

One Energy Partners

GL=3573.6' @ 3598.60usft (KB +25')

Ground Level: 3573.60

Project: Lea County, NM (NAD 27)

Site: Loveland BS2 State Com

Well: 1H

Wellbore: Wellbore #1

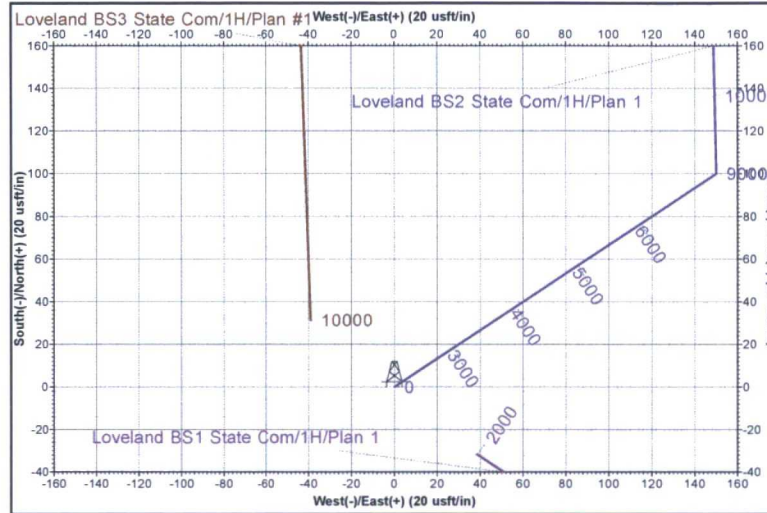
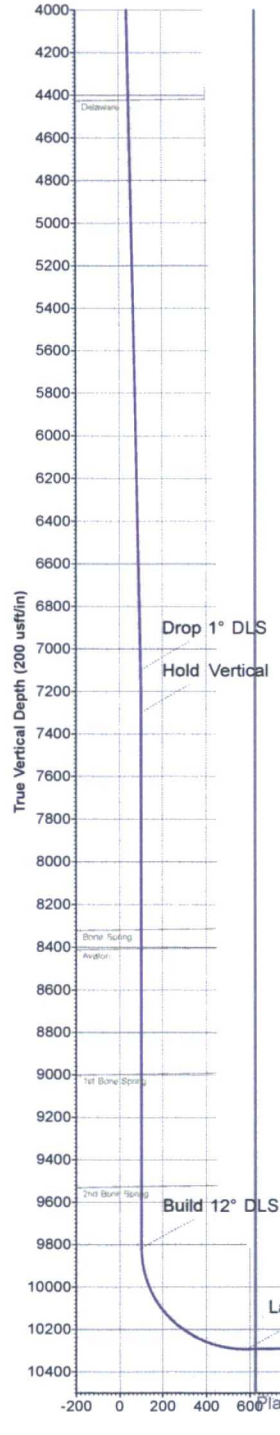
Design: Plan 1

Rig: KB +25'

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001



Azimuths to Grid North
True North: -0.49°
Magnetic North: 6.40°
Magnetic Field
Strength: 48055.2nT
Dip Angle: 60.22°
Date: 12/8/2017
Model: BGGM2017

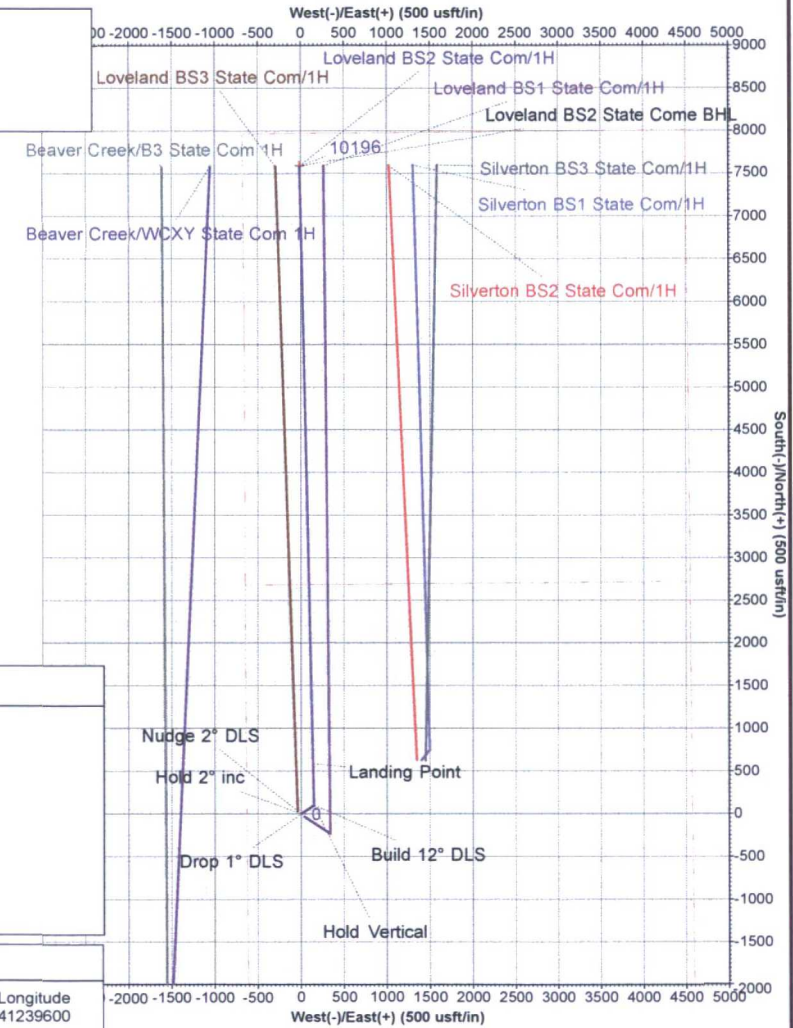


SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSecl	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	Nudge 2° DLS
2100.25	2.00	56.31	2100.23	0.97	1.46	2.00	0.97	Hold 2° inc
7102.62	2.00	56.31	7099.54	98.05	147.08	0.00	97.80	Drop 1° DLS
7303.12	0.00	0.00	7300.00	100.00	150.00	1.00	99.74	Hold Vertical
9819.13	0.00	0.00	9816.01	100.00	150.00	0.00	99.74	Build 12° DLS
10575.80	90.80	358.75	10293.43	584.02	139.41	12.00	583.77	Landing Point
17582.36	90.80	358.75	10195.60	7588.22	-13.81	0.00	7588.23	BHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Loveland BS2 State Come BHL	10195.60	7588.22	-13.81	514937.72	784206.05	32.41231200	-103.41239600



HALLIBURTON | Sperry Drilling

KB +25'

One Energy Partners

Lea County, NM (NAD 27) Loveland BS2 State Com

API#

1H

Wellbore #1

Plan: Plan 1

Sperry Drilling Services

Combo Report

08 December, 2017

Well Coordinates: 32° 23' 29.24" N
103° 24' 45.23" W

NAD 1927 (NADCON CONUS)
New Mexico East 3001
507,349.51 N
784,219.86 E

Ground Level: 3,573.60 usft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Centered on Site Loveland BS2 State Com

GL=3573.6' @ 3598.60usft (KB +25')

N

Grid

Midcon (2 decimal)

Version: 5000.1 Build: 81D

Report Version: Midcon Combo v1.11

HALLIBURTON

Plan Report for 1H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
					Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)			
0.00	0.00	0.00	-3,598.60	0.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	Loveland BS2 State Come BHL
100.00	0.00	0.00	-3,498.60	100.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	
200.00	0.00	0.00	-3,398.60	200.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	
300.00	0.00	0.00	-3,298.60	300.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	
400.00	0.00	0.00	-3,198.60	400.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	
500.00	0.00	0.00	-3,098.60	500.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	
549.00	0.00	0.00	-3,049.60	549.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	Rustler
600.00	0.00	0.00	-2,998.60	600.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	
700.00	0.00	0.00	-2,898.60	700.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	
800.00	0.00	0.00	-2,798.60	800.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	
900.00	0.00	0.00	-2,698.60	900.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	
1,000.00	0.00	0.00	-2,598.60	1,000.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	13 3/8"
1,100.00	0.00	0.00	-2,498.60	1,100.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	
1,200.00	0.00	0.00	-2,398.60	1,200.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	
1,300.00	0.00	0.00	-2,298.60	1,300.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	
1,400.00	0.00	0.00	-2,198.60	1,400.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	
1,500.00	0.00	0.00	-2,098.60	1,500.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	
1,549.00	0.00	0.00	-2,049.60	1,549.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	Top of Salt
1,600.00	0.00	0.00	-1,998.60	1,600.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	
1,700.00	0.00	0.00	-1,898.60	1,700.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	
1,800.00	0.00	0.00	-1,798.60	1,800.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	
1,900.00	0.00	0.00	-1,698.60	1,900.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	
2,000.00	0.00	0.00	-1,598.60	2,000.00	0.00 N	0.00 E	507,349.51	784,219.86	0.00	0.00	Nudge 2° DLS
2,100.00	2.00	56.31	-1,498.62	2,099.98	0.97 N	1.45 E	507,350.48	784,221.31	2.00	0.97	
2,100.25	2.00	56.31	-1,498.37	2,100.23	0.97 N	1.46 E	507,350.48	784,221.32	2.00	0.97	Hold 2° inc
2,200.00	2.00	56.31	-1,398.68	2,199.92	2.91 N	4.36 E	507,352.42	784,224.23	0.00	2.90	
2,300.00	2.00	56.31	-1,298.74	2,299.86	4.85 N	7.27 E	507,354.36	784,227.14	0.00	4.84	
2,400.00	2.00	56.31	-1,198.80	2,399.80	6.79 N	10.19 E	507,356.30	784,230.05	0.00	6.77	
2,500.00	2.00	56.31	-1,098.87	2,499.73	8.73 N	13.10 E	507,358.24	784,232.96	0.00	8.71	
2,600.00	2.00	56.31	-998.93	2,599.67	10.67 N	16.01 E	507,360.18	784,235.87	0.00	10.64	
2,700.00	2.00	56.31	-898.99	2,699.61	12.61 N	18.92 E	507,362.12	784,238.78	0.00	12.58	
2,800.00	2.00	56.31	-799.05	2,799.55	14.55 N	21.83 E	507,364.06	784,241.69	0.00	14.51	
2,900.00	2.00	56.31	-699.11	2,899.49	16.49 N	24.74 E	507,366.00	784,244.60	0.00	16.45	
3,000.00	2.00	56.31	-599.17	2,999.43	18.43 N	27.65 E	507,367.94	784,247.51	0.00	18.39	
3,100.00	2.00	56.31	-499.23	3,099.37	20.38 N	30.56 E	507,369.88	784,250.43	0.00	20.32	
3,200.00	2.00	56.31	-399.29	3,199.31	22.32 N	33.47 E	507,371.82	784,253.34	0.00	22.26	
3,300.00	2.00	56.31	-299.35	3,299.25	24.26 N	36.38 E	507,373.76	784,256.25	0.00	24.19	
3,400.00	2.00	56.31	-199.42	3,399.18	26.20 N	39.30 E	507,375.71	784,259.16	0.00	26.13	
3,500.00	2.00	56.31	-99.48	3,499.12	28.14 N	42.21 E	507,377.65	784,262.07	0.00	28.06	
3,549.50	2.00	56.31	-50.01	3,548.59	29.10 N	43.65 E	507,378.61	784,263.51	0.00	29.02	Base of Salt
3,600.00	2.00	56.31	0.46	3,599.06	30.08 N	45.12 E	507,379.59	784,264.98	0.00	30.00	

Plan Report for 1H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
					Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)			
3,700.00	2.00	56.31	100.40	3,699.00	32.02 N	48.03 E	507,381.53	784,267.89	0.00	31.94	
3,800.00	2.00	56.31	200.34	3,798.94	33.96 N	50.94 E	507,383.47	784,270.80	0.00	33.87	
3,900.00	2.00	56.31	300.28	3,898.88	35.90 N	53.85 E	507,385.41	784,273.71	0.00	35.81	
4,000.00	2.00	56.31	400.22	3,998.82	37.84 N	56.76 E	507,387.35	784,276.62	0.00	37.74	
4,100.00	2.00	56.31	500.16	4,098.76	39.78 N	59.67 E	507,389.29	784,279.54	0.00	39.68	
4,200.00	2.00	56.31	600.09	4,198.69	41.72 N	62.58 E	507,391.23	784,282.45	0.00	41.61	
4,300.00	2.00	56.31	700.03	4,298.63	43.66 N	65.50 E	507,393.17	784,285.36	0.00	43.55	
4,400.00	2.00	56.31	799.97	4,398.57	45.60 N	68.41 E	507,395.11	784,288.27	0.00	45.48	
4,424.80	2.00	56.31	824.76	4,423.36	46.09 N	69.13 E	507,395.59	784,288.99	0.00	45.96	Delaware
4,500.00	2.00	56.31	899.91	4,498.51	47.54 N	71.32 E	507,397.05	784,291.18	0.00	47.42	
4,600.00	2.00	56.31	999.85	4,598.45	49.49 N	74.23 E	507,398.99	784,294.09	0.00	49.36	
4,700.00	2.00	56.31	1,099.79	4,698.39	51.43 N	77.14 E	507,400.93	784,297.00	0.00	51.29	
4,800.00	2.00	56.31	1,199.73	4,798.33	53.37 N	80.05 E	507,402.88	784,299.91	0.00	53.23	
4,900.00	2.00	56.31	1,299.67	4,898.27	55.31 N	82.96 E	507,404.82	784,302.82	0.00	55.16	
5,000.00	2.00	56.31	1,399.60	4,998.20	57.25 N	85.87 E	507,406.76	784,305.74	0.00	57.10	
5,100.00	2.00	56.31	1,499.54	5,098.14	59.19 N	88.78 E	507,408.70	784,308.65	0.00	59.03	
5,200.00	2.00	56.31	1,599.48	5,198.08	61.13 N	91.69 E	507,410.64	784,311.56	0.00	60.97	
5,300.00	2.00	56.31	1,699.42	5,298.02	63.07 N	94.61 E	507,412.58	784,314.47	0.00	62.91	
5,400.00	2.00	56.31	1,799.36	5,397.96	65.01 N	97.52 E	507,414.52	784,317.38	0.00	64.84	
5,500.00	2.00	56.31	1,899.30	5,497.90	66.95 N	100.43 E	507,416.46	784,320.29	0.00	66.78	
5,600.00	2.00	56.31	1,999.24	5,597.84	68.89 N	103.34 E	507,418.40	784,323.20	0.00	68.71	
5,700.00	2.00	56.31	2,099.18	5,697.78	70.83 N	106.25 E	507,420.34	784,326.11	0.00	70.65	
5,800.00	2.00	56.31	2,199.11	5,797.71	72.77 N	109.16 E	507,422.28	784,329.02	0.00	72.58	
5,900.00	2.00	56.31	2,299.05	5,897.65	74.71 N	112.07 E	507,424.22	784,331.94	0.00	74.52	
6,000.00	2.00	56.31	2,398.99	5,997.59	76.66 N	114.98 E	507,426.16	784,334.85	0.00	76.45	
6,100.00	2.00	56.31	2,498.93	6,097.53	78.60 N	117.89 E	507,428.10	784,337.76	0.00	78.39	
6,200.00	2.00	56.31	2,598.87	6,197.47	80.54 N	120.81 E	507,430.05	784,340.67	0.00	80.33	
6,300.00	2.00	56.31	2,698.81	6,297.41	82.48 N	123.72 E	507,431.99	784,343.58	0.00	82.26	
6,400.00	2.00	56.31	2,798.75	6,397.35	84.42 N	126.63 E	507,433.93	784,346.49	0.00	84.20	
6,500.00	2.00	56.31	2,898.69	6,497.29	86.36 N	129.54 E	507,435.87	784,349.40	0.00	86.13	
6,600.00	2.00	56.31	2,998.62	6,597.22	88.30 N	132.45 E	507,437.81	784,352.31	0.00	88.07	
6,700.00	2.00	56.31	3,098.56	6,697.16	90.24 N	135.36 E	507,439.75	784,355.22	0.00	90.00	
6,800.00	2.00	56.31	3,198.50	6,797.10	92.18 N	138.27 E	507,441.69	784,358.13	0.00	91.94	
6,900.00	2.00	56.31	3,298.44	6,897.04	94.12 N	141.18 E	507,443.63	784,361.05	0.00	93.88	
7,000.00	2.00	56.31	3,398.38	6,996.98	96.06 N	144.09 E	507,445.57	784,363.96	0.00	95.81	
7,100.00	2.00	56.31	3,498.32	7,096.92	98.00 N	147.00 E	507,447.51	784,366.87	0.00	97.75	
7,102.62	2.00	56.31	3,500.94	7,099.54	98.05 N	147.08 E	507,447.56	784,366.94	0.00	97.80	Drop 1° DLS
7,200.00	1.03	56.31	3,598.28	7,196.88	99.49 N	149.23 E	507,448.99	784,369.09	1.00	99.22	
7,300.00	0.03	56.31	3,698.28	7,296.88	100.00 N	150.00 E	507,449.51	784,369.86	1.00	99.74	
7,303.12	0.00	0.00	3,701.40	7,300.00	100.00 N	150.00 E	507,449.51	784,369.86	1.00	99.74	Hold Vertical
7,400.00	0.00	0.00	3,798.28	7,396.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	

Plan Report for 1H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
Depth (usft)	Inclination (°)	Grid Azimuth (°)	System (usft)	Depth (usft)	Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)	Rate (°/100usft)	Section (usft)	
7,500.00	0.00	0.00	3,898.28	7,496.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
7,600.00	0.00	0.00	3,998.28	7,596.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
7,700.00	0.00	0.00	4,098.28	7,696.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
7,800.00	0.00	0.00	4,198.28	7,796.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
7,900.00	0.00	0.00	4,298.28	7,896.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
8,000.00	0.00	0.00	4,398.28	7,996.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
8,100.00	0.00	0.00	4,498.28	8,096.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
8,200.00	0.00	0.00	4,598.28	8,196.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
8,300.00	0.00	0.00	4,698.28	8,296.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
8,320.73	0.00	0.00	4,719.01	8,317.61	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	Bone Spring
8,400.00	0.00	0.00	4,798.28	8,396.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
8,410.73	0.00	0.00	4,809.01	8,407.61	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	Avalon
8,500.00	0.00	0.00	4,898.28	8,496.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
8,600.00	0.00	0.00	4,998.28	8,596.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
8,700.00	0.00	0.00	5,098.28	8,696.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
8,800.00	0.00	0.00	5,198.28	8,796.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
8,900.00	0.00	0.00	5,298.28	8,896.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
9,000.00	0.00	0.00	5,398.28	8,996.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
9,000.73	0.00	0.00	5,399.01	8,997.61	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	1st Bone Spring
9,100.00	0.00	0.00	5,498.28	9,096.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
9,200.00	0.00	0.00	5,598.28	9,196.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
9,300.00	0.00	0.00	5,698.28	9,296.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
9,400.00	0.00	0.00	5,798.28	9,396.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
9,500.00	0.00	0.00	5,898.28	9,496.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
9,530.73	0.00	0.00	5,929.01	9,527.61	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	2nd Bone Spring
9,600.00	0.00	0.00	5,998.28	9,596.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
9,700.00	0.00	0.00	6,098.28	9,696.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
9,800.00	0.00	0.00	6,198.28	9,796.88	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	
9,819.13	0.00	0.00	6,217.41	9,816.01	100.00 N	150.00 E	507,449.51	784,369.86	0.00	99.74	Build 12" DLS
9,900.00	9.70	358.75	6,297.89	9,896.49	106.83 N	149.85 E	507,456.34	784,369.71	12.00	106.57	
10,000.00	21.70	358.75	6,393.98	9,992.58	133.84 N	149.26 E	507,483.35	784,369.12	12.00	133.58	
10,100.00	33.70	358.75	6,482.36	10,080.96	180.24 N	148.24 E	507,529.74	784,368.11	12.00	179.98	
10,200.00	45.70	358.75	6,559.15	10,157.75	243.99 N	146.85 E	507,593.49	784,366.71	12.00	243.73	
10,300.00	57.70	358.75	6,621.01	10,219.61	322.31 N	145.14 E	507,671.81	784,365.00	12.00	322.05	
10,400.00	69.70	358.75	6,665.23	10,263.83	411.77 N	143.18 E	507,761.28	784,363.04	12.00	411.52	
10,500.00	81.70	358.75	6,689.88	10,288.48	508.48 N	141.06 E	507,857.98	784,360.93	12.00	508.23	
10,575.80	90.80	358.75	6,694.83	10,293.43	584.02 N	139.41 E	507,933.52	784,359.27	12.00	583.77	Landing Point
10,600.00	90.80	358.75	6,694.49	10,293.09	608.21 N	138.88 E	507,957.72	784,358.75	0.00	607.96	
10,700.00	90.80	358.75	6,693.09	10,291.69	708.17 N	136.70 E	508,057.68	784,356.56	0.00	707.93	
10,800.00	90.80	358.75	6,691.70	10,290.30	808.14 N	134.51 E	508,157.65	784,354.37	0.00	807.90	
10,900.00	90.80	358.75	6,690.30	10,288.90	908.11 N	132.32 E	508,257.62	784,352.19	0.00	907.87	

Plan Report for 1H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
					Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)			
11,000.00	90.80	358.75	6,688.90	10,287.50	1,008.07 N	130.14 E	508,357.58	784,350.00	0.00	1,007.84	
11,100.00	90.80	358.75	6,687.51	10,286.11	1,108.04 N	127.95 E	508,457.55	784,347.81	0.00	1,107.81	
11,200.00	90.80	358.75	6,686.11	10,284.71	1,208.01 N	125.76 E	508,557.51	784,345.62	0.00	1,207.78	
11,300.00	90.80	358.75	6,684.72	10,283.32	1,307.97 N	123.58 E	508,657.48	784,343.44	0.00	1,307.75	
11,400.00	90.80	358.75	6,683.32	10,281.92	1,407.94 N	121.39 E	508,757.45	784,341.25	0.00	1,407.72	
11,500.00	90.80	358.75	6,681.92	10,280.52	1,507.91 N	119.20 E	508,857.41	784,339.06	0.00	1,507.69	
11,600.00	90.80	358.75	6,680.53	10,279.13	1,607.87 N	117.01 E	508,957.38	784,336.88	0.00	1,607.66	
11,700.00	90.80	358.75	6,679.13	10,277.73	1,707.84 N	114.83 E	509,057.35	784,334.69	0.00	1,707.63	
11,800.00	90.80	358.75	6,677.73	10,276.33	1,807.80 N	112.64 E	509,157.31	784,332.50	0.00	1,807.60	
11,900.00	90.80	358.75	6,676.34	10,274.94	1,907.77 N	110.45 E	509,257.28	784,330.32	0.00	1,907.57	
12,000.00	90.80	358.75	6,674.94	10,273.54	2,007.74 N	108.27 E	509,357.25	784,328.13	0.00	2,007.54	
12,100.00	90.80	358.75	6,673.55	10,272.15	2,107.70 N	106.08 E	509,457.21	784,325.94	0.00	2,107.51	
12,200.00	90.80	358.75	6,672.15	10,270.75	2,207.67 N	103.89 E	509,557.18	784,323.76	0.00	2,207.48	
12,300.00	90.80	358.75	6,670.75	10,269.35	2,307.64 N	101.71 E	509,657.14	784,321.57	0.00	2,307.45	
12,400.00	90.80	358.75	6,669.36	10,267.96	2,407.60 N	99.52 E	509,757.11	784,319.38	0.00	2,407.42	
12,500.00	90.80	358.75	6,667.96	10,266.56	2,507.57 N	97.33 E	509,857.08	784,317.20	0.00	2,507.39	
12,600.00	90.80	358.75	6,666.56	10,265.16	2,607.53 N	95.15 E	509,957.04	784,315.01	0.00	2,607.36	
12,700.00	90.80	358.75	6,665.17	10,263.77	2,707.50 N	92.96 E	510,057.01	784,312.82	0.00	2,707.33	
12,800.00	90.80	358.75	6,663.77	10,262.37	2,807.47 N	90.77 E	510,156.98	784,310.64	0.00	2,807.30	
12,900.00	90.80	358.75	6,662.38	10,260.98	2,907.43 N	88.59 E	510,256.94	784,308.45	0.00	2,907.27	
13,000.00	90.80	358.75	6,660.98	10,259.58	3,007.40 N	86.40 E	510,356.91	784,306.26	0.00	3,007.24	
13,100.00	90.80	358.75	6,659.58	10,258.18	3,107.37 N	84.21 E	510,456.87	784,304.08	0.00	3,107.21	
13,200.00	90.80	358.75	6,658.19	10,256.79	3,207.33 N	82.03 E	510,556.84	784,301.89	0.00	3,207.18	
13,300.00	90.80	358.75	6,656.79	10,255.39	3,307.30 N	79.84 E	510,656.81	784,299.70	0.00	3,307.15	
13,400.00	90.80	358.75	6,655.39	10,253.99	3,407.27 N	77.65 E	510,756.77	784,297.51	0.00	3,407.12	
13,500.00	90.80	358.75	6,654.00	10,252.60	3,507.23 N	75.47 E	510,856.74	784,295.33	0.00	3,507.09	
13,600.00	90.80	358.75	6,652.60	10,251.20	3,607.20 N	73.28 E	510,956.71	784,293.14	0.00	3,607.06	
13,700.00	90.80	358.75	6,651.21	10,249.81	3,707.16 N	71.09 E	511,056.67	784,290.95	0.00	3,707.03	
13,800.00	90.80	358.75	6,649.81	10,248.41	3,807.13 N	68.90 E	511,156.64	784,288.77	0.00	3,807.00	
13,900.00	90.80	358.75	6,648.41	10,247.01	3,907.10 N	66.72 E	511,256.61	784,286.58	0.00	3,906.97	
14,000.00	90.80	358.75	6,647.02	10,245.62	4,007.06 N	64.53 E	511,356.57	784,284.39	0.00	4,006.94	
14,100.00	90.80	358.75	6,645.62	10,244.22	4,107.03 N	62.34 E	511,456.54	784,282.21	0.00	4,106.91	
14,200.00	90.80	358.75	6,644.23	10,242.83	4,207.00 N	60.16 E	511,556.50	784,280.02	0.00	4,206.88	
14,300.00	90.80	358.75	6,642.83	10,241.43	4,306.96 N	57.97 E	511,656.47	784,277.83	0.00	4,306.85	
14,400.00	90.80	358.75	6,641.43	10,240.03	4,406.93 N	55.78 E	511,756.44	784,275.65	0.00	4,406.82	
14,500.00	90.80	358.75	6,640.04	10,238.64	4,506.90 N	53.60 E	511,856.40	784,273.46	0.00	4,506.79	
14,600.00	90.80	358.75	6,638.64	10,237.24	4,606.86 N	51.41 E	511,956.37	784,271.27	0.00	4,606.76	
14,700.00	90.80	358.75	6,637.24	10,235.84	4,706.83 N	49.22 E	512,056.34	784,269.09	0.00	4,706.73	
14,800.00	90.80	358.75	6,635.85	10,234.45	4,806.79 N	47.04 E	512,156.30	784,266.90	0.00	4,806.70	
14,900.00	90.80	358.75	6,634.45	10,233.05	4,906.76 N	44.85 E	512,256.27	784,264.71	0.00	4,906.67	
15,000.00	90.80	358.75	6,633.06	10,231.66	5,006.73 N	42.66 E	512,356.24	784,262.53	0.00	5,006.64	

Plan Report for 1H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
					Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)			
15,100.00	90.80	358.75	6,631.66	10,230.26	5,106.69 N	40.48 E	512,456.20	784,260.34	0.00	5,106.61	
15,200.00	90.80	358.75	6,630.26	10,228.86	5,206.66 N	38.29 E	512,556.17	784,258.15	0.00	5,206.58	
15,300.00	90.80	358.75	6,628.87	10,227.47	5,306.63 N	36.10 E	512,656.13	784,255.97	0.00	5,306.55	
15,400.00	90.80	358.75	6,627.47	10,226.07	5,406.59 N	33.92 E	512,756.10	784,253.78	0.00	5,406.52	
15,500.00	90.80	358.75	6,626.07	10,224.67	5,506.56 N	31.73 E	512,856.07	784,251.59	0.00	5,506.49	
15,600.00	90.80	358.75	6,624.68	10,223.28	5,606.53 N	29.54 E	512,956.03	784,249.40	0.00	5,606.46	
15,700.00	90.80	358.75	6,623.28	10,221.88	5,706.49 N	27.36 E	513,056.00	784,247.22	0.00	5,706.43	
15,800.00	90.80	358.75	6,621.89	10,220.49	5,806.46 N	25.17 E	513,155.97	784,245.03	0.00	5,806.40	
15,900.00	90.80	358.75	6,620.49	10,219.09	5,906.42 N	22.98 E	513,255.93	784,242.84	0.00	5,906.37	
16,000.00	90.80	358.75	6,619.09	10,217.69	6,006.39 N	20.79 E	513,355.90	784,240.66	0.00	6,006.34	
16,100.00	90.80	358.75	6,617.70	10,216.30	6,106.36 N	18.61 E	513,455.86	784,238.47	0.00	6,106.31	
16,200.00	90.80	358.75	6,616.30	10,214.90	6,206.32 N	16.42 E	513,555.83	784,236.28	0.00	6,206.28	
16,300.00	90.80	358.75	6,614.90	10,213.50	6,306.29 N	14.23 E	513,655.80	784,234.10	0.00	6,306.25	
16,400.00	90.80	358.75	6,613.51	10,212.11	6,406.26 N	12.05 E	513,755.76	784,231.91	0.00	6,406.22	
16,500.00	90.80	358.75	6,612.11	10,210.71	6,506.22 N	9.86 E	513,855.73	784,229.72	0.00	6,506.19	
16,600.00	90.80	358.75	6,610.72	10,209.32	6,606.19 N	7.67 E	513,955.70	784,227.54	0.00	6,606.16	
16,700.00	90.80	358.75	6,609.32	10,207.92	6,706.15 N	5.49 E	514,055.66	784,225.35	0.00	6,706.13	
16,800.00	90.80	358.75	6,607.92	10,206.52	6,806.12 N	3.30 E	514,155.63	784,223.16	0.00	6,806.10	
16,900.00	90.80	358.75	6,606.53	10,205.13	6,906.09 N	1.11 E	514,255.60	784,220.98	0.00	6,906.07	
17,000.00	90.80	358.75	6,605.13	10,203.73	7,006.05 N	1.07 W	514,355.56	784,218.79	0.00	7,006.04	
17,100.00	90.80	358.75	6,603.73	10,202.33	7,106.02 N	3.26 W	514,455.53	784,216.60	0.00	7,106.01	
17,200.00	90.80	358.75	6,602.34	10,200.94	7,205.99 N	5.45 W	514,555.49	784,214.42	0.00	7,205.98	
17,300.00	90.80	358.75	6,600.94	10,199.54	7,305.95 N	7.63 W	514,655.46	784,212.23	0.00	7,305.95	
17,400.00	90.80	358.75	6,599.55	10,198.15	7,405.92 N	9.82 W	514,755.43	784,210.04	0.00	7,405.92	
17,500.00	90.80	358.75	6,598.15	10,196.75	7,505.89 N	12.01 W	514,855.39	784,207.86	0.00	7,505.89	
17,582.36	90.80	358.75	6,597.00	10,195.60	7,588.22 N	13.81 W	514,937.72	784,206.05	0.00	7,588.23	BHL

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,000.00	2,000.00	0.00	0.00	Nudge 2° DLS
2,100.25	2,100.23	0.97	1.46	Hold 2° inc
7,102.62	7,099.54	98.05	147.08	Drop 1° DLS
7,303.12	7,300.00	100.00	150.00	Hold Vertical
9,819.13	9,816.01	100.00	150.00	Build 12° DLS
10,575.80	10,293.43	584.02	139.41	Landing Point
17,582.36	10,195.60	7,588.22	-13.81	BHL

Plan Report for 1H - Plan 1

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (usft)	Origin +E/-W (usft)	Start TVD (usft)
User	No Target (Freehand)	359.90	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	17,581.98	Plan 1	MWD

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,000.00	1,000.00	13 3/8"	13-3/8	17-1/2

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	TVDSS (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
549.00	549.00	-3,049.60	Rustler		-0.80	359.90
1,549.00	1,549.00	-2,049.60	Top of Salt		-0.80	359.90
3,549.50	3,549.00	-49.60	Base of Salt		-0.80	359.90
4,424.80	4,424.00	825.40	Delaware		-0.80	359.90
8,320.73	8,319.00	4,720.40	Bone Spring		-0.80	359.90
8,410.73	8,409.00	4,810.40	Avalon		-0.80	359.90
9,000.73	8,999.00	5,400.40	1st Bone Spring		-0.80	359.90
9,530.73	9,529.00	5,930.40	2nd Bone Spring		-0.80	359.90

Design 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									
Loveland BS2 State Come BHL ()									
	0.00	0.00	0.00	7,588.22	-13.81	514,937.72	784,206.05	32.41231200	-103.41239600
- plan misses target center by 7588.23usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									

Plan Report for 1H - Plan 1

Directional Difficulty Index

Average Dogleg over Survey:	0.54 °/100usft	Maximum Dogleg over Survey:	12.00 °/100usft at 10,575.80 usft
Net Tortosity applicable to Plans:	0.54 °/100usft	Directional Difficulty Index:	6.366

Audit Info

North Reference Sheet for Loveland BS2 State Com - 1H - Wellbore #1

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to GL=3573.6' @ 3598.60usft (KB +25'). Northing and Easting are relative to Loveland BS2 State Com

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 3001 using datum NAD 1927 (NADCON CONUS), ellipsoid Clarke 1866

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is -104.33333333°, Longitude Origin:0.00000000°, Latitude Origin:0.00000000°

False Easting: 500,000.00usft, False Northing: 0.00usft, Scale Reduction: 1.00000161

Grid Coordinates of Well: 507,349.51 usft N, 784,219.86 usft E

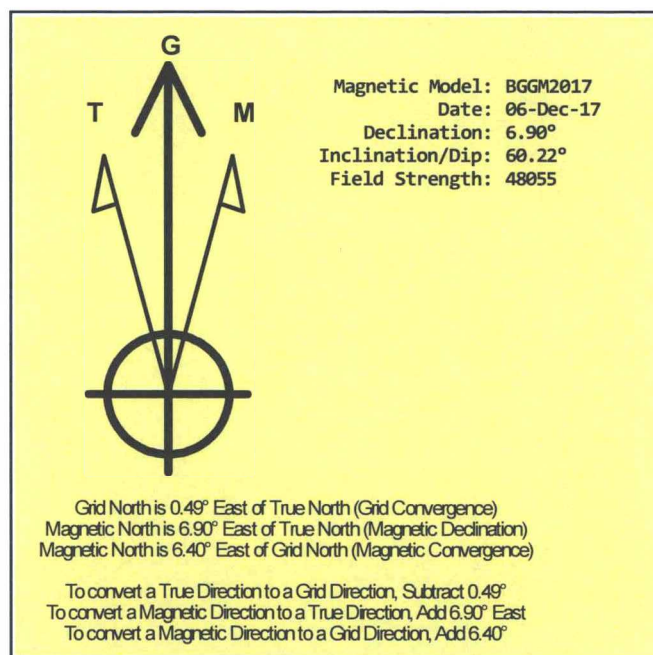
Geographical Coordinates of Well: 32° 23' 29.24" N, 103° 24' 45.23" W

Grid Convergence at Surface is: 0.49°

Based upon Minimum Curvature type calculations, at a Measured Depth of 17,582.36usft

the Bottom Hole Displacement is 7,588.23usft in the Direction of 359.90° (Grid).

Magnetic Convergence at surface is: -6.40° (6 December 2017, , BGGM2017)





Prepared By: _____
Date: _____
Geologist: _____
Engineer: _____

Engineer:

Proposed Well:	LOVELAND BS2 STATE COM
Legals:	NWSW Sec 18 T22S R35E
API:	
Lat/Long (Nad 83):	N 32°23'29.68", W 103°24'46.95"
County and State:	Lea Co., NM
Land Elev (FEET):	3573.6
Well Elev (FEET):	3598.6

Vertical Correlation Well:	State C&C 1					
Legals:	SL Sec 7 12S-35E					
API:	66028-26559					
Lat/Long (Nad 27)	52.4066701 -103.642302					
County and State	Qua Co. NM					
Ground Elev:						
Kelly Bushing Elev:	3025					

Rig KB: 25

Formations	Lithology	(calc)	(calc)	(calc)	Sample Top	(calc)	(calc)	Actual Log	(calc)	(calc)	Adjusted Prog Top	(calc)	(calc)
		TVD (RKB)	TVD Subsea	Is to Target		Δft	Sample <Lo Hi>		Δft	Log <Lo Hi>		TVD (RKB)	TVD Subsea
Rustler	Mixed lithologies	549	3050	9750		548.6			548.6			0	
Top of Salt	Salt (Halite)	1549	2050	8750		1548.6			1548.6			0	
Base of Salt	Limestone/Anhydrite	3549	50	6750		3548.6			3548.6			0	
Delaware	Sand/Siltstone/Shale/Limestone	4424	-825	5875		4423.6			4423.6			0	
Bone Spring	Limestone	8319	-4720	1980		8318.6			8318.6			0	
Avalon	Shale	8409	-4810	1890		8408.6			8408.6			0	
1st Bone Spring	Sand/Siltstone/Shale/Limestone	8999	-5400	1300		8998.6			8998.6			0	
2nd Bone Spring	Sand/Siltstone/Shale/Limestone	9529	-5930	770		9528.6			9528.6			0	
Target (± 90.8')	Shale/Siltstone/Limestone	10299	-6700	0		10298.6			10298.6			0	
3rd Bone Spring	Siltstone	10949	-7350	-650		10948.6			10948.6			0	
SURFACE CASING POINT													
1st INT. CASING POINT													
2nd INT. CASING POINT													
PROD. CASING POINT													