE LAND 2C-25H-D166 - OH - PLAN #1	11,847.40	11,860.71	660.07	359.95	2.199	SF
LOCHBUIE LAND 2D-25H-D166 - OH - PLAN #1	500.00	500.00	10.00	8.44	6.406	CC
LOCHBUIE LAND 2D-25H-D166 - OH - PLAN #1	11,847.40	11,908.24	273.22	-17.20	0.941	Level 1, ES, SF
LOCHBUIE LAND 2F-25H-D166 - OH - PLAN #1	710.03	710.00	9.72	7.42	4.220	CC, ES
LOCHBUIE LAND 2F-25H-D166 - OH - PLAN #1	6,700.00	6,700.64	59.74	25.15	1.727	SF
LOCHBUIE LAND 2G-25H-D166 - OH - PLAN #1	200.00	200.00	20.00	19.51	40.565	CC
LOCHBUIE LAND 2G-25H-D166 - OH - PLAN #1	11,400.00	11,316.39	271.45	14.22	1.055	Level 2, ES, SF
LOCHBUIE LAND 2H-25H-D166 - OH - PLAN #1	200.00	200.00	30.00	29.51	60.848	CC, ES
LOCHBUIE LAND 2H-25H-D166 - OH - PLAN #1	11,400.00	11,483.73	312.11	45.38	1.170	Level 2, SF
LOCHBUIE LAND 2I-25H-D166 - OH - PLAN #1	200.00	199.00	40.00	39.51	81.425	CC, ES
LOCHBUIE LAND 2I-25H-D166 - OH - PLAN #1	11,500.00	11,536.03	577.94	298.32	2.067	SF
LOCHBUIE LAND 2J-25H-D166 - OH - PLAN #1	200.00	199.00	50.00	49.51	101.781	CC, ES
LOCHBUIE LAND 2J-25H-D166 - OH - PLAN #1	11,600.00	11,904.12	866.50	591.52	3.151	SF
LOCHBUIE LAND 2K-25H-D166 - OH - PLAN #1	200.00	199.00	60.00	59.51	122.137	CC, ES
LOCHBUIE LAND 2K-25H-D166 - OH - PLAN #1	11,600.00	11,748.24	992.37	707.38	3.482	SF
LOCHBUIE LAND 2L-25H-D166 - OH - PLAN #1	200.00	199.00	70.00	69.51	142.494	CC, ES
LOCHBUIE LAND 2L-25H-D166 - OH - PLAN #1	11,700.00	11,822.87	1,275.69	983.77	4.370	SF
SAM 13-25 - CPR WELL - SURVEYS						Out of range
TEMPLIN 1 - VESSELS THOMAS G - SURVEYS	11,255.58	7,264.32	149.60	2.16	1.015	Level 2, CC, ES, SF

Cathedral Energy Services

Anticollision Summary Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well LOCHBUIE LAND 2E-25H-D166 - Slot LOCHBUIE LAND 2E-25H-D166 SHL
Project:	DJ BASIN	TVD Reference:	KB @ 5100.00usft
Reference Site:	S25-T1N-R66W (LOCHBUIE LAND)	MD Reference:	KB @ 5100.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	LOCHBUIE LAND 2E-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 (SAM)						
SAM 3A-25H-M166 - OH - PLAN #2	11,300.00	11,465.43	1,626.38	1,359.64	6.097	CC
SAM 3A-25H-M166 - OH - PLAN #2	11,400.00	11,565.36	1,629.65	1,356.59	5.968	ES
SAM 3A-25H-M166 - OH - PLAN #2	11,800.00	11,957.08	1,705.13	1,407.65	5.732	SF
SAM 3A-25H-M166 - OH - SURVEYS						Out of range
SAM 3B-25H-M166 - OH - PLAN #2	11,300.00	11,621.81	1,775.58	1,510.51	6.699	CC
SAM 3B-25H-M166 - OH - PLAN #2	11,400.00	11,721.74	1,778.82	1,507.47	6.555	ES
SAM 3B-25H-M166 - OH - PLAN #2	11,800.00	12,113.45	1,853.71	1,557.96	6.268	SF
SAM 3B-25H-M166 - OH - SURVEYS						Out of range
SAM 3C-25H-M166 - OH - PLAN #2	11,300.00	11,368.99	1,868.85	1,601.93	7.002	CC
SAM 3C-25H-M166 - OH - PLAN #2	11,400.00	11,468.92	1,872.11	1,598.86	6.851	ES
SAM 3C-25H-M166 - OH - PLAN #2	11,700.00	11,764.69	1,919.51	1,627.73	6.579	SF
SAM 3C-25H-M166 - OH - SURVEYS						Out of range
SAM 3D-25H-M166 - OH - PLAN #2						Out of range
SAM 3E-25H-M166 - OH - PLAN #2						Out of range
SAM 3F-25H-M166 - OH - PLAN #2						Out of range
SAM 3F-25H-M166 - OH - SURVEYS						Out of range
SAM 3G-25H-M166 - OH - PLAN #1						Out of range
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

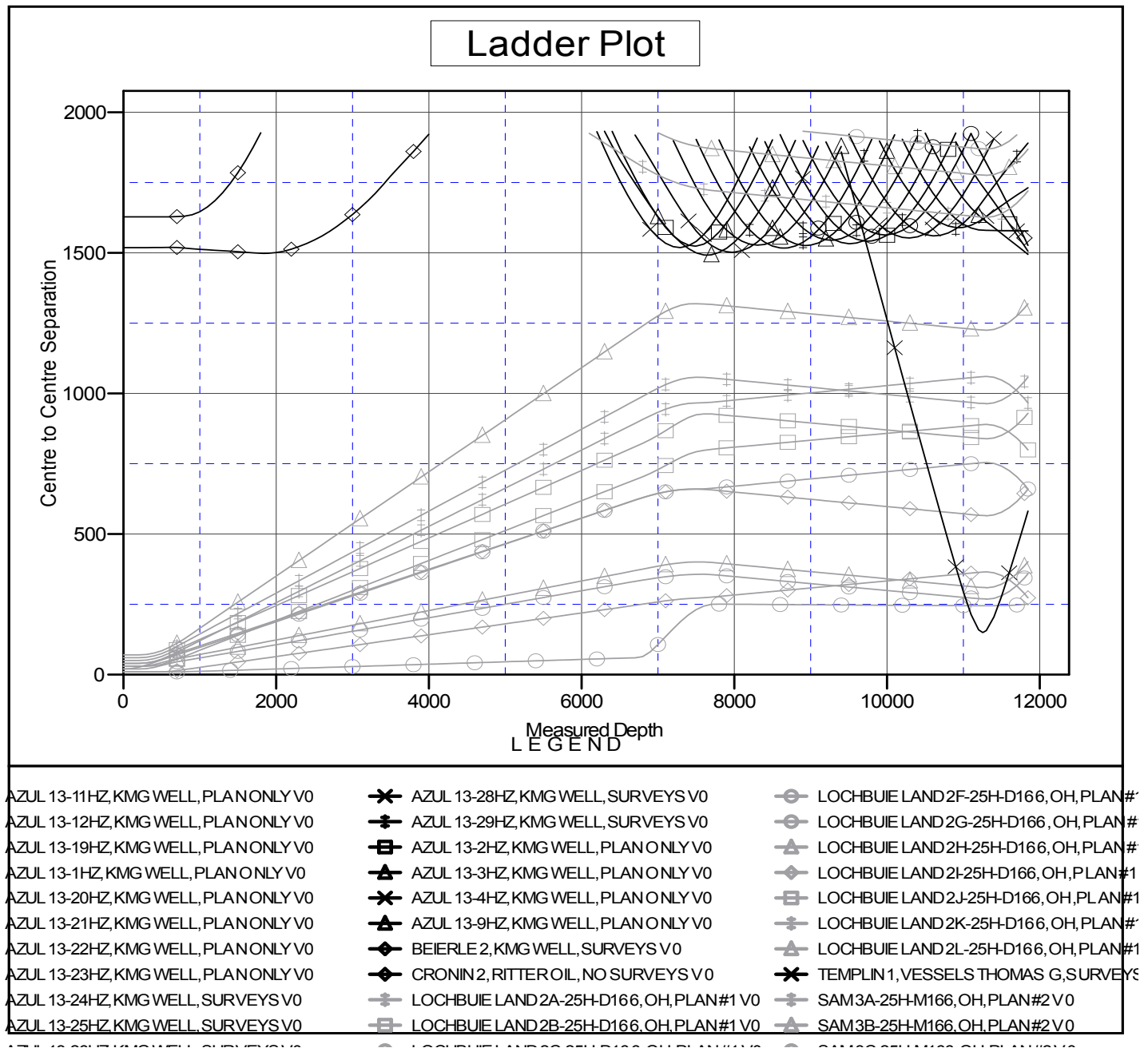
Cathedral Energy Services

Anticollision Summary Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well LOCHBUIE LAND 2E-25H-D166 - Slot LOCHBUIE LAND 2E-25H-D166 SHL
Project:	DJ BASIN	TVD Reference:	KB @ 5100.00usft
Reference Site:	S25-T1N-R66W (LOCHBUIE LAND)	MD Reference:	KB @ 5100.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	LOCHBUIE LAND 2E-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 Depths are relative to KB @ 5100.00usft
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

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



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

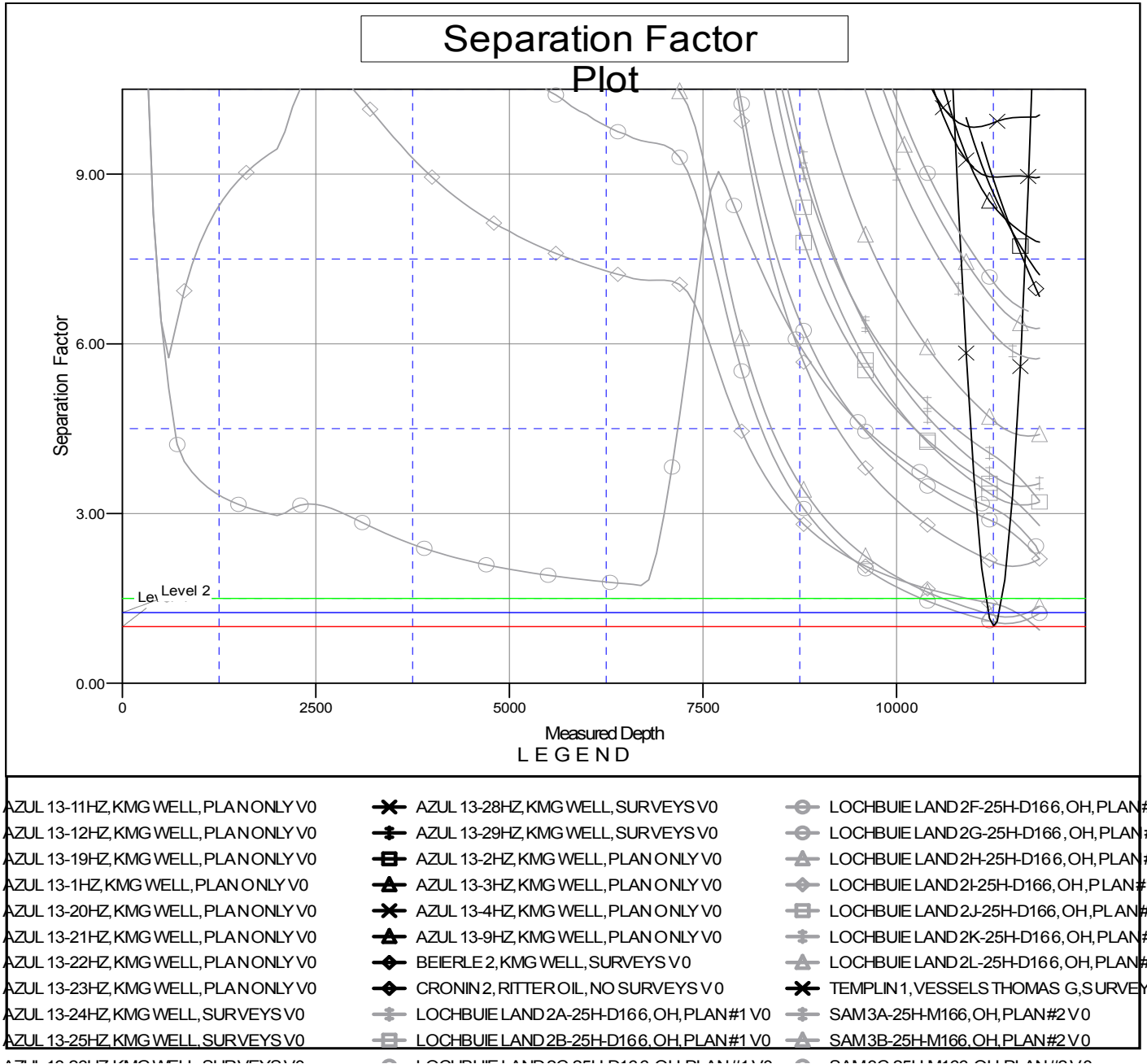
Cathedral Energy Services

Anticollision Summary Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well LOCHBUIE LAND 2E-25H-D166 - Slot LOCHBUIE LAND 2E-25H-D166 SHL
Project:	DJ BASIN	TVD Reference:	KB @ 5100.00usft
Reference Site:	S25-T1N-R66W (LOCHBUIE LAND)	MD Reference:	KB @ 5100.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	LOCHBUIE LAND 2E-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 Depths are relative to KB @ 5100.00usft
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

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



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