



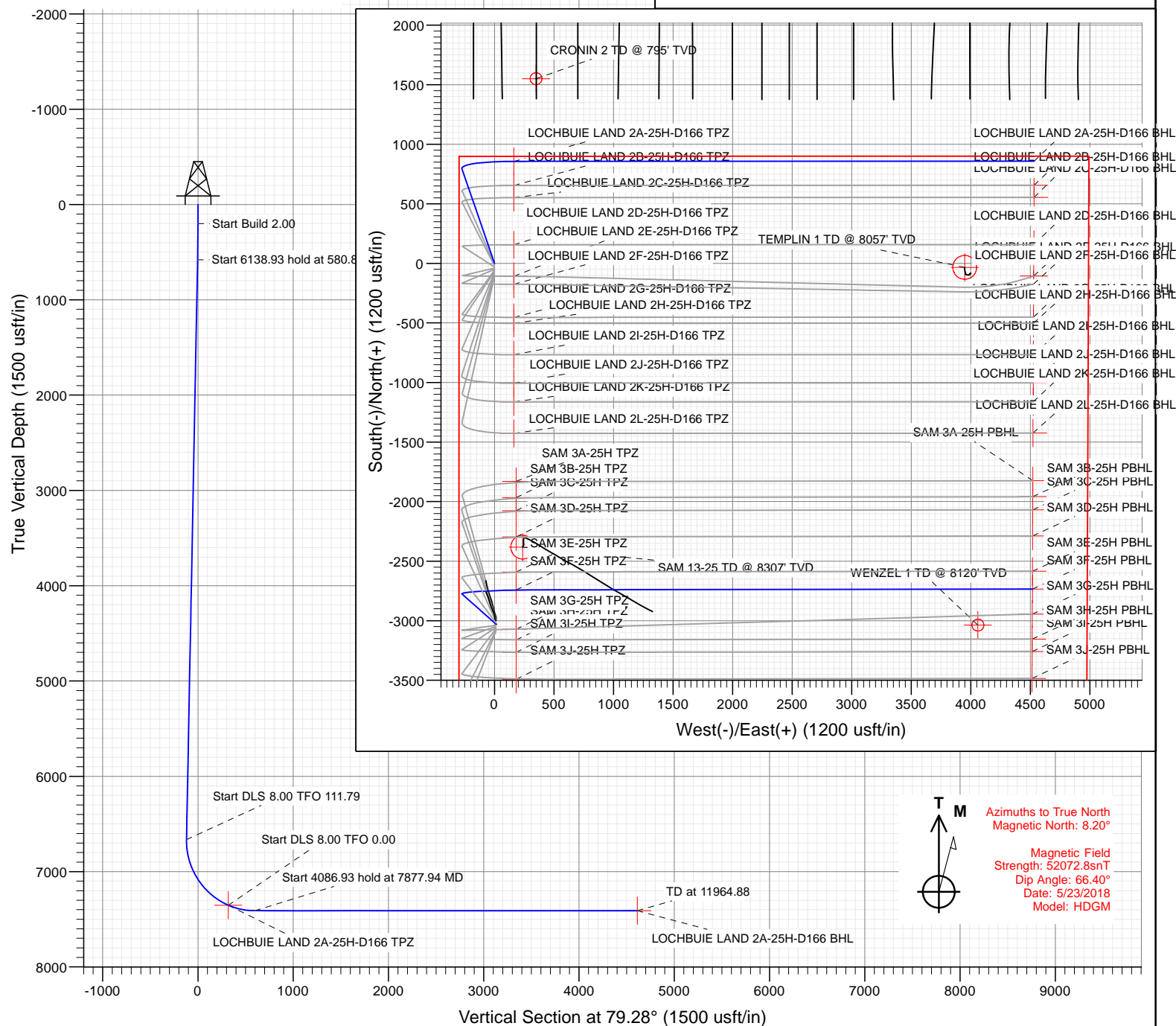
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	580.85	7.62	341.05	579.72	23.91	-8.21	2.00	341.05	-3.62	
4	6719.77	7.62	341.05	6664.48	793.51	-272.47	0.00	0.00	-120.05	
5	7587.95	66.80	89.97	7352.08	855.98	162.44	8.00	111.79	318.88	LOCHBUIE LAND 2A-25H-D166 TPZ
6	7877.94	90.00	89.97	7410.00	856.13	444.58	8.00	0.00	596.12	
7	11964.88	90.00	89.97	7410.00	858.22	4531.51	0.00	0.00	4612.06	LOCHBUIE LAND 2A-25H-D166 BHL

PLAN #1
LOCHBUE LAND 2A-25H-D166

KB @ 5101.200at
Ground Level @ 5078.00
North American Datum 1983

Well LOCHBUE LAND 2A-25H-D166 - Slot LOCHBUE LAND 2A-25H-D166 SHL True North

Type	Target	Azimuth	Origin	Type	N/S	E/W	From	To
TD	No Target (Freehand)	79.28	SLT	0.00	0.00	0.00	0.00	0.00
Name		TVD	+N/-S	+E/-W		Latitude		Longitude
LOCHBUE LAND 2A-25H-D166 TP2		7352.08	855.98	162.44		40.029419		-104.733316
LOCHBUE LAND 2A-25H-D166 SHL		7410.00	855.27	453.51		40.029424		-104.717716



CATHEDRAL

WELL DETAILS: LOCHBUIE LAND 2A-25H-D166

5078.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1253634.19	3214538.35	40.027069	-104.733898



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well LOCHBUIE LAND 2A-25H-D166 - Slot LOC
Company:	Crestone Peak Resources	TVD Reference:	KB @ 5101.00usft
Project:	DJ BASIN	MD Reference:	KB @ 5101.00usft
Site:	S25-T1N-R66W (LOCHBUIE LAND)	North Reference:	True
Well:	LOCHBUIE LAND 2A-25H-D166	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Project	DJ BASIN		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		S25-T1N-R66W (LOCHBUIE LAND)			
Site Position:		Northing:	1,253,634.19 usft	Latitude:	40.027069
From:	Map	Easting:	3,214,538.35 usft	Longitude:	-104.733898
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.50 °

Well	LOCHBUIE LAND 2A-25H-D166 - Slot LOCHBUIE LAND 2A-25H-D166 SHL					
Well Position	+N/-S	0.00 usft	Northing:	1,253,634.19 usft	Latitude:	40.027069
	+E/-W	0.00 usft	Easting:	3,214,538.35 usft	Longitude:	-104.733898
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,078.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM	5/23/2018	8.20	66.40	52,072.80000000

Design	PLAN #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	79.28

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
580.85	7.62	341.05	579.72	23.91	-8.21	2.00	2.00	0.00	341.05	
6,719.77	7.62	341.05	6,664.48	793.51	-272.47	0.00	0.00	0.00	0.00	
7,587.95	66.80	89.97	7,352.08	855.98	162.44	8.00	6.82	12.55	111.79	LOCHBUIE LAND 2A
7,877.94	90.00	89.97	7,410.00	856.13	444.58	8.00	8.00	0.00	0.00	
11,964.88	90.00	89.97	7,410.00	858.22	4,531.51	0.00	0.00	0.00	0.00	LOCHBUIE LAND 2A

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well LOCHBUIE LAND 2A-25H-D166 - Slot LOC
Company:	Crestone Peak Resources	TVD Reference:	KB @ 5101.00usft
Project:	DJ BASIN	MD Reference:	KB @ 5101.00usft
Site:	S25-T1N-R66W (LOCHBUIE LAND)	North Reference:	True
Well:	LOCHBUIE LAND 2A-25H-D166	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
300.00	2.00	341.05	299.98	1.65	-0.57	-0.25	2.00	2.00	
400.00	4.00	341.05	399.84	6.60	-2.27	-1.00	2.00	2.00	
500.00	6.00	341.05	499.45	14.84	-5.10	-2.25	2.00	2.00	
580.85	7.62	341.05	579.72	23.91	-8.21	-3.62	2.00	2.00	
600.00	7.62	341.05	598.71	26.31	-9.03	-3.98	0.00	0.00	
700.00	7.62	341.05	697.83	38.85	-13.34	-5.88	0.00	0.00	
800.00	7.62	341.05	796.95	51.38	-17.64	-7.77	0.00	0.00	
900.00	7.62	341.05	896.06	63.92	-21.95	-9.67	0.00	0.00	
1,000.00	7.62	341.05	995.18	76.45	-26.25	-11.57	0.00	0.00	
1,100.00	7.62	341.05	1,094.30	88.99	-30.56	-13.46	0.00	0.00	
1,200.00	7.62	341.05	1,193.42	101.53	-34.86	-15.36	0.00	0.00	
1,300.00	7.62	341.05	1,292.53	114.06	-39.17	-17.26	0.00	0.00	
1,400.00	7.62	341.05	1,391.65	126.60	-43.47	-19.15	0.00	0.00	
1,500.00	7.62	341.05	1,490.77	139.14	-47.78	-21.05	0.00	0.00	
1,600.00	7.62	341.05	1,589.89	151.67	-52.08	-22.95	0.00	0.00	
1,700.00	7.62	341.05	1,689.00	164.21	-56.38	-24.84	0.00	0.00	
1,800.00	7.62	341.05	1,788.12	176.75	-60.69	-26.74	0.00	0.00	
1,900.00	7.62	341.05	1,887.24	189.28	-64.99	-28.64	0.00	0.00	
2,000.00	7.62	341.05	1,986.36	201.82	-69.30	-30.53	0.00	0.00	
2,100.00	7.62	341.05	2,085.47	214.36	-73.60	-32.43	0.00	0.00	
2,200.00	7.62	341.05	2,184.59	226.89	-77.91	-34.33	0.00	0.00	
2,300.00	7.62	341.05	2,283.71	239.43	-82.21	-36.22	0.00	0.00	
2,400.00	7.62	341.05	2,382.83	251.96	-86.52	-38.12	0.00	0.00	
2,500.00	7.62	341.05	2,481.95	264.50	-90.82	-40.02	0.00	0.00	
2,600.00	7.62	341.05	2,581.06	277.04	-95.13	-41.91	0.00	0.00	
2,700.00	7.62	341.05	2,680.18	289.57	-99.43	-43.81	0.00	0.00	
2,800.00	7.62	341.05	2,779.30	302.11	-103.74	-45.71	0.00	0.00	
2,900.00	7.62	341.05	2,878.42	314.65	-108.04	-47.60	0.00	0.00	
3,000.00	7.62	341.05	2,977.53	327.18	-112.35	-49.50	0.00	0.00	
3,100.00	7.62	341.05	3,076.65	339.72	-116.65	-51.40	0.00	0.00	
3,200.00	7.62	341.05	3,175.77	352.26	-120.95	-53.29	0.00	0.00	
3,300.00	7.62	341.05	3,274.89	364.79	-125.26	-55.19	0.00	0.00	
3,400.00	7.62	341.05	3,374.00	377.33	-129.56	-57.09	0.00	0.00	
3,500.00	7.62	341.05	3,473.12	389.86	-133.87	-58.98	0.00	0.00	
3,600.00	7.62	341.05	3,572.24	402.40	-138.17	-60.88	0.00	0.00	
3,700.00	7.62	341.05	3,671.36	414.94	-142.48	-62.78	0.00	0.00	
3,800.00	7.62	341.05	3,770.47	427.47	-146.78	-64.67	0.00	0.00	
3,900.00	7.62	341.05	3,869.59	440.01	-151.09	-66.57	0.00	0.00	
4,000.00	7.62	341.05	3,968.71	452.55	-155.39	-68.47	0.00	0.00	
4,100.00	7.62	341.05	4,067.83	465.08	-159.70	-70.36	0.00	0.00	
4,200.00	7.62	341.05	4,166.95	477.62	-164.00	-72.26	0.00	0.00	
4,300.00	7.62	341.05	4,266.06	490.16	-168.31	-74.16	0.00	0.00	
4,400.00	7.62	341.05	4,365.18	502.69	-172.61	-76.05	0.00	0.00	
4,500.00	7.62	341.05	4,464.30	515.23	-176.92	-77.95	0.00	0.00	
4,600.00	7.62	341.05	4,563.42	527.77	-181.22	-79.85	0.00	0.00	
4,700.00	7.62	341.05	4,662.53	540.30	-185.52	-81.74	0.00	0.00	
4,800.00	7.62	341.05	4,761.65	552.84	-189.83	-83.64	0.00	0.00	
4,900.00	7.62	341.05	4,860.77	565.37	-194.13	-85.54	0.00	0.00	
5,000.00	7.62	341.05	4,959.89	577.91	-198.44	-87.43	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well LOCHBUIE LAND 2A-25H-D166 - Slot LOC
Company:	Crestone Peak Resources	TVD Reference:	KB @ 5101.00usft
Project:	DJ BASIN	MD Reference:	KB @ 5101.00usft
Site:	S25-T1N-R66W (LOCHBUIE LAND)	North Reference:	True
Well:	LOCHBUIE LAND 2A-25H-D166	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
5,100.00	7.62	341.05	5,059.00	590.45	-202.74	-89.33	0.00	0.00	
5,200.00	7.62	341.05	5,158.12	602.98	-207.05	-91.23	0.00	0.00	
5,300.00	7.62	341.05	5,257.24	615.52	-211.35	-93.12	0.00	0.00	
5,400.00	7.62	341.05	5,356.36	628.06	-215.66	-95.02	0.00	0.00	
5,500.00	7.62	341.05	5,455.47	640.59	-219.96	-96.92	0.00	0.00	
5,600.00	7.62	341.05	5,554.59	653.13	-224.27	-98.81	0.00	0.00	
5,700.00	7.62	341.05	5,653.71	665.67	-228.57	-100.71	0.00	0.00	
5,800.00	7.62	341.05	5,752.83	678.20	-232.88	-102.61	0.00	0.00	
5,900.00	7.62	341.05	5,851.95	690.74	-237.18	-104.50	0.00	0.00	
6,000.00	7.62	341.05	5,951.06	703.28	-241.49	-106.40	0.00	0.00	
6,100.00	7.62	341.05	6,050.18	715.81	-245.79	-108.30	0.00	0.00	
6,200.00	7.62	341.05	6,149.30	728.35	-250.09	-110.20	0.00	0.00	
6,300.00	7.62	341.05	6,248.42	740.88	-254.40	-112.09	0.00	0.00	
6,400.00	7.62	341.05	6,347.53	753.42	-258.70	-113.99	0.00	0.00	
6,500.00	7.62	341.05	6,446.65	765.96	-263.01	-115.89	0.00	0.00	
6,600.00	7.62	341.05	6,545.77	778.49	-267.31	-117.78	0.00	0.00	
6,700.00	7.62	341.05	6,644.89	791.03	-271.62	-119.68	0.00	0.00	
6,719.77	7.62	341.05	6,664.48	793.51	-272.47	-120.05	0.00	0.00	
6,800.00	7.92	29.94	6,744.06	803.34	-271.44	-117.21	8.00	0.38	
6,900.00	13.54	62.02	6,842.35	814.82	-257.64	-101.52	8.00	5.62	
7,000.00	20.77	73.93	6,937.87	825.23	-230.22	-72.64	8.00	7.23	
7,100.00	28.40	79.76	7,028.75	834.39	-189.72	-31.14	8.00	7.63	
7,200.00	36.18	83.25	7,113.23	842.10	-136.92	22.17	8.00	7.78	
7,300.00	44.03	85.65	7,189.66	848.21	-72.85	86.26	8.00	7.85	
7,400.00	51.92	87.44	7,256.55	852.61	1.24	159.87	8.00	7.89	
7,500.00	59.83	88.88	7,312.61	855.22	83.91	241.59	8.00	7.91	
7,587.95	66.80	89.97	7,352.08	855.98	162.44	318.88	8.00	7.92	LOCHBUIE LAND 2A-25H-D166 TPZ
7,600.00	67.76	89.97	7,356.74	855.99	173.56	329.81	8.00	8.00	
7,700.00	75.76	89.97	7,388.00	856.04	268.46	423.06	8.00	8.00	
7,800.00	83.76	89.97	7,405.76	856.09	366.79	519.68	8.00	8.00	
7,877.94	90.00	89.97	7,410.00	856.13	444.58	596.12	8.00	8.00	
7,900.00	90.00	89.97	7,410.00	856.14	466.63	617.79	0.00	0.00	
8,000.00	90.00	89.97	7,410.00	856.19	566.63	716.06	0.00	0.00	
8,100.00	90.00	89.97	7,410.00	856.24	666.63	814.32	0.00	0.00	
8,200.00	90.00	89.97	7,410.00	856.29	766.63	912.58	0.00	0.00	
8,300.00	90.00	89.97	7,410.00	856.34	866.63	1,010.84	0.00	0.00	
8,400.00	90.00	89.97	7,410.00	856.39	966.63	1,109.11	0.00	0.00	
8,500.00	90.00	89.97	7,410.00	856.44	1,066.63	1,207.37	0.00	0.00	
8,600.00	90.00	89.97	7,410.00	856.50	1,166.63	1,305.63	0.00	0.00	
8,700.00	90.00	89.97	7,410.00	856.55	1,266.63	1,403.90	0.00	0.00	
8,800.00	90.00	89.97	7,410.00	856.60	1,366.63	1,502.16	0.00	0.00	
8,900.00	90.00	89.97	7,410.00	856.65	1,466.63	1,600.42	0.00	0.00	
9,000.00	90.00	89.97	7,410.00	856.70	1,566.63	1,698.68	0.00	0.00	
9,100.00	90.00	89.97	7,410.00	856.75	1,666.63	1,796.95	0.00	0.00	
9,200.00	90.00	89.97	7,410.00	856.80	1,766.63	1,895.21	0.00	0.00	
9,300.00	90.00	89.97	7,410.00	856.85	1,866.63	1,993.47	0.00	0.00	
9,400.00	90.00	89.97	7,410.00	856.90	1,966.63	2,091.74	0.00	0.00	
9,500.00	90.00	89.97	7,410.00	856.96	2,066.63	2,190.00	0.00	0.00	
9,600.00	90.00	89.97	7,410.00	857.01	2,166.63	2,288.26	0.00	0.00	
9,700.00	90.00	89.97	7,410.00	857.06	2,266.63	2,386.53	0.00	0.00	
9,800.00	90.00	89.97	7,410.00	857.11	2,366.63	2,484.79	0.00	0.00	
9,900.00	90.00	89.97	7,410.00	857.16	2,466.63	2,583.05	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well LOCHBUIE LAND 2A-25H-D166 - Slot LOC
Company:	Crestone Peak Resources	TVD Reference:	KB @ 5101.00usft
Project:	DJ BASIN	MD Reference:	KB @ 5101.00usft
Site:	S25-T1N-R66W (LOCHBUIE LAND)	North Reference:	True
Well:	LOCHBUIE LAND 2A-25H-D166	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
10,000.00	90.00	89.97	7,410.00	857.21	2,566.63	2,681.31	0.00	0.00	
10,100.00	90.00	89.97	7,410.00	857.26	2,666.63	2,779.58	0.00	0.00	
10,200.00	90.00	89.97	7,410.00	857.31	2,766.63	2,877.84	0.00	0.00	
10,300.00	90.00	89.97	7,410.00	857.36	2,866.63	2,976.10	0.00	0.00	
10,400.00	90.00	89.97	7,410.00	857.42	2,966.63	3,074.37	0.00	0.00	
10,500.00	90.00	89.97	7,410.00	857.47	3,066.63	3,172.63	0.00	0.00	
10,600.00	90.00	89.97	7,410.00	857.52	3,166.63	3,270.89	0.00	0.00	
10,700.00	90.00	89.97	7,410.00	857.57	3,266.63	3,369.15	0.00	0.00	
10,800.00	90.00	89.97	7,410.00	857.62	3,366.63	3,467.42	0.00	0.00	
10,900.00	90.00	89.97	7,410.00	857.67	3,466.63	3,565.68	0.00	0.00	
11,000.00	90.00	89.97	7,410.00	857.72	3,566.63	3,663.94	0.00	0.00	
11,100.00	90.00	89.97	7,410.00	857.77	3,666.63	3,762.21	0.00	0.00	
11,200.00	90.00	89.97	7,410.00	857.82	3,766.63	3,860.47	0.00	0.00	
11,300.00	90.00	89.97	7,410.00	857.88	3,866.63	3,958.73	0.00	0.00	
11,400.00	90.00	89.97	7,410.00	857.93	3,966.63	4,057.00	0.00	0.00	
11,500.00	90.00	89.97	7,410.00	857.98	4,066.63	4,155.26	0.00	0.00	
11,600.00	90.00	89.97	7,410.00	858.03	4,166.63	4,253.52	0.00	0.00	
11,700.00	90.00	89.97	7,410.00	858.08	4,266.63	4,351.78	0.00	0.00	
11,800.00	90.00	89.97	7,410.00	858.13	4,366.63	4,450.05	0.00	0.00	
11,900.00	90.00	89.97	7,410.00	858.18	4,466.63	4,548.31	0.00	0.00	
11,964.88	90.00	89.97	7,410.00	858.22	4,531.51	4,612.06	0.00	0.00	LOCHBUIE LAND 2A-25H-D166 BHL

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
LOCHBUIE LAND 2A-25H-D166	0.00	0.00	7,352.08	855.98	162.44	1,254,491.54	3,214,693.39	40.029419	-104.733318
- plan hits target center									
- Point									
LOCHBUIE LAND 2A-25H-D166	0.00	0.00	7,410.00	858.22	4,531.51	1,254,531.52	3,219,062.27	40.029424	-104.717716
- plan hits target center									
- Point									