Magpie Operating, Inc.

Well Name: **Bunker 8-9H**

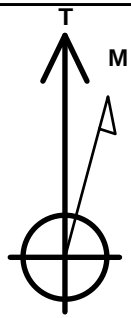
Surface Location: Bunker 8 Well Pad Sec.29-T5N-R68W
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
Ground Elevation: 4982.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1377935.53	3130397.35	40.369890	-105.032010	

Original Well Elev WELL @ 4998.0ft (Original Well Elev)

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 2200'FSL, 2275'FWL, SEC.29	1.0	0.0	0.0	Point
BHL 1326'FNL, 677'FWL, SEC.30	4365.0	1749.7	-6890.4	Point
LPL 1345'FNL, 626'FEL, SEC.29	4490.0	1712.4	2332.1	Point



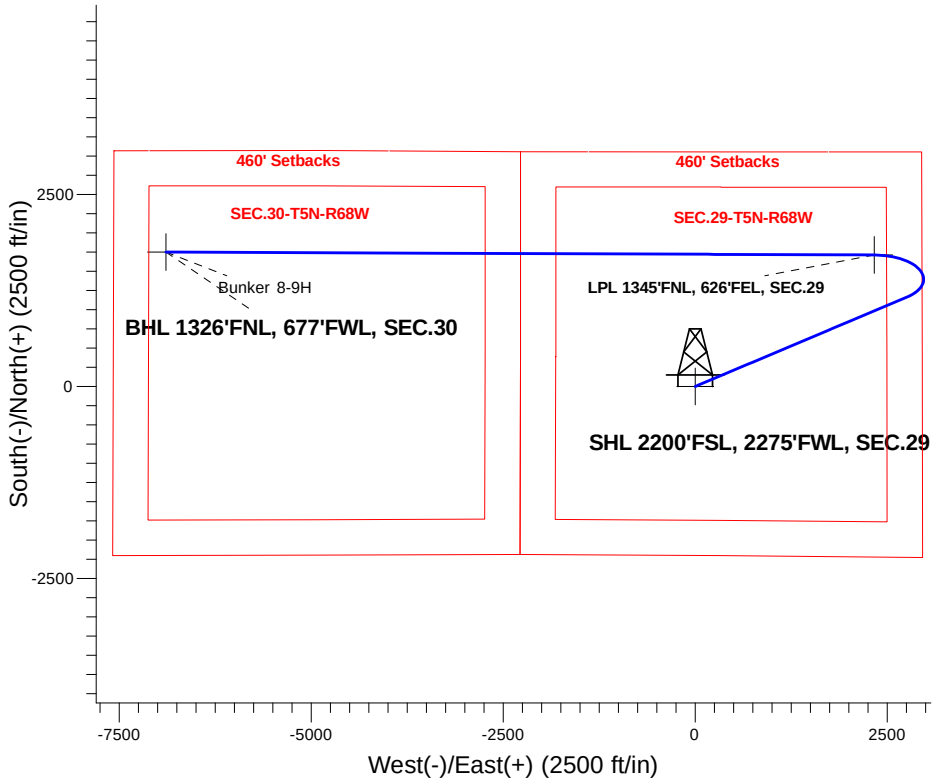
Azimuths to True North
Magnetic North: 8.37°

Magnetic Field
Strength: 52206.0snT
Dip Angle: 66.62°
Date: 12/7/2018
Model: HDGM

Bunker 8 Well Pad Sec.29-T5N-R68W
Bunker 8-9H
Plan #2 (12-06-18)
10:51, December 07 2018

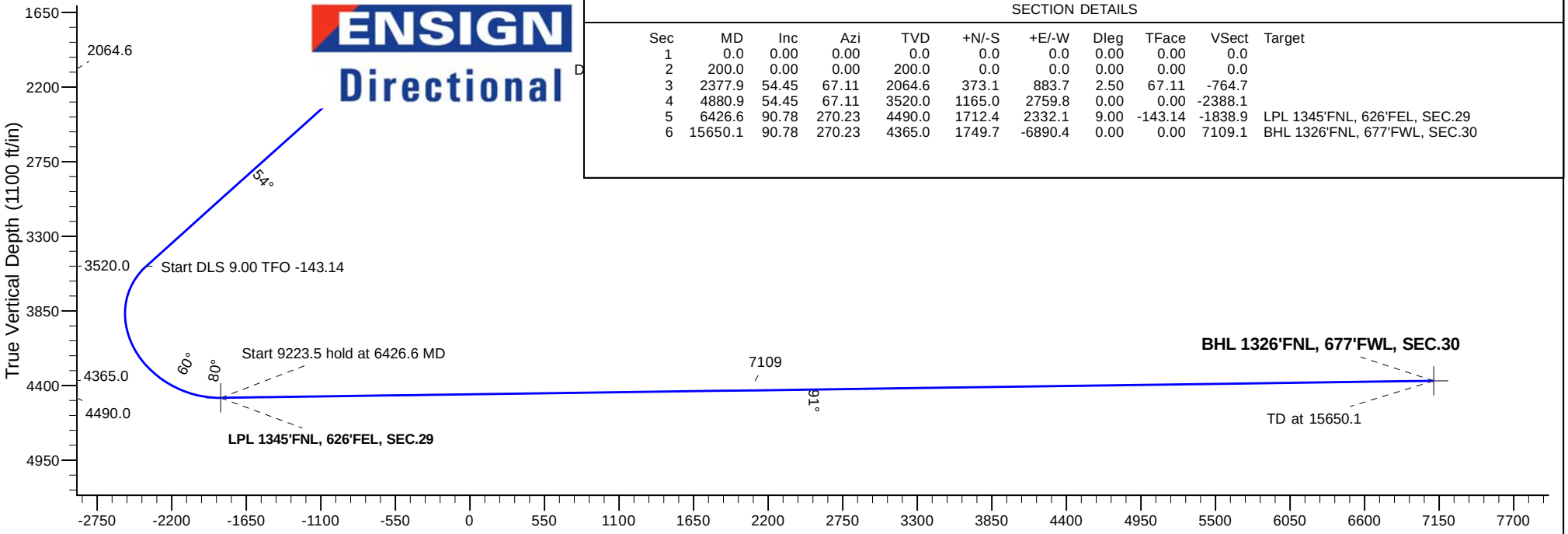
ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	KOP - Start Build 2.50
2064.6	2377.9	Start 2503.0 hold at 2377.9 MD
3520.0	4880.9	Start DLS 9.00 TFO -143.14
4490.0	6426.6	Start 9223.5 hold at 6426.6 MD
4365.0	15650.1	TD at 15650.1



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	2377.9	54.45	67.11	2064.6	373.1	883.7	2.50	67.11	-764.7	
4	4880.9	54.45	67.11	3520.0	1165.0	2759.8	0.00	0.00	-2388.1	
5	6426.6	90.78	270.23	4490.0	1712.4	2332.1	9.00	-143.14	-1838.9	LPL 1345'FNL, 626'FEL, SEC.29
6	15650.1	90.78	270.23	4365.0	1749.7	-6890.4	0.00	0.00	7109.1	BHL 1326'FNL, 677'FWL, SEC.30



ENSIGN Directional

Magpie Operating, Inc.

SEC.29-T5N-R68W
Bunker 8 Well Pad Sec.29-T5N-R68W
Bunker 8-9H

Wellbore #1

Plan: Plan #2 (12-06-18)

Standard Planning Report

07 December, 2018

Database:	US_EDM	**Local Co-ordinate Reference:**	Well Bunker 8-9H
Company:	Magpie Operating, Inc.	**TVD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Project:	SEC.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**North Reference:**	True
Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (12-06-18)		

Project SEC.29-T5N-R68W, Laramier County, CO

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site Bunker 8 Well Pad Sec.29-T5N-R68W

Site Position:		**Northing:**	1,377,695.11 usft	**Latitude:**	40.369230
From:	Lat/Long	**Easting:**	3,130,398.62 usft	**Longitude:**	-105.032010
Position Uncertainty:	0.0 ft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.30 °

Well Bunker 8-9H

Well Position	**+N/-S**	240.4 ft	**Northing:**	1,377,935.53 usft	**Latitude:**	40.369890
	+E/-W	0.0 ft	**Easting:**	3,130,397.35 usft	**Longitude:**	-105.032010
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	0.0 ft	**Ground Level:**	4,982.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	12/7/2018	8.37	66.62	52,206

Design Plan #2 (12-06-18)

Audit Notes:					
Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	284.25

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,377.9	54.45	67.11	2,064.6	373.1	883.7	2.50	2.50	0.00	67.11	
4,880.9	54.45	67.11	3,520.0	1,165.0	2,759.8	0.00	0.00	0.00	0.00	
6,426.6	90.78	270.23	4,490.0	1,712.4	2,332.1	9.00	2.35	-10.15	-143.14	LPL 1345'FNL, 626'FI
15,650.1	90.78	270.23	4,365.0	1,749.7	-6,890.4	0.00	0.00	0.00	0.00	BHL 1326'FNL, 677'F'

Database:	US_EDM	**Local Co-ordinate Reference:**	Well Bunker 8-9H
Company:	Magpie Operating, Inc.	**TVD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Project:	SEC.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**North Reference:**	True
Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (12-06-18)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 2.50									
300.0	2.50	67.11	300.0	0.8	2.0	-1.7	2.50	2.50	0.00
400.0	5.00	67.11	399.7	3.4	8.0	-7.0	2.50	2.50	0.00
500.0	7.50	67.11	499.1	7.6	18.1	-15.6	2.50	2.50	0.00
600.0	10.00	67.11	598.0	13.5	32.1	-27.8	2.50	2.50	0.00
700.0	12.50	67.11	696.0	21.1	50.0	-43.3	2.50	2.50	0.00
800.0	15.00	67.11	793.2	30.4	71.9	-62.3	2.50	2.50	0.00
900.0	17.50	67.11	889.2	41.3	97.7	-84.6	2.50	2.50	0.00
1,000.0	20.00	67.11	983.9	53.8	127.3	-110.2	2.50	2.50	0.00
1,100.0	22.50	67.11	1,077.0	67.8	160.7	-139.1	2.50	2.50	0.00
1,200.0	25.00	67.11	1,168.6	83.5	197.8	-171.2	2.50	2.50	0.00
1,300.0	27.50	67.11	1,258.3	100.7	238.6	-206.4	2.50	2.50	0.00
1,400.0	30.00	67.11	1,345.9	119.4	282.9	-244.8	2.50	2.50	0.00
1,500.0	32.50	67.11	1,431.4	139.6	330.7	-286.1	2.50	2.50	0.00
1,600.0	35.00	67.11	1,514.5	161.2	381.8	-330.4	2.50	2.50	0.00
1,700.0	37.50	67.11	1,595.2	184.2	436.3	-377.6	2.50	2.50	0.00
1,800.0	40.00	67.11	1,673.2	208.5	494.0	-427.5	2.50	2.50	0.00
1,900.0	42.50	67.11	1,748.3	234.2	554.7	-480.0	2.50	2.50	0.00
2,000.0	45.00	67.11	1,820.6	261.1	618.4	-535.1	2.50	2.50	0.00
2,100.0	47.50	67.11	1,889.7	289.2	685.0	-592.7	2.50	2.50	0.00
2,200.0	50.00	67.11	1,955.6	318.4	754.2	-652.7	2.50	2.50	0.00
2,300.0	52.50	67.11	2,018.2	348.7	826.1	-714.8	2.50	2.50	0.00
2,377.9	54.45	67.11	2,064.6	373.1	883.7	-764.7	2.50	2.50	0.00
Start 2503.0 hold at 2377.9 MD									
2,400.0	54.45	67.11	2,077.4	380.1	900.3	-779.1	0.00	0.00	0.00
2,500.0	54.45	67.11	2,135.6	411.7	975.2	-843.9	0.00	0.00	0.00
2,600.0	54.45	67.11	2,193.7	443.3	1,050.2	-908.8	0.00	0.00	0.00
2,700.0	54.45	67.11	2,251.9	475.0	1,125.2	-973.6	0.00	0.00	0.00
2,800.0	54.45	67.11	2,310.0	506.6	1,200.1	-1,038.5	0.00	0.00	0.00
2,900.0	54.45	67.11	2,368.2	538.3	1,275.1	-1,103.4	0.00	0.00	0.00
3,000.0	54.45	67.11	2,426.3	569.9	1,350.0	-1,168.2	0.00	0.00	0.00
3,100.0	54.45	67.11	2,484.5	601.5	1,425.0	-1,233.1	0.00	0.00	0.00
3,200.0	54.45	67.11	2,542.6	633.2	1,499.9	-1,297.9	0.00	0.00	0.00
3,300.0	54.45	67.11	2,600.8	664.8	1,574.9	-1,362.8	0.00	0.00	0.00
3,400.0	54.45	67.11	2,658.9	696.5	1,649.8	-1,427.7	0.00	0.00	0.00
3,500.0	54.45	67.11	2,717.1	728.1	1,724.8	-1,492.5	0.00	0.00	0.00
3,600.0	54.45	67.11	2,775.2	759.8	1,799.7	-1,557.4	0.00	0.00	0.00
3,700.0	54.45	67.11	2,833.4	791.4	1,874.7	-1,622.2	0.00	0.00	0.00
3,800.0	54.45	67.11	2,891.5	823.0	1,949.6	-1,687.1	0.00	0.00	0.00
3,900.0	54.45	67.11	2,949.6	854.7	2,024.6	-1,752.0	0.00	0.00	0.00
4,000.0	54.45	67.11	3,007.8	886.3	2,099.5	-1,816.8	0.00	0.00	0.00
4,100.0	54.45	67.11	3,065.9	918.0	2,174.5	-1,881.7	0.00	0.00	0.00
4,200.0	54.45	67.11	3,124.1	949.6	2,249.4	-1,946.5	0.00	0.00	0.00
4,300.0	54.45	67.11	3,182.2	981.2	2,324.4	-2,011.4	0.00	0.00	0.00
4,400.0	54.45	67.11	3,240.4	1,012.9	2,399.3	-2,076.3	0.00	0.00	0.00
4,500.0	54.45	67.11	3,298.5	1,044.5	2,474.3	-2,141.1	0.00	0.00	0.00
4,600.0	54.45	67.11	3,356.7	1,076.2	2,549.2	-2,206.0	0.00	0.00	0.00
4,700.0	54.45	67.11	3,414.8	1,107.8	2,624.2	-2,270.8	0.00	0.00	0.00
4,800.0	54.45	67.11	3,473.0	1,139.4	2,699.1	-2,335.7	0.00	0.00	0.00
4,880.9	54.45	67.11	3,520.0	1,165.0	2,759.8	-2,388.1	0.00	0.00	0.00

Database:	US_EDM	**Local Co-ordinate Reference:**	Well Bunker 8-9H
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Project:	SEC.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**North Reference:**	True
Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (12-06-18)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Start DLS 9.00 TFO -143.14									
4,900.0	53.08	65.82	3,531.3	1,171.2	2,773.9	-2,400.3	9.00	-7.17	-6.75
5,000.0	46.18	58.22	3,596.1	1,206.6	2,841.2	-2,456.8	9.00	-6.90	-7.61
5,100.0	39.91	48.72	3,669.2	1,246.9	2,896.1	-2,500.1	9.00	-6.27	-9.49
5,200.0	34.64	36.64	3,748.9	1,290.9	2,937.2	-2,529.2	9.00	-5.27	-12.08
5,300.0	30.88	21.47	3,833.1	1,337.7	2,963.6	-2,543.2	9.00	-3.76	-15.17
5,400.0	29.25	3.75	3,919.8	1,386.1	2,974.6	-2,542.0	9.00	-1.64	-17.72
5,500.0	30.07	345.58	4,006.9	1,434.8	2,970.0	-2,525.5	9.00	0.83	-18.17
5,600.0	33.18	329.42	4,092.2	1,482.8	2,949.8	-2,494.1	9.00	3.11	-16.16
5,700.0	38.01	316.33	4,173.6	1,528.7	2,914.5	-2,448.6	9.00	4.83	-13.09
5,800.0	44.00	306.05	4,249.1	1,571.5	2,865.1	-2,390.2	9.00	5.98	-10.28
5,900.0	50.71	297.89	4,316.9	1,610.1	2,802.7	-2,320.2	9.00	6.72	-8.16
6,000.0	57.90	291.20	4,375.2	1,643.6	2,728.8	-2,240.4	9.00	7.18	-6.69
6,100.0	65.38	285.51	4,422.7	1,671.1	2,645.4	-2,152.7	9.00	7.48	-5.69
6,200.0	73.06	280.47	4,458.2	1,692.0	2,554.3	-2,059.3	9.00	7.67	-5.04
6,300.0	80.84	275.84	4,480.8	1,705.7	2,458.0	-1,962.6	9.00	7.79	-4.64
6,400.0	88.69	271.40	4,489.9	1,712.0	2,358.7	-1,864.8	9.00	7.84	-4.44
6,426.6	90.78	270.23	4,490.0	1,712.4	2,332.1	-1,838.9	9.00	7.86	-4.39
Start 9223.5 hold at 6426.6 MD									
6,500.0	90.78	270.23	4,489.0	1,712.7	2,258.7	-1,767.7	0.00	0.00	0.00
6,600.0	90.78	270.23	4,487.7	1,713.1	2,158.7	-1,670.7	0.00	0.00	0.00
6,700.0	90.78	270.23	4,486.3	1,713.5	2,058.8	-1,573.7	0.00	0.00	0.00
6,800.0	90.78	270.23	4,484.9	1,713.9	1,958.8	-1,476.7	0.00	0.00	0.00
6,900.0	90.78	270.23	4,483.6	1,714.3	1,858.8	-1,379.7	0.00	0.00	0.00
7,000.0	90.78	270.23	4,482.2	1,714.7	1,758.8	-1,282.7	0.00	0.00	0.00
7,100.0	90.78	270.23	4,480.9	1,715.1	1,658.8	-1,185.7	0.00	0.00	0.00
7,200.0	90.78	270.23	4,479.5	1,715.5	1,558.8	-1,088.6	0.00	0.00	0.00
7,300.0	90.78	270.23	4,478.2	1,715.9	1,458.8	-991.6	0.00	0.00	0.00
7,400.0	90.78	270.23	4,476.8	1,716.3	1,358.8	-894.6	0.00	0.00	0.00
7,500.0	90.78	270.23	4,475.5	1,716.7	1,258.8	-797.6	0.00	0.00	0.00
7,600.0	90.78	270.23	4,474.1	1,717.1	1,158.8	-700.6	0.00	0.00	0.00
7,700.0	90.78	270.23	4,472.7	1,717.5	1,058.9	-603.6	0.00	0.00	0.00
7,800.0	90.78	270.23	4,471.4	1,717.9	958.9	-506.6	0.00	0.00	0.00
7,900.0	90.78	270.23	4,470.0	1,718.3	858.9	-409.5	0.00	0.00	0.00
8,000.0	90.78	270.23	4,468.7	1,718.7	758.9	-312.5	0.00	0.00	0.00
8,100.0	90.78	270.23	4,467.3	1,719.1	658.9	-215.5	0.00	0.00	0.00
8,200.0	90.78	270.23	4,466.0	1,719.5	558.9	-118.5	0.00	0.00	0.00
8,300.0	90.78	270.23	4,464.6	1,719.9	458.9	-21.5	0.00	0.00	0.00
8,400.0	90.78	270.23	4,463.3	1,720.4	358.9	75.5	0.00	0.00	0.00
8,500.0	90.78	270.23	4,461.9	1,720.8	258.9	172.5	0.00	0.00	0.00
8,600.0	90.78	270.23	4,460.5	1,721.2	158.9	269.6	0.00	0.00	0.00
8,700.0	90.78	270.23	4,459.2	1,721.6	59.0	366.6	0.00	0.00	0.00
8,800.0	90.78	270.23	4,457.8	1,722.0	-41.0	463.6	0.00	0.00	0.00
8,900.0	90.78	270.23	4,456.5	1,722.4	-141.0	560.6	0.00	0.00	0.00
9,000.0	90.78	270.23	4,455.1	1,722.8	-241.0	657.6	0.00	0.00	0.00
9,100.0	90.78	270.23	4,453.8	1,723.2	-341.0	754.6	0.00	0.00	0.00
9,200.0	90.78	270.23	4,452.4	1,723.6	-441.0	851.6	0.00	0.00	0.00
9,300.0	90.78	270.23	4,451.1	1,724.0	-541.0	948.6	0.00	0.00	0.00
9,400.0	90.78	270.23	4,449.7	1,724.4	-641.0	1,045.7	0.00	0.00	0.00
9,500.0	90.78	270.23	4,448.3	1,724.8	-741.0	1,142.7	0.00	0.00	0.00
9,600.0	90.78	270.23	4,447.0	1,725.2	-841.0	1,239.7	0.00	0.00	0.00
9,700.0	90.78	270.23	4,445.6	1,725.6	-940.9	1,336.7	0.00	0.00	0.00
9,800.0	90.78	270.23	4,444.3	1,726.0	-1,040.9	1,433.7	0.00	0.00	0.00
9,900.0	90.78	270.23	4,442.9	1,726.4	-1,140.9	1,530.7	0.00	0.00	0.00

Database:	US_EDM	**Local Co-ordinate Reference:**	Well Bunker 8-9H
Company:	Magpie Operating, Inc.	**TVD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Project:	SEC.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**North Reference:**	True
Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (12-06-18)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,000.0	90.78	270.23	4,441.6	1,726.8	-1,240.9	1,627.7	0.00	0.00	0.00
10,100.0	90.78	270.23	4,440.2	1,727.2	-1,340.9	1,724.8	0.00	0.00	0.00
10,200.0	90.78	270.23	4,438.9	1,727.6	-1,440.9	1,821.8	0.00	0.00	0.00
10,300.0	90.78	270.23	4,437.5	1,728.0	-1,540.9	1,918.8	0.00	0.00	0.00
10,400.0	90.78	270.23	4,436.2	1,728.4	-1,640.9	2,015.8	0.00	0.00	0.00
10,500.0	90.78	270.23	4,434.8	1,728.8	-1,740.9	2,112.8	0.00	0.00	0.00
10,600.0	90.78	270.23	4,433.4	1,729.2	-1,840.9	2,209.8	0.00	0.00	0.00
10,700.0	90.78	270.23	4,432.1	1,729.6	-1,940.8	2,306.8	0.00	0.00	0.00
10,800.0	90.78	270.23	4,430.7	1,730.1	-2,040.8	2,403.9	0.00	0.00	0.00
10,900.0	90.78	270.23	4,429.4	1,730.5	-2,140.8	2,500.9	0.00	0.00	0.00
11,000.0	90.78	270.23	4,428.0	1,730.9	-2,240.8	2,597.9	0.00	0.00	0.00
11,100.0	90.78	270.23	4,426.7	1,731.3	-2,340.8	2,694.9	0.00	0.00	0.00
11,200.0	90.78	270.23	4,425.3	1,731.7	-2,440.8	2,791.9	0.00	0.00	0.00
11,300.0	90.78	270.23	4,424.0	1,732.1	-2,540.8	2,888.9	0.00	0.00	0.00
11,400.0	90.78	270.23	4,422.6	1,732.5	-2,640.8	2,985.9	0.00	0.00	0.00
11,500.0	90.78	270.23	4,421.2	1,732.9	-2,740.8	3,083.0	0.00	0.00	0.00
11,600.0	90.78	270.23	4,419.9	1,733.3	-2,840.8	3,180.0	0.00	0.00	0.00
11,700.0	90.78	270.23	4,418.5	1,733.7	-2,940.7	3,277.0	0.00	0.00	0.00
11,800.0	90.78	270.23	4,417.2	1,734.1	-3,040.7	3,374.0	0.00	0.00	0.00
11,900.0	90.78	270.23	4,415.8	1,734.5	-3,140.7	3,471.0	0.00	0.00	0.00
12,000.0	90.78	270.23	4,414.5	1,734.9	-3,240.7	3,568.0	0.00	0.00	0.00
12,100.0	90.78	270.23	4,413.1	1,735.3	-3,340.7	3,665.0	0.00	0.00	0.00
12,200.0	90.78	270.23	4,411.8	1,735.7	-3,440.7	3,762.0	0.00	0.00	0.00
12,300.0	90.78	270.23	4,410.4	1,736.1	-3,540.7	3,859.1	0.00	0.00	0.00
12,400.0	90.78	270.23	4,409.0	1,736.5	-3,640.7	3,956.1	0.00	0.00	0.00
12,500.0	90.78	270.23	4,407.7	1,736.9	-3,740.7	4,053.1	0.00	0.00	0.00
12,600.0	90.78	270.23	4,406.3	1,737.3	-3,840.7	4,150.1	0.00	0.00	0.00
12,700.0	90.78	270.23	4,405.0	1,737.7	-3,940.6	4,247.1	0.00	0.00	0.00
12,800.0	90.78	270.23	4,403.6	1,738.1	-4,040.6	4,344.1	0.00	0.00	0.00
12,900.0	90.78	270.23	4,402.3	1,738.5	-4,140.6	4,441.1	0.00	0.00	0.00
13,000.0	90.78	270.23	4,400.9	1,738.9	-4,240.6	4,538.2	0.00	0.00	0.00
13,100.0	90.78	270.23	4,399.6	1,739.3	-4,340.6	4,635.2	0.00	0.00	0.00
13,200.0	90.78	270.23	4,398.2	1,739.8	-4,440.6	4,732.2	0.00	0.00	0.00
13,300.0	90.78	270.23	4,396.8	1,740.2	-4,540.6	4,829.2	0.00	0.00	0.00
13,400.0	90.78	270.23	4,395.5	1,740.6	-4,640.6	4,926.2	0.00	0.00	0.00
13,500.0	90.78	270.23	4,394.1	1,741.0	-4,740.6	5,023.2	0.00	0.00	0.00
13,600.0	90.78	270.23	4,392.8	1,741.4	-4,840.6	5,120.2	0.00	0.00	0.00
13,700.0	90.78	270.23	4,391.4	1,741.8	-4,940.5	5,217.3	0.00	0.00	0.00
13,800.0	90.78	270.23	4,390.1	1,742.2	-5,040.5	5,314.3	0.00	0.00	0.00
13,900.0	90.78	270.23	4,388.7	1,742.6	-5,140.5	5,411.3	0.00	0.00	0.00
14,000.0	90.78	270.23	4,387.4	1,743.0	-5,240.5	5,508.3	0.00	0.00	0.00
14,100.0	90.78	270.23	4,386.0	1,743.4	-5,340.5	5,605.3	0.00	0.00	0.00
14,200.0	90.78	270.23	4,384.7	1,743.8	-5,440.5	5,702.3	0.00	0.00	0.00
14,300.0	90.78	270.23	4,383.3	1,744.2	-5,540.5	5,799.3	0.00	0.00	0.00
14,400.0	90.78	270.23	4,381.9	1,744.6	-5,640.5	5,896.4	0.00	0.00	0.00
14,500.0	90.78	270.23	4,380.6	1,745.0	-5,740.5	5,993.4	0.00	0.00	0.00
14,600.0	90.78	270.23	4,379.2	1,745.4	-5,840.5	6,090.4	0.00	0.00	0.00
14,700.0	90.78	270.23	4,377.9	1,745.8	-5,940.4	6,187.4	0.00	0.00	0.00
14,800.0	90.78	270.23	4,376.5	1,746.2	-6,040.4	6,284.4	0.00	0.00	0.00
14,900.0	90.78	270.23	4,375.2	1,746.6	-6,140.4	6,381.4	0.00	0.00	0.00
15,000.0	90.78	270.23	4,373.8	1,747.0	-6,240.4	6,478.4	0.00	0.00	0.00
15,100.0	90.78	270.23	4,372.5	1,747.4	-6,340.4	6,575.5	0.00	0.00	0.00
15,200.0	90.78	270.23	4,371.1	1,747.8	-6,440.4	6,672.5	0.00	0.00	0.00
15,300.0	90.78	270.23	4,369.7	1,748.2	-6,540.4	6,769.5	0.00	0.00	0.00

Database:	US_EDM	**Local Co-ordinate Reference:**	Well Bunker 8-9H
Company:	Magpie Operating, Inc.	**TVD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Project:	SEC.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**North Reference:**	True
Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (12-06-18)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,400.0	90.78	270.23	4,368.4	1,748.6	-6,640.4	6,866.5	0.00	0.00	0.00
15,500.0	90.78	270.23	4,367.0	1,749.0	-6,740.4	6,963.5	0.00	0.00	0.00
15,600.0	90.78	270.23	4,365.7	1,749.5	-6,840.4	7,060.5	0.00	0.00	0.00
15,650.1	90.78	270.23	4,365.0	1,749.7	-6,890.4	7,109.1	0.00	0.00	0.00
TD at 15650.1									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL 2200'FSL, 2275'FW - plan hits target center - Point	0.00	0.00	1.0	0.0	0.0	1,377,935.54	3,130,397.35	40.369890	-105.032010
BHL 1326'FNL, 677'FWL - plan hits target center - Point	0.00	0.00	4,365.0	1,749.7	-6,890.4	1,379,648.73	3,123,498.08	40.374690	-105.056740
LPL 1345'FNL, 626'FEL, - plan hits target center - Point	0.00	0.00	4,490.0	1,712.4	2,332.1	1,379,660.12	3,132,720.28	40.374590	-105.023640

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
200.0	200.0	0.0	0.0	KOP - Start Build 2.50
2,377.9	2,064.6	373.1	883.7	Start 2503.0 hold at 2377.9 MD
4,880.9	3,520.0	1,165.0	2,759.8	Start DLS 9.00 TFO -143.14
6,426.6	4,490.0	1,712.4	2,332.1	Start 9223.5 hold at 6426.6 MD
15,650.1	4,365.0	1,749.7	-6,890.4	TD at 15650.1

ENSIGN Directional

Magpie Operating, Inc.

SEC.29-T5N-R68W
Bunker 8 Well Pad Sec.29-T5N-R68W
Bunker 8-9H

Wellbore #1
Plan #2 (12-06-18)

Anticollision Report

07 December, 2018

Company:	Magpie Operating, Inc.	**Local Co-ordinate Reference:**	Well Bunker 8-9H
Project:	SEC.29-T5N-R68W	**TVD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.45 sigma
Reference Wellbore	Wellbore #1	**Database:**	US_EDM
Reference Design:	Plan #2 (12-06-18)	**Offset TVD Reference:**	Offset Datum

Reference Plan #2 (12-06-18)

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 center-center distance of 800.0 ft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.45 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 12/7/2018

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	15,650.1	Plan #2 (12-06-18) (Wellbore #1)	MWD	MWD - Standard

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Bunker 8 Well Pad Sec.29-T5N-R68W						
Bunker 8-1H - Wellbore #1 - Plan #2 (12-06-18)	160.8	175.8	240.5	239.8	369.153	CC
Bunker 8-1H - Wellbore #1 - Plan #2 (12-06-18)	200.0	213.9	240.5	239.6	279.480	ES
Bunker 8-1H - Wellbore #1 - Plan #2 (12-06-18)	1,700.0	1,439.4	782.4	766.7	49.678	SF
Bunker 8-2H - Wellbore #1 - Plan #2 (12-06-18)	200.0	212.0	207.7	206.8	241.732	CC, ES
Bunker 8-2H - Wellbore #1 - Plan #2 (12-06-18)	2,400.0	2,252.2	798.0	753.0	17.734	SF
Bunker 8-3H - Wellbore #1 - Plan #2 (12-06-18)	163.0	173.0	178.5	177.9	274.808	CC
Bunker 8-3H - Wellbore #1 - Plan #2 (12-06-18)	200.0	209.9	178.5	177.7	209.510	ES
Bunker 8-3H - Wellbore #1 - Plan #2 (12-06-18)	2,600.0	2,449.2	783.0	725.7	13.681	SF
Bunker 8-4H - Wellbore #1 - Plan #2 (12-06-18)	200.0	209.0	149.4	148.5	175.567	CC, ES
Bunker 8-4H - Wellbore #1 - Plan #2 (12-06-18)	2,900.0	2,817.2	775.2	704.6	10.991	SF
Bunker 8-5H - Wellbore #1 - Plan #2 (12-06-18)	200.5	207.5	120.2	119.4	141.888	CC, ES
Bunker 8-5H - Wellbore #1 - Plan #2 (12-06-18)	3,400.0	3,308.9	773.1	678.3	8.160	SF
Bunker 8-6H - Wellbore #1 - Plan #2 (12-06-18)	201.7	206.8	87.4	86.6	103.034	CC, ES
Bunker 8-6H - Wellbore #1 - Plan #2 (12-06-18)	4,100.0	4,025.4	783.9	650.6	5.881	SF
Bunker 8-7H - Wellbore #1 - Plan #2 (12-06-18)	200.0	203.0	58.3	57.5	69.873	CC, ES
Bunker 8-7H - Wellbore #1 - Plan #2 (12-06-18)	4,880.9	4,897.3	658.9	494.4	4.005	SF
Bunker 8-8H - Wellbore #1 - Plan #2 (12-06-18)	200.0	201.0	29.2	28.3	35.176	CC
Bunker 8-8H - Wellbore #1 - Plan #2 (12-06-18)	15,650.1	15,798.9	515.4	-45.8	0.918	Level 1, ES, SF

Offset Design Bunker 8 Well Pad Sec.29-T5N-R68W - Bunker 8-1H - Wellbore #1 - Plan #2 (12-06-18)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	15.0	15.0	0.0	0.0	180.00	-240.5	0.0	240.5	240.4	0.02	N/A	
100.0	100.0	115.0	115.0	0.1	0.2	180.00	-240.5	0.0	240.5	240.1	0.32	759.391	
160.8	160.8	175.8	175.8	0.3	0.3	180.00	-240.5	0.0	240.5	239.8	0.65	369.153	CC
200.0	200.0	213.9	213.9	0.4	0.4	180.00	-240.5	0.0	240.5	239.6	0.86	279.480	ES
300.0	300.0	306.5	306.5	0.7	0.7	113.10	-242.3	0.7	243.3	241.9	1.37	177.448	
400.0	399.7	400.0	399.8	1.0	0.9	113.82	-247.0	2.4	250.9	249.0	1.92	130.944	
500.0	499.1	490.1	489.6	1.3	1.2	114.91	-254.2	5.0	263.3	260.8	2.51	104.717	
600.0	598.0	580.3	579.2	1.7	1.5	116.26	-264.1	8.7	280.7	277.5	3.18	88.206	
700.0	696.0	669.1	667.0	2.2	1.9	117.74	-276.4	13.2	303.1	299.1	3.92	77.251	
800.0	793.2	756.0	752.5	2.7	2.2	119.21	-291.0	18.5	330.5	325.7	4.74	69.691	

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

Company:	Magpie Operating, Inc.	**Local Co-ordinate Reference:**	Well Bunker 8-9H
Project:	SEC.29-T5N-R68W	**TVD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.45 sigma
Reference Wellbore	Wellbore #1	**Database:**	US_EDM
Reference Design:	Plan #2 (12-06-18)	**Offset TVD Reference:**	Offset Datum

Offset Design Bunker 8 Well Pad Sec.29-T5N-R68W - Bunker 8-1H - Wellbore #1 - Plan #2 (12-06-18)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
900.0	889.2	840.7	835.4	3.4	2.7	120.58	-307.5	24.5	362.9	357.3	5.64	64.334	
1,000.0	983.9	923.1	915.5	4.1	3.2	121.78	-325.7	31.2	400.2	393.6	6.62	60.463	
1,100.0	1,077.0	1,000.0	989.6	5.0	3.6	122.70	-344.7	38.1	442.4	434.7	7.67	57.700	
1,200.0	1,168.6	1,079.9	1,066.1	6.0	4.2	123.54	-366.4	46.0	489.1	480.3	8.82	55.471	
1,300.0	1,258.3	1,153.9	1,136.4	7.1	4.7	124.09	-388.2	54.0	540.2	530.2	10.03	53.834	
1,400.0	1,345.9	1,224.8	1,203.1	8.3	5.3	124.40	-410.8	62.3	595.5	584.2	11.33	52.581	
1,500.0	1,431.4	1,292.6	1,266.3	9.6	5.9	124.48	-433.8	70.7	654.8	642.1	12.71	51.506	
1,600.0	1,514.5	1,365.8	1,334.1	11.1	6.6	124.57	-459.7	80.2	717.4	703.2	14.20	50.539	
1,700.0	1,595.2	1,439.4	1,402.2	12.6	7.2	124.65	-485.8	89.7	782.4	766.7	15.75	49.678	SF

Company:	Magpie Operating, Inc.	**Local Co-ordinate Reference:**	Well Bunker 8-9H
Project:	SEC.29-T5N-R68W	**TVD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.45 sigma
Reference Wellbore	Wellbore #1	**Database:**	US_EDM
Reference Design:	Plan #2 (12-06-18)	**Offset TVD Reference:**	Offset Datum

Offset Design Bunker 8 Well Pad Sec.29-T5N-R68W - Bunker 8-2H - Wellbore #1 - Plan #2 (12-06-18)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	12.0	12.0	0.0	0.0	180.00	-207.7	0.0	207.7	207.6	0.02	N/A	
100.0	100.0	112.0	112.0	0.1	0.2	180.00	-207.7	0.0	207.7	207.4	0.31	673.395	
200.0	200.0	212.0	212.0	0.4	0.4	180.00	-207.7	0.0	207.7	206.8	0.86	241.732	CC, ES
300.0	300.0	311.7	311.7	0.7	0.7	113.41	-207.7	0.0	208.5	207.1	1.41	148.272	
400.0	399.7	409.5	409.5	1.0	1.0	114.24	-208.3	2.5	211.8	209.8	1.96	108.308	
500.0	499.1	507.3	507.0	1.3	1.2	114.93	-210.0	9.1	217.8	215.3	2.56	85.206	
600.0	598.0	604.9	604.0	1.7	1.5	115.46	-212.7	19.6	226.7	223.4	3.25	69.659	
700.0	696.0	702.4	700.3	2.2	1.9	115.81	-216.4	34.1	238.2	234.1	4.07	58.483	
800.0	793.2	800.0	796.0	2.7	2.4	115.99	-221.2	52.6	252.5	247.4	5.04	50.087	
900.0	889.2	896.0	889.4	3.4	2.9	116.01	-226.9	74.6	269.4	263.2	6.17	43.678	
1,000.0	983.9	992.2	981.7	4.1	3.5	115.89	-233.5	100.5	288.8	281.4	7.47	38.666	
1,100.0	1,077.0	1,087.7	1,072.2	5.0	4.3	115.65	-241.0	129.8	310.9	301.9	8.96	34.713	
1,200.0	1,168.6	1,182.5	1,160.8	6.0	5.1	115.30	-249.4	162.5	335.4	324.8	10.63	31.559	
1,300.0	1,258.3	1,276.5	1,247.3	7.1	6.0	114.85	-258.7	198.5	362.4	349.9	12.49	29.014	
1,400.0	1,345.9	1,369.8	1,331.4	8.3	7.0	114.33	-268.7	237.5	391.7	377.1	14.54	26.938	
1,500.0	1,431.4	1,462.2	1,413.0	9.6	8.1	113.74	-279.5	279.3	423.3	406.5	16.78	25.221	
1,600.0	1,514.5	1,553.7	1,492.1	11.1	9.3	113.09	-290.9	323.9	457.1	437.9	19.21	23.794	
1,700.0	1,595.2	1,644.3	1,568.6	12.6	10.6	112.40	-303.0	371.0	493.1	471.3	21.83	22.592	
1,800.0	1,673.2	1,734.0	1,642.2	14.3	12.0	111.66	-315.8	420.5	531.2	506.5	24.62	21.571	
1,900.0	1,748.3	1,822.7	1,713.1	16.1	13.5	110.88	-329.0	472.2	571.2	543.6	27.60	20.697	
2,000.0	1,820.6	1,910.5	1,781.2	18.0	15.1	110.06	-342.8	525.8	613.1	582.4	30.74	19.943	
2,100.0	1,889.7	1,997.3	1,846.3	20.0	16.7	109.21	-357.1	581.4	656.9	622.8	34.06	19.284	
2,200.0	1,955.6	2,083.2	1,908.6	22.1	18.4	108.33	-371.8	638.6	702.3	664.8	37.55	18.702	
2,300.0	2,018.2	2,168.1	1,968.0	24.4	20.2	107.42	-387.0	697.5	749.4	708.2	41.20	18.189	
2,377.9	2,064.6	2,233.7	2,012.3	26.2	21.6	106.69	-399.0	744.3	787.2	743.0	44.14	17.832	
2,400.0	2,077.4	2,252.2	2,024.6	26.7	22.1	106.77	-402.5	757.8	798.0	753.0	45.00	17.734	SF

Company:	Magpie Operating, Inc.	**Local Co-ordinate Reference:**	Well Bunker 8-9H
Project:	SEC.29-T5N-R68W	**TVD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.45 sigma
Reference Wellbore	Wellbore #1	**Database:**	US_EDM
Reference Design:	Plan #2 (12-06-18)	**Offset TVD Reference:**	Offset Datum

Offset Design Bunker 8 Well Pad Sec.29-T5N-R68W - Bunker 8-3H - Wellbore #1 - Plan #2 (12-06-18)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	10.0	10.0	0.0	0.0	180.00	-178.5	0.0	178.5	178.5	0.01	N/A	
100.0	100.0	110.0	110.0	0.1	0.2	180.00	-178.5	0.0	178.5	178.2	0.30	589.411	
163.0	163.0	173.0	173.0	0.3	0.3	180.00	-178.5	0.0	178.5	177.9	0.65	274.808	CC
200.0	200.0	209.9	209.9	0.4	0.4	179.99	-178.5	0.0	178.5	177.7	0.85	209.510	ES
300.0	300.0	308.7	308.7	0.7	0.7	112.68	-178.9	2.5	179.8	178.4	1.39	129.598	
400.0	399.7	407.4	407.1	1.0	1.0	112.36	-179.9	9.3	183.4	181.4	1.96	93.606	
500.0	499.1	505.9	505.0	1.3	1.3	111.93	-181.6	20.2	189.3	186.7	2.62	72.302	
600.0	598.0	604.2	602.1	1.7	1.7	111.42	-183.9	35.1	197.6	194.2	3.39	58.199	
700.0	696.0	702.1	698.1	2.2	2.2	110.84	-186.8	54.2	208.1	203.8	4.31	48.240	
800.0	793.2	800.0	793.2	2.7	2.7	110.22	-190.3	77.2	221.0	215.6	5.40	40.923	
900.0	889.2	896.7	886.1	3.4	3.4	109.58	-194.4	103.9	236.1	229.5	6.66	35.441	
1,000.0	983.9	993.3	977.5	4.1	4.1	108.91	-199.1	134.4	253.5	245.4	8.11	31.239	
1,100.0	1,077.0	1,089.2	1,067.1	5.0	5.0	108.24	-204.3	168.4	273.0	263.2	9.76	27.976	
1,200.0	1,168.6	1,184.6	1,154.6	6.0	5.9	107.57	-210.1	205.8	294.7	283.1	11.60	25.403	
1,300.0	1,258.3	1,279.2	1,239.8	7.1	7.0	106.90	-216.3	246.6	318.4	304.7	13.64	23.344	
1,400.0	1,345.9	1,373.2	1,322.6	8.3	8.1	106.23	-223.0	290.4	344.1	328.2	15.88	21.676	
1,500.0	1,431.4	1,466.4	1,402.9	9.6	9.4	105.56	-230.2	337.1	371.8	353.5	18.31	20.304	
1,600.0	1,514.5	1,558.8	1,480.6	11.1	10.7	104.90	-237.8	386.7	401.4	380.5	20.94	19.166	
1,700.0	1,595.2	1,650.5	1,555.6	12.6	12.2	104.23	-245.8	438.8	432.8	409.0	23.77	18.208	
1,800.0	1,673.2	1,741.4	1,627.8	14.3	13.7	103.55	-254.1	493.4	465.9	439.2	26.79	17.396	
1,900.0	1,748.3	1,831.6	1,697.2	16.1	15.4	102.87	-262.8	550.2	500.8	470.8	29.99	16.699	
2,000.0	1,820.6	1,920.9	1,763.7	18.0	17.1	102.19	-271.9	609.2	537.2	503.8	33.37	16.098	
2,100.0	1,889.7	2,009.6	1,827.3	20.0	18.9	101.49	-281.2	670.2	575.1	538.2	36.93	15.574	
2,200.0	1,955.6	2,097.4	1,888.0	22.1	20.8	100.78	-290.8	733.0	614.5	573.9	40.66	15.113	
2,300.0	2,018.2	2,184.6	1,945.7	24.4	22.7	100.07	-300.7	797.6	655.3	610.7	44.57	14.703	
2,377.9	2,064.6	2,252.0	1,988.6	26.2	24.3	99.50	-308.6	848.9	687.9	640.2	47.72	14.416	
2,400.0	2,077.4	2,271.1	2,000.5	26.7	24.8	99.58	-310.9	863.7	697.3	648.7	48.64	14.336	
2,500.0	2,135.6	2,358.8	2,053.7	29.1	26.9	99.80	-321.4	932.7	740.1	687.2	52.89	13.994	
2,600.0	2,193.7	2,449.2	2,107.9	31.5	29.1	99.94	-332.4	1,004.1	783.0	725.7	57.23	13.681	SF

Company:	Magpie Operating, Inc.	**Local Co-ordinate Reference:**	Well Bunker 8-9H
Project:	SEC.29-T5N-R68W	**TVD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.45 sigma
Reference Wellbore	Wellbore #1	**Database:**	US_EDM
Reference Design:	Plan #2 (12-06-18)	**Offset TVD Reference:**	Offset Datum

Offset Design Bunker 8 Well Pad Sec.29-T5N-R68W - Bunker 8-4H - Wellbore #1 - Plan #2 (12-06-18)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	9.0	9.0	0.0	0.0	180.00	-149.4	0.0	149.4	149.4	0.01	N/A	
100.0	100.0	109.0	109.0	0.1	0.2	180.00	-149.4	0.0	149.4	149.1	0.30	497.707	
200.0	200.0	209.0	209.0	0.4	0.4	180.00	-149.4	0.0	149.4	148.5	0.85	175.567	CC, ES
300.0	300.0	308.9	308.9	0.7	0.7	113.63	-149.4	0.0	150.2	148.8	1.40	107.344	
400.0	399.7	408.5	408.5	1.0	1.0	114.85	-149.6	2.6	153.0	151.1	1.96	78.274	
500.0	499.1	508.2	507.9	1.3	1.2	115.82	-150.0	9.4	157.9	155.3	2.56	61.606	
600.0	598.0	607.9	607.0	1.7	1.6	116.53	-150.8	20.6	164.8	161.5	3.27	50.414	
700.0	696.0	707.5	705.4	2.2	2.0	116.98	-151.9	36.0	173.6	169.5	4.10	42.345	
800.0	793.2	807.0	802.9	2.7	2.4	117.17	-153.3	55.7	184.4	179.3	5.08	36.276	
900.0	889.2	906.4	899.4	3.4	3.0	117.15	-155.0	79.6	197.0	190.8	6.24	31.595	
1,000.0	983.9	1,005.6	994.5	4.1	3.6	116.94	-156.9	107.5	211.6	204.0	7.58	27.926	
1,100.0	1,077.0	1,104.4	1,088.0	5.0	4.4	116.58	-159.1	139.4	228.0	218.9	9.12	25.013	
1,200.0	1,168.6	1,203.0	1,179.8	6.0	5.3	116.09	-161.7	175.2	246.2	235.4	10.86	22.673	
1,300.0	1,258.3	1,301.2	1,269.7	7.1	6.2	115.50	-164.4	214.7	266.2	253.4	12.82	20.774	
1,400.0	1,345.9	1,399.1	1,357.4	8.3	7.3	114.83	-167.5	257.9	288.0	273.0	14.99	19.215	
1,500.0	1,431.4	1,496.5	1,442.9	9.6	8.5	114.11	-170.7	304.6	311.4	294.1	17.38	17.920	
1,600.0	1,514.5	1,593.5	1,525.9	11.1	9.9	113.35	-174.2	354.6	336.6	316.6	19.99	16.836	
1,700.0	1,595.2	1,690.0	1,606.4	12.6	11.3	112.55	-178.0	407.8	363.3	340.5	22.82	15.920	
1,800.0	1,673.2	1,786.1	1,684.1	14.3	12.8	111.73	-181.9	464.0	391.6	365.7	25.87	15.140	
1,900.0	1,748.3	1,881.6	1,759.1	16.1	14.5	110.89	-186.1	523.2	421.4	392.3	29.13	14.469	
2,000.0	1,820.6	1,976.7	1,831.1	18.0	16.3	110.04	-190.4	585.0	452.7	420.1	32.60	13.888	
2,100.0	1,889.7	2,071.3	1,900.2	20.0	18.1	109.18	-194.9	649.5	485.4	449.1	36.27	13.382	
2,200.0	1,955.6	2,165.4	1,966.2	22.1	20.1	108.31	-199.6	716.4	519.4	479.3	40.15	12.937	
2,300.0	2,018.2	2,259.1	2,029.1	24.4	22.2	107.43	-204.5	785.6	554.7	510.5	44.21	12.545	
2,377.9	2,064.6	2,331.7	2,075.9	26.2	23.8	106.75	-208.4	841.0	583.0	535.5	47.50	12.272	
2,400.0	2,077.4	2,352.3	2,088.8	26.7	24.3	106.75	-209.5	857.0	591.1	542.7	48.46	12.198	
2,500.0	2,135.6	2,445.3	2,146.3	29.1	26.6	106.64	-214.6	930.0	627.9	575.1	52.84	11.885	
2,600.0	2,193.7	2,538.3	2,203.5	31.5	28.8	106.53	-219.7	1,003.1	664.7	607.5	57.24	11.614	
2,700.0	2,251.9	2,631.3	2,260.8	33.9	31.1	106.43	-224.9	1,076.1	701.6	639.9	61.66	11.378	
2,800.0	2,310.0	2,724.3	2,318.1	36.3	33.3	106.34	-230.0	1,149.1	738.4	672.3	66.09	11.172	
2,900.0	2,368.2	2,817.2	2,375.4	38.7	35.6	106.26	-235.1	1,222.2	775.2	704.6	70.53	10.991	SF

Company:	Magpie Operating, Inc.	**Local Co-ordinate Reference:**	Well Bunker 8-9H
Project:	SEC.29-T5N-R68W	**TVD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.45 sigma
Reference Wellbore	Wellbore #1	**Database:**	US_EDM
Reference Design:	Plan #2 (12-06-18)	**Offset TVD Reference:**	Offset Datum

Offset Design Bunker 8 Well Pad Sec.29-T5N-R68W - Bunker 8-5H - Wellbore #1 - Plan #2 (12-06-18)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	7.0	7.0	0.0	0.0	-180.00	-120.2	0.0	120.2	120.2	0.01	N/A	
100.0	100.0	107.0	107.0	0.1	0.2	-180.00	-120.2	0.0	120.2	119.9	0.29	408.084	
200.0	200.0	207.0	207.0	0.4	0.4	179.99	-120.2	0.0	120.2	119.4	0.84	142.333	
200.5	200.5	207.5	207.5	0.4	0.4	112.88	-120.2	0.0	120.2	119.4	0.85	141.888	CC, ES
300.0	300.0	307.1	307.1	0.7	0.7	112.64	-120.2	2.5	121.0	119.6	1.38	87.390	
400.0	399.7	407.2	406.9	1.0	1.0	112.20	-120.0	9.4	123.4	121.4	1.96	62.931	
500.0	499.1	507.2	506.3	1.3	1.3	111.61	-119.7	20.5	127.3	124.7	2.63	48.502	
600.0	598.0	607.0	604.9	1.7	1.7	110.88	-119.3	36.0	132.9	129.4	3.41	38.941	
700.0	696.0	706.7	702.6	2.2	2.2	110.06	-118.7	55.8	140.0	135.6	4.35	32.179	
800.0	793.2	806.2	799.2	2.7	2.8	109.18	-118.1	79.7	148.6	143.2	5.46	27.218	
900.0	889.2	905.5	894.4	3.4	3.4	108.28	-117.3	107.7	158.9	152.1	6.76	23.493	
1,000.0	983.9	1,004.4	988.0	4.1	4.2	107.37	-116.5	139.7	170.7	162.4	8.27	20.648	
1,100.0	1,077.0	1,103.1	1,079.9	5.0	5.1	106.47	-115.5	175.6	184.0	174.0	9.98	18.439	
1,200.0	1,168.6	1,201.5	1,169.9	6.0	6.1	105.60	-114.4	215.3	198.8	186.9	11.90	16.699	
1,300.0	1,258.3	1,299.5	1,257.8	7.1	7.2	104.76	-113.2	258.6	215.0	201.0	14.05	15.308	
1,400.0	1,345.9	1,397.2	1,343.5	8.3	8.4	103.95	-112.0	305.5	232.7	216.3	16.41	14.178	
1,500.0	1,431.4	1,494.5	1,426.7	9.6	9.7	103.17	-110.6	355.8	251.7	232.7	19.00	13.251	
1,600.0	1,514.5	1,591.4	1,507.5	11.1	11.2	102.43	-109.2	409.4	272.1	250.3	21.80	12.480	
1,700.0	1,595.2	1,687.9	1,585.6	12.6	12.7	101.72	-107.6	466.1	293.8	269.0	24.83	11.831	
1,800.0	1,673.2	1,784.0	1,660.9	14.3	14.4	101.03	-106.0	525.8	316.7	288.7	28.08	11.280	
1,900.0	1,748.3	1,879.8	1,733.4	16.1	16.2	100.36	-104.3	588.3	340.9	309.3	31.54	10.807	
2,000.0	1,820.6	1,975.1	1,802.9	18.0	18.1	99.71	-102.6	653.5	366.1	330.9	35.21	10.398	
2,100.0	1,889.7	2,070.0	1,869.3	20.0	20.1	99.08	-100.7	721.3	392.5	353.4	39.09	10.041	
2,200.0	1,955.6	2,165.4	1,933.5	22.1	22.1	98.52	-98.8	791.7	419.9	376.7	43.16	9.728	
2,300.0	2,018.2	2,261.2	1,997.6	24.4	24.3	98.42	-96.9	863.0	448.0	400.6	47.38	9.456	
2,377.9	2,064.6	2,335.5	2,047.3	26.2	25.9	98.66	-95.4	918.2	470.3	419.6	50.71	9.275	
2,400.0	2,077.4	2,356.6	2,061.4	26.7	26.4	98.92	-95.0	933.8	476.8	425.1	51.67	9.227	
2,500.0	2,135.6	2,451.8	2,125.1	29.1	28.5	100.03	-93.1	1,004.6	505.9	449.9	56.00	9.034	
2,600.0	2,193.7	2,547.1	2,188.8	31.5	30.7	101.01	-91.2	1,075.4	535.2	474.9	60.33	8.871	
2,700.0	2,251.9	2,642.3	2,252.5	33.9	32.8	101.89	-89.2	1,146.1	564.6	500.0	64.65	8.733	
2,800.0	2,310.0	2,737.5	2,316.2	36.3	35.0	102.69	-87.3	1,216.9	594.2	525.2	68.97	8.615	
2,900.0	2,368.2	2,832.7	2,379.9	38.7	37.1	103.41	-85.4	1,287.6	623.8	550.5	73.28	8.513	
3,000.0	2,426.3	2,928.0	2,443.6	41.1	39.3	104.07	-83.5	1,358.4	653.5	576.0	77.58	8.424	
3,100.0	2,484.5	3,023.2	2,507.3	43.5	41.4	104.67	-81.6	1,429.1	683.3	601.5	81.88	8.346	
3,200.0	2,542.6	3,118.4	2,571.0	45.9	43.6	105.22	-79.7	1,499.9	713.2	627.0	86.17	8.276	
3,300.0	2,600.8	3,213.6	2,634.7	48.4	45.7	105.72	-77.8	1,570.7	743.1	652.6	90.46	8.215	
3,400.0	2,658.9	3,308.9	2,698.4	50.8	47.9	106.19	-75.9	1,641.4	773.1	678.3	94.74	8.160	SF

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

Company:	Magpie Operating, Inc.	**Local Co-ordinate Reference:**	Well Bunker 8-9H
Project:	SEC.29-T5N-R68W	**TVD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.45 sigma
Reference Wellbore	Wellbore #1	**Database:**	US_EDM
Reference Design:	Plan #2 (12-06-18)	**Offset TVD Reference:**	Offset Datum

Offset Design Bunker 8 Well Pad Sec.29-T5N-R68W - Bunker 8-6H - Wellbore #1 - Plan #2 (12-06-18)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	5.0	5.0	0.0	0.0	180.00	-87.4	0.0	87.4	87.4	0.01	N/A	
100.0	100.0	105.0	105.0	0.1	0.2	180.00	-87.4	0.0	87.4	87.1	0.29	302.445	
200.0	200.0	205.0	205.0	0.4	0.4	180.00	-87.4	0.0	87.4	86.6	0.84	104.164	
201.7	201.7	206.8	206.8	0.4	0.4	112.88	-87.4	0.0	87.4	86.6	0.85	103.034	CC, ES
300.0	300.0	305.4	305.4	0.7	0.7	112.62	-87.2	2.4	88.0	86.7	1.38	63.773	
400.0	399.7	405.7	405.5	1.0	1.0	112.12	-86.5	9.2	89.9	88.0	1.96	45.957	
500.0	499.1	506.0	505.1	1.3	1.3	111.42	-85.4	20.3	93.1	90.4	2.62	35.508	
600.0	598.0	606.2	604.1	1.7	1.7	110.56	-83.9	35.7	97.5	94.1	3.41	28.605	
700.0	696.0	706.3	702.2	2.2	2.2	109.60	-81.9	55.4	103.2	98.8	4.35	23.729	
800.0	793.2	806.2	799.2	2.7	2.8	108.57	-79.5	79.3	110.1	104.6	5.46	20.153	
900.0	889.2	906.0	894.9	3.4	3.4	107.53	-76.7	107.3	118.3	111.5	6.77	17.468	
1,000.0	983.9	1,005.6	989.1	4.1	4.2	106.50	-73.5	139.4	127.8	119.5	8.29	15.416	
1,100.0	1,077.0	1,105.0	1,081.6	5.0	5.1	105.49	-69.8	175.5	138.5	128.5	10.02	13.824	
1,200.0	1,168.6	1,204.2	1,172.4	6.0	6.1	104.53	-65.8	215.4	150.4	138.4	11.97	12.568	
1,300.0	1,258.3	1,303.1	1,261.0	7.1	7.2	103.62	-61.4	259.1	163.5	149.3	14.14	11.564	
1,400.0	1,345.9	1,401.9	1,347.5	8.3	8.4	102.76	-56.7	306.4	177.7	161.2	16.53	10.749	
1,500.0	1,431.4	1,500.3	1,431.7	9.6	9.8	101.95	-51.6	357.3	193.1	173.9	19.16	10.080	
1,600.0	1,514.5	1,598.5	1,513.3	11.1	11.3	101.19	-46.2	411.6	209.6	187.6	22.01	9.521	
1,700.0	1,595.2	1,696.5	1,592.4	12.6	12.8	100.47	-40.4	469.1	227.1	202.0	25.09	9.050	
1,800.0	1,673.2	1,794.1	1,668.7	14.3	14.5	99.79	-34.3	529.8	245.6	217.2	28.40	8.648	
1,900.0	1,748.3	1,891.5	1,742.1	16.1	16.3	99.14	-27.9	593.4	265.2	233.2	31.94	8.303	
2,000.0	1,820.6	1,988.7	1,812.5	18.0	18.3	98.52	-21.2	660.0	285.6	250.0	35.69	8.003	
2,100.0	1,889.7	2,085.5	1,879.9	20.0	20.3	97.92	-14.3	729.2	307.0	267.4	39.66	7.741	
2,200.0	1,955.6	2,182.2	1,944.1	22.1	22.4	97.34	-7.1	801.0	329.2	285.4	43.84	7.510	
2,300.0	2,018.2	2,278.5	2,005.1	24.4	24.7	96.79	0.4	875.3	352.3	304.1	48.22	7.306	
2,377.9	2,064.6	2,353.6	2,050.4	26.2	26.5	96.37	6.3	934.8	370.8	319.0	51.76	7.163	
2,400.0	2,077.4	2,375.1	2,063.2	26.7	27.0	96.42	8.0	952.0	376.1	323.3	52.80	7.123	
2,500.0	2,135.6	2,472.1	2,121.1	29.1	29.4	96.60	15.8	1,029.5	400.0	342.6	57.47	6.961	
2,600.0	2,193.7	2,569.2	2,179.0	31.5	31.8	96.76	23.6	1,107.0	424.0	361.9	62.16	6.822	
2,700.0	2,251.9	2,666.3	2,237.0	33.9	34.2	96.91	31.4	1,184.5	448.0	381.1	66.86	6.701	
2,800.0	2,310.0	2,763.4	2,294.9	36.3	36.6	97.04	39.2	1,262.1	472.0	400.4	71.57	6.595	
2,900.0	2,368.2	2,860.5	2,352.8	38.7	39.0	97.15	46.9	1,339.6	496.0	419.7	76.29	6.501	
3,000.0	2,426.3	2,957.5	2,410.7	41.1	41.4	97.26	54.7	1,417.1	520.0	438.9	81.02	6.417	
3,100.0	2,484.5	3,054.6	2,468.6	43.5	43.9	97.35	62.5	1,494.6	544.0	458.2	85.76	6.343	
3,200.0	2,542.6	3,151.7	2,526.5	45.9	46.3	97.44	70.3	1,572.1	567.9	477.4	90.50	6.276	
3,300.0	2,600.8	3,248.8	2,584.4	48.4	48.7	97.52	78.0	1,649.7	591.9	496.7	95.24	6.215	
3,400.0	2,658.9	3,345.8	2,642.3	50.8	51.1	97.60	85.8	1,727.2	615.9	515.9	99.99	6.160	
3,500.0	2,717.1	3,442.9	2,700.2	53.2	53.5	97.67	93.6	1,804.7	639.9	535.2	104.74	6.110	
3,600.0	2,775.2	3,540.0	2,758.1	55.6	56.0	97.73	101.4	1,882.2	663.9	554.4	109.49	6.064	
3,700.0	2,833.4	3,637.1	2,816.0	58.0	58.4	97.79	109.1	1,959.8	687.9	573.7	114.24	6.021	
3,800.0	2,891.5	3,734.1	2,874.0	60.5	60.8	97.85	116.9	2,037.3	711.9	592.9	119.00	5.982	
3,900.0	2,949.6	3,831.2	2,931.9	62.9	63.3	97.90	124.7	2,114.8	735.9	612.1	123.76	5.946	
4,000.0	3,007.8	3,928.3	2,989.8	65.3	65.7	97.95	132.5	2,192.3	759.9	631.4	128.52	5.913	
4,100.0	3,065.9	4,025.4	3,047.7	67.7	68.1	98.00	140.2	2,269.9	783.9	650.6	133.28	5.881	SF

Company:	Magpie Operating, Inc.	**Local Co-ordinate Reference:**	Well Bunker 8-9H
Project:	SEC.29-T5N-R68W	**TVD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.45 sigma
Reference Wellbore	Wellbore #1	**Database:**	US_EDM
Reference Design:	Plan #2 (12-06-18)	**Offset TVD Reference:**	Offset Datum

Offset Design Bunker 8 Well Pad Sec.29-T5N-R68W - Bunker 8-7H - Wellbore #1 - Plan #2 (12-06-18) — **Offset Site Error:** 0.0 ft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	3.0	3.0	0.0	0.0	180.00	-58.3	0.0	58.3	58.3	0.00	N/A	
100.0	100.0	103.0	103.0	0.1	0.1	180.00	-58.3	0.0	58.3	58.0	0.28	205.550	
200.0	200.0	203.0	203.0	0.4	0.4	180.00	-58.3	0.0	58.3	57.5	0.83	69.873	CC, ES
300.0	300.0	303.0	303.0	0.7	0.7	114.81	-58.3	0.0	59.2	57.8	1.38	42.734	
400.0	399.7	403.6	403.6	1.0	1.0	118.21	-57.8	2.3	61.5	59.5	1.95	31.568	
500.0	499.1	504.4	504.1	1.3	1.2	120.98	-56.5	8.9	64.8	62.2	2.56	25.312	
600.0	598.0	605.3	604.4	1.7	1.6	123.09	-54.2	19.9	68.9	65.7	3.26	21.178	
700.0	696.0	706.4	704.2	2.2	2.0	124.59	-51.1	35.2	73.9	69.9	4.06	18.207	
800.0	793.2	807.6	803.4	2.7	2.4	125.52	-47.1	54.8	79.7	74.7	5.00	15.946	
900.0	889.2	908.9	901.8	3.4	3.0	125.99	-42.2	78.8	86.1	80.0	6.08	14.154	
1,000.0	983.9	1,010.3	999.0	4.1	3.7	126.06	-36.4	107.0	93.2	85.9	7.34	12.697	
1,100.0	1,077.0	1,111.9	1,095.0	5.0	4.4	125.81	-29.8	139.4	101.1	92.3	8.80	11.488	
1,200.0	1,168.6	1,213.5	1,189.5	6.0	5.3	125.32	-22.3	176.0	109.5	99.1	10.46	10.475	
1,300.0	1,258.3	1,315.2	1,282.3	7.1	6.3	124.64	-14.0	216.7	118.7	106.3	12.34	9.617	
1,400.0	1,345.9	1,416.9	1,373.2	8.3	7.5	123.83	-4.9	261.4	128.5	114.0	14.46	8.885	
1,500.0	1,431.4	1,518.7	1,462.1	9.6	8.8	122.90	5.1	310.1	138.9	122.1	16.82	8.258	
1,600.0	1,514.5	1,620.6	1,548.7	11.1	10.1	121.91	15.8	362.6	149.9	130.5	19.43	7.717	
1,700.0	1,595.2	1,722.5	1,632.9	12.6	11.7	120.87	27.3	418.8	161.7	139.4	22.30	7.249	
1,800.0	1,673.2	1,824.4	1,714.5	14.3	13.3	119.80	39.5	478.7	174.0	148.5	25.43	6.842	
1,900.0	1,748.3	1,926.4	1,793.2	16.1	15.1	118.72	52.5	542.0	186.9	158.1	28.81	6.487	
2,000.0	1,820.6	2,028.3	1,869.1	18.0	17.0	117.63	66.1	608.8	200.4	168.0	32.46	6.175	
2,100.0	1,889.7	2,130.3	1,941.8	20.0	19.1	116.55	80.4	678.8	214.5	178.2	36.36	5.901	
2,200.0	1,955.6	2,232.3	2,011.3	22.1	21.2	115.48	95.3	751.9	229.2	188.7	40.51	5.658	
2,300.0	2,018.2	2,334.2	2,077.5	24.4	23.5	114.43	110.9	828.0	244.4	199.5	44.90	5.443	
2,377.9	2,064.6	2,413.2	2,126.3	26.2	25.3	113.63	123.3	888.7	256.6	208.1	48.46	5.295	
2,400.0	2,077.4	2,435.0	2,139.6	26.7	25.9	113.52	126.8	905.7	260.1	210.7	49.47	5.259	
2,500.0	2,135.6	2,533.7	2,199.7	29.1	28.2	113.05	142.5	982.4	276.2	222.1	54.04	5.111	
2,600.0	2,193.7	2,632.4	2,259.7	31.5	30.6	112.63	158.1	1,059.1	292.2	233.6	58.63	4.984	
2,700.0	2,251.9	2,731.1	2,319.8	33.9	32.9	112.26	173.8	1,135.8	308.3	245.0	63.25	4.874	
2,800.0	2,310.0	2,829.8	2,379.9	36.3	35.3	111.92	189.5	1,212.5	324.4	256.5	67.88	4.779	
2,900.0	2,368.2	2,928.4	2,440.0	38.7	37.7	111.61	205.1	1,289.2	340.5	267.9	72.51	4.695	
3,000.0	2,426.3	3,027.1	2,500.1	41.1	40.1	111.33	220.8	1,365.9	356.6	279.4	77.16	4.621	
3,100.0	2,484.5	3,125.8	2,560.2	43.5	42.5	111.08	236.5	1,442.6	372.7	290.8	81.82	4.555	
3,200.0	2,542.6	3,224.5	2,620.3	45.9	44.9	110.85	252.2	1,519.3	388.8	302.3	86.48	4.495	
3,300.0	2,600.8	3,323.2	2,680.4	48.4	47.3	110.63	267.8	1,596.0	404.9	313.7	91.15	4.442	
3,400.0	2,658.9	3,421.9	2,740.5	50.8	49.6	110.43	283.5	1,672.7	421.0	325.2	95.82	4.393	
3,500.0	2,717.1	3,520.5	2,800.6	53.2	52.0	110.25	299.2	1,749.3	437.1	336.6	100.50	4.349	
3,600.0	2,775.2	3,619.2	2,860.6	55.6	54.4	110.08	314.8	1,826.0	453.3	348.1	105.18	4.309	
3,700.0	2,833.4	3,717.9	2,920.7	58.0	56.8	109.92	330.5	1,902.7	469.4	359.5	109.87	4.272	
3,800.0	2,891.5	3,816.6	2,980.8	60.5	59.2	109.77	346.2	1,979.4	485.5	371.0	114.55	4.238	
3,900.0	2,949.6	3,915.3	3,040.9	62.9	61.6	109.64	361.9	2,056.1	501.7	382.4	119.24	4.207	
4,000.0	3,007.8	4,013.9	3,101.0	65.3	64.0	109.51	377.5	2,132.8	517.8	393.9	123.93	4.178	
4,100.0	3,065.9	4,112.6	3,161.1	67.7	66.4	109.38	393.2	2,209.5	533.9	405.3	128.63	4.151	
4,200.0	3,124.1	4,211.3	3,221.2	70.2	68.8	109.27	408.9	2,286.2	550.1	416.8	133.32	4.126	
4,300.0	3,182.2	4,310.0	3,281.3	72.6	71.2	109.16	424.5	2,362.9	566.2	428.2	138.02	4.103	
4,400.0	3,240.4	4,408.7	3,341.4	75.0	73.7	109.06	440.2	2,439.6	582.4	439.7	142.72	4.081	
4,500.0	3,298.5	4,507.4	3,401.5	77.5	76.1	108.96	455.9	2,516.3	598.5	451.1	147.42	4.060	
4,600.0	3,356.7	4,606.0	3,461.5	79.9	78.5	108.87	471.6	2,593.0	614.7	462.6	152.12	4.041	
4,700.0	3,414.8	4,704.7	3,521.6	82.3	80.9	108.78	487.2	2,669.7	630.8	474.0	156.82	4.023	
4,800.0	3,473.0	4,806.7	3,584.1	84.7	83.3	108.74	503.5	2,748.6	646.9	485.4	161.52	4.005	
4,880.9	3,520.0	4,897.3	3,646.5	86.7	85.1	109.55	519.9	2,812.1	658.9	494.4	164.54	4.005	SF
4,900.0	3,531.3	4,918.3	3,662.2	87.2	85.4	110.87	524.0	2,825.5	661.7	497.0	164.75	4.016	

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

Company:	Magpie Operating, Inc.	**Local Co-ordinate Reference:**	Well Bunker 8-9H
Project:	SEC.29-T5N-R68W	**TVD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.45 sigma
Reference Wellbore	Wellbore #1	**Database:**	US_EDM
Reference Design:	Plan #2 (12-06-18)	**Offset TVD Reference:**	Offset Datum

Offset Design Bunker 8 Well Pad Sec.29-T5N-R68W - Bunker 8-7H - Wellbore #1 - Plan #2 (12-06-18)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,950.0	3,562.5	4,972.6	3,704.5	88.2	86.3	114.64	535.2	2,857.5	669.5	504.5	164.91	4.060	
5,000.0	3,596.1	5,026.0	3,748.6	89.1	87.0	118.91	546.8	2,885.2	678.0	513.4	164.60	4.119	
5,050.0	3,631.7	5,078.4	3,794.0	90.0	87.6	123.74	558.9	2,908.7	687.2	523.3	163.88	4.193	
5,100.0	3,669.2	5,130.0	3,840.2	90.7	88.0	129.20	571.2	2,927.9	697.0	534.2	162.81	4.281	
5,150.0	3,708.3	5,180.8	3,887.0	91.4	88.4	135.37	583.6	2,943.0	707.5	546.0	161.48	4.381	
5,200.0	3,748.9	5,230.7	3,934.1	91.9	88.7	142.31	596.2	2,954.0	718.5	558.5	159.97	4.491	
5,250.0	3,790.5	5,280.0	3,981.2	92.4	88.8	150.06	608.7	2,961.0	729.9	571.6	158.35	4.609	
5,300.0	3,833.1	5,328.5	4,028.0	92.8	88.9	158.59	621.3	2,964.3	741.7	585.0	156.70	4.733	
5,350.0	3,876.3	5,376.5	4,074.3	93.0	89.0	167.78	633.7	2,963.9	753.8	598.7	155.09	4.861	
5,400.0	3,919.8	5,423.9	4,119.9	93.3	89.0	177.39	645.9	2,960.0	766.1	612.5	153.58	4.988	
5,450.0	3,963.4	5,470.8	4,164.6	93.4	89.0	-172.91	658.0	2,952.6	778.5	626.3	152.23	5.114	
5,500.0	4,006.9	5,517.2	4,208.3	93.5	88.9	-163.50	669.7	2,942.0	790.9	639.8	151.08	5.235	

Company:	Magpie Operating, Inc.	**Local Co-ordinate Reference:**	Well Bunker 8-9H
Project:	SEC.29-T5N-R68W	**TVD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.45 sigma
Reference Wellbore	Wellbore #1	**Database:**	US_EDM
Reference Design:	Plan #2 (12-06-18)	**Offset TVD Reference:**	Offset Datum

Offset Design Bunker 8 Well Pad Sec.29-T5N-R68W - Bunker 8-8H - Wellbore #1 - Plan #2 (12-06-18)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.0	0.0	180.00	-29.2	0.0	29.2	29.2	0.00	N/A	
100.0	100.0	101.0	101.0	0.1	0.1	180.00	-29.2	0.0	29.2	28.9	0.28	104.832	
200.0	200.0	201.0	201.0	0.4	0.4	180.00	-29.2	0.0	29.2	28.3	0.83	35.176	CC
300.0	300.0	301.0	301.0	0.7	0.7	116.70	-29.2	0.0	30.1	28.7	1.38	21.782	
400.0	399.7	400.8	400.8	1.0	1.0	126.65	-29.2	0.0	33.5	31.6	1.96	17.084	
500.0	499.1	501.4	501.3	1.3	1.2	136.63	-28.4	2.1	39.5	36.9	2.57	15.341	
600.0	598.0	602.3	602.1	1.7	1.5	143.50	-26.3	8.5	46.4	43.2	3.20	14.520	
700.0	696.0	703.7	702.8	2.2	1.8	148.19	-22.8	19.1	54.1	50.2	3.86	14.013	
800.0	793.2	805.5	803.3	2.7	2.2	151.40	-17.8	33.9	62.1	57.5	4.55	13.627	
900.0	889.2	907.6	903.5	3.4	2.7	153.58	-11.4	53.1	70.3	65.0	5.30	13.271	
1,000.0	983.9	1,010.1	1,002.9	4.1	3.2	155.04	-3.6	76.6	78.7	72.6	6.10	12.903	
1,100.0	1,077.0	1,113.0	1,101.6	5.0	3.9	155.98	5.7	104.4	87.1	80.2	6.97	12.508	
1,200.0	1,168.6	1,216.3	1,199.1	6.0	4.6	156.53	16.4	136.4	95.6	87.7	7.92	12.076	
1,300.0	1,258.3	1,319.9	1,295.4	7.1	5.5	156.79	28.5	172.8	104.1	95.2	8.97	11.615	
1,400.0	1,345.9	1,424.0	1,390.2	8.3	6.6	156.81	42.1	213.4	112.6	102.5	10.11	11.139	
1,500.0	1,431.4	1,528.3	1,483.3	9.6	7.7	156.64	57.1	258.2	121.1	109.7	11.39	10.632	
1,600.0	1,514.5	1,633.1	1,574.4	11.1	9.0	156.32	73.4	307.1	129.5	116.7	12.80	10.114	
1,700.0	1,595.2	1,738.1	1,663.4	12.6	10.4	155.88	91.1	360.1	137.8	123.4	14.36	9.593	
1,800.0	1,673.2	1,843.6	1,750.0	14.3	12.0	155.33	110.2	417.2	146.0	129.9	16.09	9.075	
1,900.0	1,748.3	1,949.3	1,834.0	16.1	13.7	154.69	130.5	478.1	154.2	136.2	18.00	8.566	
2,000.0	1,820.6	2,055.4	1,915.2	18.0	15.6	153.98	152.1	542.8	162.3	142.2	20.11	8.071	
2,100.0	1,889.7	2,161.8	1,993.3	20.0	17.6	153.20	175.0	611.3	170.3	147.9	22.42	7.595	
2,200.0	1,955.6	2,268.4	2,068.2	22.1	19.7	152.37	199.0	683.3	178.1	153.2	24.95	7.140	
2,300.0	2,018.2	2,375.4	2,139.7	24.4	22.0	151.48	224.2	758.7	185.9	158.2	27.71	6.709	
2,377.9	2,064.6	2,458.8	2,192.9	26.2	23.8	150.75	244.6	819.7	191.8	161.8	30.02	6.390	
2,400.0	2,077.4	2,482.6	2,207.6	26.7	24.4	150.55	250.5	837.4	193.4	162.7	30.75	6.291	
2,500.0	2,135.6	2,582.9	2,269.0	29.1	26.7	149.58	275.6	912.7	199.9	165.9	34.04	5.872	
2,600.0	2,193.7	2,682.7	2,330.0	31.5	29.0	148.67	300.6	987.5	206.4	169.0	37.41	5.517	
2,700.0	2,251.9	2,782.4	2,391.1	33.9	31.3	147.82	325.6	1,062.3	213.0	172.1	40.86	5.212	
2,800.0	2,310.0	2,882.1	2,452.1	36.3	33.7	147.02	350.6	1,137.1	219.6	175.2	44.37	4.949	
2,900.0	2,368.2	2,981.9	2,513.1	38.7	36.0	146.27	375.6	1,211.9	226.2	178.3	47.94	4.719	
3,000.0	2,426.3	3,081.6	2,574.2	41.1	38.4	145.56	400.6	1,286.8	232.9	181.3	51.56	4.517	
3,100.0	2,484.5	3,181.3	2,635.2	43.5	40.7	144.89	425.6	1,361.6	239.6	184.4	55.22	4.339	
3,200.0	2,542.6	3,281.1	2,696.2	45.9	43.1	144.26	450.5	1,436.4	246.3	187.4	58.92	4.181	
3,300.0	2,600.8	3,380.8	2,757.3	48.4	45.4	143.66	475.5	1,511.2	253.1	190.5	62.66	4.039	
3,400.0	2,658.9	3,480.6	2,818.3	50.8	47.8	143.09	500.5	1,586.0	259.9	193.5	66.44	3.912	
3,500.0	2,717.1	3,580.3	2,879.3	53.2	50.1	142.55	525.5	1,660.9	266.7	196.5	70.24	3.798	
3,600.0	2,775.2	3,680.0	2,940.4	55.6	52.5	142.04	550.5	1,735.7	273.6	199.5	74.07	3.694	
3,700.0	2,833.4	3,779.8	3,001.4	58.0	54.9	141.56	575.5	1,810.5	280.5	202.5	77.92	3.599	
3,800.0	2,891.5	3,879.5	3,062.5	60.5	57.2	141.09	600.5	1,885.3	287.3	205.5	81.80	3.513	
3,900.0	2,949.6	3,979.2	3,123.5	62.9	59.6	140.65	625.4	1,960.1	294.2	208.5	85.69	3.434	
4,000.0	3,007.8	4,079.0	3,184.5	65.3	62.0	140.23	650.4	2,034.9	301.2	211.6	89.61	3.361	
4,100.0	3,065.9	4,178.7	3,245.6	67.7	64.3	139.83	675.4	2,109.8	308.1	214.6	93.54	3.294	
4,200.0	3,124.1	4,278.4	3,306.6	70.2	66.7	139.44	700.4	2,184.6	315.0	217.6	97.48	3.232	
4,300.0	3,182.2	4,378.2	3,367.6	72.6	69.1	139.07	725.4	2,259.4	322.0	220.6	101.44	3.174	
4,400.0	3,240.4	4,477.9	3,428.7	75.0	71.4	138.72	750.4	2,334.2	329.0	223.6	105.42	3.121	
4,500.0	3,298.5	4,577.7	3,489.7	77.5	73.8	138.38	775.4	2,409.0	336.0	226.6	109.40	3.071	
4,600.0	3,356.7	4,677.4	3,550.7	79.9	76.2	138.06	800.3	2,483.8	343.0	229.6	113.39	3.025	
4,700.0	3,414.8	4,777.1	3,611.8	82.3	78.6	137.75	825.3	2,558.7	350.0	232.6	117.40	2.981	
4,800.0	3,473.0	4,876.9	3,672.8	84.7	80.9	137.45	850.3	2,633.5	357.0	235.6	121.41	2.940	
4,880.9	3,520.0	4,957.5	3,722.2	86.7	82.9	137.21	870.5	2,694.0	362.7	238.0	124.67	2.909	
4,900.0	3,531.3	4,976.6	3,733.8	87.2	83.3	137.99	875.3	2,708.3	364.0	238.6	125.34	2.904	

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

Company:	Magpie Operating, Inc.	**Local Co-ordinate Reference:**	Well Bunker 8-9H
Project:	SEC.29-T5N-R68W	**TVD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.45 sigma
Reference Wellbore	Wellbore #1	**Database:**	US_EDM
Reference Design:	Plan #2 (12-06-18)	**Offset TVD Reference:**	Offset Datum

Offset Design Bunker 8 Well Pad Sec.29-T5N-R68W - Bunker 8-8H - Wellbore #1 - Plan #2 (12-06-18)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,950.0	3,562.5	5,026.3	3,764.3	88.2	84.5	139.84	887.8	2,745.6	366.9	239.0	127.88	2.869	
5,000.0	3,596.1	5,070.5	3,792.1	89.1	85.4	141.81	899.2	2,778.0	369.5	238.7	130.78	2.826	
5,050.0	3,631.7	5,114.2	3,821.5	90.0	86.3	144.25	911.2	2,808.0	372.5	238.8	133.62	2.788	
5,100.0	3,669.2	5,158.2	3,853.0	90.7	87.1	147.25	924.2	2,835.9	375.7	239.3	136.39	2.755	
5,150.0	3,708.3	5,202.6	3,886.4	91.4	87.8	150.88	938.0	2,861.5	379.2	240.2	139.06	2.727	
5,200.0	3,748.9	5,247.4	3,921.8	91.9	88.4	155.25	952.7	2,884.8	383.1	241.5	141.59	2.706	
5,250.0	3,790.5	5,292.7	3,958.9	92.4	89.0	160.40	968.0	2,905.6	387.2	243.3	143.94	2.690	
5,300.0	3,833.1	5,338.4	3,997.8	92.8	89.5	166.33	984.2	2,923.6	391.7	245.6	146.08	2.681	
5,350.0	3,876.3	5,384.7	4,038.1	93.0	89.9	172.93	1,001.0	2,938.7	396.4	248.4	147.99	2.678	
5,400.0	3,919.8	5,431.6	4,079.9	93.3	90.2	179.98	1,018.4	2,950.7	401.4	251.7	149.65	2.682	
5,450.0	3,963.4	5,479.1	4,123.0	93.4	90.5	-172.85	1,036.3	2,959.4	406.6	255.6	151.03	2.692	
5,500.0	4,006.9	5,527.2	4,167.2	93.5	90.7	-165.90	1,054.8	2,964.7	412.1	260.0	152.14	2.709	
5,550.0	4,049.9	5,576.1	4,212.2	93.5	90.8	-159.48	1,073.7	2,966.4	417.8	264.8	152.96	2.731	
5,600.0	4,092.2	5,625.8	4,258.0	93.6	90.9	-153.76	1,092.8	2,964.2	423.6	270.1	153.50	2.759	
5,650.0	4,133.5	5,676.3	4,304.2	93.5	90.9	-148.83	1,112.2	2,958.0	429.5	275.7	153.77	2.793	
5,700.0	4,173.6	5,727.6	4,350.5	93.5	90.9	-144.66	1,131.7	2,947.7	435.5	281.7	153.79	2.832	
5,750.0	4,212.2	5,779.8	4,396.7	93.4	90.8	-141.19	1,151.2	2,933.1	441.5	287.9	153.57	2.875	
5,800.0	4,249.1	5,833.0	4,442.4	93.4	90.8	-138.33	1,170.4	2,914.1	447.5	294.3	153.15	2.922	
5,850.0	4,284.0	5,887.1	4,487.3	93.3	90.7	-136.00	1,189.4	2,890.5	453.3	300.8	152.56	2.972	
5,900.0	4,316.9	5,942.2	4,530.9	93.3	90.6	-134.10	1,207.9	2,862.4	459.1	307.2	151.83	3.024	
5,950.0	4,347.3	5,998.3	4,572.8	93.3	90.6	-132.57	1,225.7	2,829.6	464.6	313.6	151.00	3.077	
6,000.0	4,375.2	6,055.4	4,612.5	93.3	90.5	-131.34	1,242.6	2,792.3	469.8	319.7	150.11	3.130	
6,050.0	4,400.4	6,113.4	4,649.6	93.3	90.5	-130.37	1,258.4	2,750.6	474.6	325.4	149.20	3.181	
6,100.0	4,422.7	6,172.4	4,683.5	93.3	90.6	-129.60	1,273.0	2,704.6	479.1	330.8	148.32	3.230	
6,150.0	4,442.0	6,232.2	4,713.7	93.4	90.6	-129.01	1,286.0	2,654.7	483.1	335.6	147.50	3.275	
6,200.0	4,458.2	6,292.8	4,739.8	93.5	90.8	-128.57	1,297.3	2,601.1	486.5	339.7	146.78	3.314	
6,250.0	4,471.1	6,354.2	4,761.2	93.6	90.9	-128.26	1,306.7	2,544.5	489.4	343.2	146.20	3.347	
6,300.0	4,480.8	6,416.1	4,777.7	93.8	91.2	-128.05	1,314.1	2,485.3	491.6	345.9	145.77	3.373	
6,350.0	4,487.0	6,478.4	4,788.8	94.0	91.5	-127.94	1,319.2	2,424.2	493.3	347.7	145.53	3.389	
6,400.0	4,489.9	6,541.1	4,794.4	94.2	91.8	-127.93	1,322.0	2,361.9	494.2	348.7	145.47	3.397	
6,426.6	4,490.0	6,574.5	4,795.0	94.3	91.9	-127.95	1,322.5	2,328.5	494.4	348.9	145.52	3.397	
6,500.0	4,489.0	6,648.8	4,794.2	94.6	92.4	-127.96	1,322.8	2,254.2	494.6	347.9	146.65	3.372	
6,600.0	4,487.7	6,748.8	4,793.1	95.2	93.1	-127.97	1,323.0	2,154.2	494.8	346.4	148.34	3.336	
6,700.0	4,486.3	6,848.8	4,791.9	95.8	93.9	-127.98	1,323.3	2,054.2	495.0	344.8	150.21	3.295	
6,800.0	4,484.9	6,948.8	4,790.8	96.6	94.8	-127.99	1,323.6	1,954.2	495.2	343.0	152.27	3.252	
6,900.0	4,483.6	7,048.8	4,789.7	97.5	95.8	-128.01	1,323.9	1,854.2	495.5	341.0	154.49	3.207	
7,000.0	4,482.2	7,148.8	4,788.5	98.5	96.9	-128.02	1,324.2	1,754.2	495.7	338.8	156.88	3.160	
7,100.0	4,480.9	7,248.8	4,787.4	99.6	98.2	-128.03	1,324.5	1,654.2	495.9	336.5	159.42	3.111	
7,200.0	4,479.5	7,348.8	4,786.2	100.9	99.5	-128.04	1,324.8	1,554.2	496.1	334.0	162.11	3.060	
7,300.0	4,478.2	7,448.8	4,785.1	102.2	101.0	-128.05	1,325.0	1,454.2	496.4	331.4	164.95	3.009	
7,400.0	4,476.8	7,548.8	4,784.0	103.6	102.6	-128.06	1,325.3	1,354.2	496.6	328.7	167.91	2.957	
7,500.0	4,475.5	7,648.8	4,782.8	105.1	104.2	-128.07	1,325.6	1,254.2	496.8	325.8	171.01	2.905	
7,600.0	4,474.1	7,748.8	4,781.7	106.8	106.0	-128.08	1,325.9	1,154.2	497.1	322.8	174.22	2.853	
7,700.0	4,472.7	7,848.8	4,780.5	108.5	107.8	-128.10	1,326.2	1,054.2	497.3	319.7	177.54	2.801	
7,800.0	4,471.4	7,948.8	4,779.4	110.3	109.7	-128.11	1,326.5	954.2	497.5	316.5	180.98	2.749	
7,900.0	4,470.0	8,048.8	4,778.3	112.2	111.7	-128.12	1,326.8	854.3	497.7	313.2	184.51	2.698	
8,000.0	4,468.7	8,148.8	4,777.1	114.2	113.7	-128.13	1,327.1	754.3	498.0	309.8	188.14	2.647	
8,100.0	4,467.3	8,248.8	4,776.0	116.2	115.9	-128.14	1,327.3	654.3	498.2	306.3	191.86	2.597	
8,200.0	4,466.0	8,348.8	4,774.8	118.3	118.1	-128.15	1,327.6	554.3	498.4	302.8	195.66	2.547	
8,300.0	4,464.6	8,448.8	4,773.7	120.5	120.4	-128.16	1,327.9	454.3	498.6	299.1	199.54	2.499	
8,400.0	4,463.3	8,548.8	4,772.6	122.8	122.7	-128.17	1,328.2	354.3	498.9	295.4	203.49	2.452	
8,500.0	4,461.9	8,648.8	4,771.4	125.1	125.1	-128.19	1,328.5	254.3	499.1	291.6	207.52	2.405	

Company:	Magpie Operating, Inc.	**Local Co-ordinate Reference:**	Well Bunker 8-9H
Project:	SEC.29-T5N-R68W	**TVD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.45 sigma
Reference Wellbore	Wellbore #1	**Database:**	US_EDM
Reference Design:	Plan #2 (12-06-18)	**Offset TVD Reference:**	Offset Datum

Offset Design Bunker 8 Well Pad Sec.29-T5N-R68W - Bunker 8-8H - Wellbore #1 - Plan #2 (12-06-18)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,600.0	4,460.5	8,748.8	4,770.3	127.5	127.5	-128.20	1,328.8	154.3	499.3	287.7	211.61	2.360	
8,700.0	4,459.2	8,848.8	4,769.2	129.9	130.0	-128.21	1,329.1	54.3	499.5	283.8	215.76	2.315	
8,800.0	4,457.8	8,948.8	4,768.0	132.4	132.5	-128.22	1,329.3	-45.7	499.8	279.8	219.98	2.272	
8,900.0	4,456.5	9,048.8	4,766.9	135.0	135.1	-128.23	1,329.6	-145.7	500.0	275.8	224.24	2.230	
9,000.0	4,455.1	9,148.8	4,765.7	137.5	137.7	-128.24	1,329.9	-245.7	500.2	271.7	228.56	2.189	
9,100.0	4,453.8	9,248.8	4,764.6	140.2	140.4	-128.25	1,330.2	-345.7	500.5	267.5	232.93	2.149	
9,200.0	4,452.4	9,348.8	4,763.5	142.8	143.0	-128.26	1,330.5	-445.7	500.7	263.3	237.35	2.110	
9,300.0	4,451.1	9,448.8	4,762.3	145.5	145.8	-128.27	1,330.8	-545.6	500.9	259.1	241.80	2.072	
9,400.0	4,449.7	9,548.8	4,761.2	148.2	148.5	-128.29	1,331.1	-645.6	501.1	254.8	246.30	2.035	
9,500.0	4,448.3	9,648.8	4,760.0	151.0	151.3	-128.30	1,331.3	-745.6	501.4	250.5	250.84	1.999	
9,600.0	4,447.0	9,748.8	4,758.9	153.8	154.1	-128.31	1,331.6	-845.6	501.6	246.2	255.41	1.964	
9,700.0	4,445.6	9,848.8	4,757.8	156.6	157.0	-128.32	1,331.9	-945.6	501.8	241.8	260.02	1.930	
9,800.0	4,444.3	9,948.8	4,756.6	159.5	159.8	-128.33	1,332.2	-1,045.6	502.0	237.4	264.66	1.897	
9,900.0	4,442.9	10,048.8	4,755.5	162.4	162.7	-128.34	1,332.5	-1,145.6	502.3	232.9	269.34	1.865	
10,000.0	4,441.6	10,148.8	4,754.4	165.3	165.6	-128.35	1,332.8	-1,245.6	502.5	228.5	274.04	1.834	
10,100.0	4,440.2	10,248.8	4,753.2	168.2	168.6	-128.36	1,333.1	-1,345.6	502.7	224.0	278.77	1.803	
10,200.0	4,438.9	10,348.8	4,752.1	171.1	171.5	-128.37	1,333.3	-1,445.6	503.0	219.4	283.52	1.774	
10,300.0	4,437.5	10,448.8	4,750.9	174.1	174.5	-128.38	1,333.6	-1,545.6	503.2	214.9	288.30	1.745	
10,400.0	4,436.2	10,548.8	4,749.8	177.1	177.5	-128.40	1,333.9	-1,645.6	503.4	210.3	293.11	1.717	
10,500.0	4,434.8	10,648.8	4,748.7	180.1	180.5	-128.41	1,334.2	-1,745.6	503.6	205.7	297.93	1.690	
10,600.0	4,433.4	10,748.8	4,747.5	183.1	183.5	-128.42	1,334.5	-1,845.6	503.9	201.1	302.78	1.664	
10,700.0	4,432.1	10,848.8	4,746.4	186.1	186.6	-128.43	1,334.8	-1,945.5	504.1	196.4	307.65	1.639	
10,800.0	4,430.7	10,948.8	4,745.2	189.2	189.6	-128.44	1,335.1	-2,045.5	504.3	191.8	312.53	1.614	
10,900.0	4,429.4	11,048.8	4,744.1	192.2	192.7	-128.45	1,335.3	-2,145.5	504.5	187.1	317.44	1.589	
11,000.0	4,428.0	11,148.8	4,743.0	195.3	195.8	-128.46	1,335.6	-2,245.5	504.8	182.4	322.36	1.566	
11,100.0	4,426.7	11,248.8	4,741.8	198.4	198.8	-128.47	1,335.9	-2,345.5	505.0	177.7	327.30	1.543	
11,200.0	4,425.3	11,348.8	4,740.7	201.5	202.0	-128.48	1,336.2	-2,445.5	505.2	173.0	332.25	1.521	
11,300.0	4,424.0	11,448.8	4,739.5	204.6	205.1	-128.49	1,336.5	-2,545.5	505.5	168.2	337.22	1.499	Level 3
11,400.0	4,422.6	11,548.8	4,738.4	207.7	208.2	-128.50	1,336.8	-2,645.5	505.7	163.5	342.20	1.478	Level 3
11,500.0	4,421.2	11,648.8	4,737.3	210.9	211.3	-128.52	1,337.1	-2,745.5	505.9	158.7	347.20	1.457	Level 3
11,600.0	4,419.9	11,748.8	4,736.1	214.0	214.5	-128.53	1,337.3	-2,845.5	506.1	153.9	352.20	1.437	Level 3
11,700.0	4,418.5	11,848.8	4,735.0	217.2	217.6	-128.54	1,337.6	-2,945.5	506.4	149.1	357.23	1.417	Level 3
11,800.0	4,417.2	11,948.8	4,733.9	220.3	220.8	-128.55	1,337.9	-3,045.5	506.6	144.3	362.26	1.398	Level 3
11,900.0	4,415.8	12,048.8	4,732.7	223.5	224.0	-128.56	1,338.2	-3,145.5	506.8	139.5	367.30	1.380	Level 3
12,000.0	4,414.5	12,148.8	4,731.6	226.7	227.1	-128.57	1,338.5	-3,245.5	507.0	134.7	372.36	1.362	Level 3
12,100.0	4,413.1	12,248.8	4,730.4	229.9	230.3	-128.58	1,338.8	-3,345.4	507.3	129.9	377.42	1.344	Level 3
12,200.0	4,411.8	12,348.8	4,729.3	233.1	233.5	-128.59	1,339.1	-3,445.4	507.5	125.0	382.49	1.327	Level 3
12,300.0	4,410.4	12,448.8	4,728.2	236.3	236.7	-128.60	1,339.3	-3,545.4	507.7	120.2	387.58	1.310	Level 3
12,400.0	4,409.0	12,548.8	4,727.0	239.5	239.9	-128.61	1,339.6	-3,645.4	508.0	115.3	392.67	1.294	Level 3
12,500.0	4,407.7	12,648.8	4,725.9	242.7	243.2	-128.62	1,339.9	-3,745.4	508.2	110.4	397.77	1.278	Level 3
12,600.0	4,406.3	12,748.8	4,724.7	245.9	246.4	-128.63	1,340.2	-3,845.4	508.4	105.5	402.87	1.262	Level 3
12,700.0	4,405.0	12,848.8	4,723.6	249.1	249.6	-128.64	1,340.5	-3,945.4	508.6	100.6	407.99	1.247	Level 2
12,800.0	4,403.6	12,948.8	4,722.5	252.4	252.8	-128.66	1,340.8	-4,045.4	508.9	95.8	413.11	1.232	Level 2
12,900.0	4,402.3	13,048.8	4,721.3	255.6	256.1	-128.67	1,341.1	-4,145.4	509.1	90.9	418.24	1.217	Level 2
13,000.0	4,400.9	13,148.8	4,720.2	258.8	259.3	-128.68	1,341.3	-4,245.4	509.3	85.9	423.38	1.203	Level 2
13,100.0	4,399.6	13,248.8	4,719.0	262.1	262.6	-128.69	1,341.6	-4,345.4	509.5	81.0	428.52	1.189	Level 2
13,200.0	4,398.2	13,348.8	4,717.9	265.3	265.8	-128.70	1,341.9	-4,445.4	509.8	76.1	433.67	1.175	Level 2
13,300.0	4,396.8	13,448.8	4,716.8	268.6	269.1	-128.71	1,342.2	-4,545.4	510.0	71.2	438.83	1.162	Level 2
13,400.0	4,395.5	13,548.8	4,715.6	271.9	272.3	-128.72	1,342.5	-4,645.4	510.2	66.2	443.99	1.149	Level 2
13,500.0	4,394.1	13,648.8	4,714.5	275.1	275.6	-128.73	1,342.8	-4,745.3	510.5	61.3	449.15	1.136	Level 2
13,600.0	4,392.8	13,748.8	4,713.4	278.4	278.9	-128.74	1,343.1	-4,845.3	510.7	56.4	454.32	1.124	Level 2
13,700.0	4,391.4	13,848.8	4,712.2	281.7	282.2	-128.75	1,343.3	-4,945.3	510.9	51.4	459.50	1.112	Level 2

Company:	Magpie Operating, Inc.	**Local Co-ordinate Reference:**	Well Bunker 8-9H
Project:	SEC.29-T5N-R68W	**TVD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.45 sigma
Reference Wellbore	Wellbore #1	**Database:**	US_EDM
Reference Design:	Plan #2 (12-06-18)	**Offset TVD Reference:**	Offset Datum

Offset Design Bunker 8 Well Pad Sec.29-T5N-R68W - Bunker 8-8H - Wellbore #1 - Plan #2 (12-06-18)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

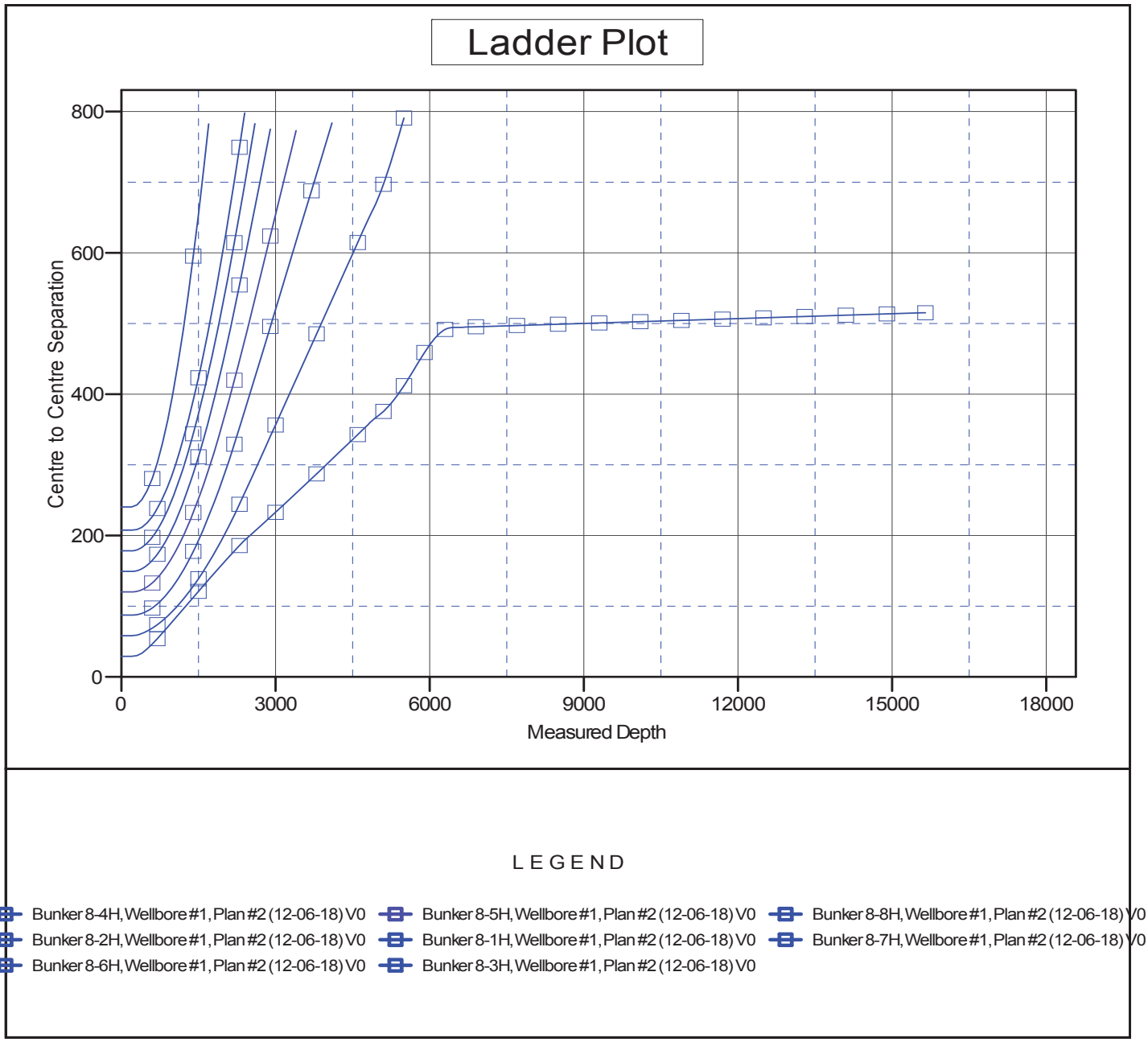
Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
13,800.0	4,390.1	13,948.8	4,711.1	285.0	285.4	-128.76	1,343.6	-5,045.3	511.1	46.5	464.68	1.100	Level 2
13,900.0	4,388.7	14,048.8	4,709.9	288.3	288.7	-128.77	1,343.9	-5,145.3	511.4	41.5	469.86	1.088	Level 2
14,000.0	4,387.4	14,148.8	4,708.8	291.5	292.0	-128.78	1,344.2	-5,245.3	511.6	36.5	475.05	1.077	Level 2
14,100.0	4,386.0	14,248.8	4,707.7	294.8	295.3	-128.79	1,344.5	-5,345.3	511.8	31.6	480.24	1.066	Level 2
14,200.0	4,384.7	14,348.8	4,706.5	298.1	298.6	-128.80	1,344.8	-5,445.3	512.1	26.6	485.44	1.055	Level 2
14,300.0	4,383.3	14,448.8	4,705.4	301.4	301.9	-128.81	1,345.1	-5,545.3	512.3	21.6	490.64	1.044	Level 2
14,400.0	4,381.9	14,548.8	4,704.2	304.7	305.2	-128.83	1,345.3	-5,645.3	512.5	16.7	495.85	1.034	Level 2
14,500.0	4,380.6	14,648.8	4,703.1	308.0	308.5	-128.84	1,345.6	-5,745.3	512.7	11.7	501.05	1.023	Level 2
14,600.0	4,379.2	14,748.8	4,702.0	311.3	311.8	-128.85	1,345.9	-5,845.3	513.0	6.7	506.26	1.013	Level 2
14,700.0	4,377.9	14,848.8	4,700.8	314.6	315.1	-128.86	1,346.2	-5,945.3	513.2	1.7	511.48	1.003	Level 2
14,800.0	4,376.5	14,948.8	4,699.7	318.0	318.4	-128.87	1,346.5	-6,045.2	513.4	-3.3	516.70	0.994	Level 1
14,900.0	4,375.2	15,048.8	4,698.6	321.3	321.7	-128.88	1,346.8	-6,145.2	513.7	-8.3	521.92	0.984	Level 1
15,000.0	4,373.8	15,148.8	4,697.4	324.6	325.1	-128.89	1,347.1	-6,245.2	513.9	-13.3	527.14	0.975	Level 1
15,100.0	4,372.5	15,248.8	4,696.3	327.9	328.4	-128.90	1,347.3	-6,345.2	514.1	-18.3	532.36	0.966	Level 1
15,200.0	4,371.1	15,348.8	4,695.1	331.2	331.7	-128.91	1,347.6	-6,445.2	514.3	-23.3	537.59	0.957	Level 1
15,300.0	4,369.7	15,448.8	4,694.0	334.6	335.0	-128.92	1,347.9	-6,545.2	514.6	-28.3	542.82	0.948	Level 1
15,400.0	4,368.4	15,548.8	4,692.9	337.9	338.4	-128.93	1,348.2	-6,645.2	514.8	-33.3	548.05	0.939	Level 1
15,500.0	4,367.0	15,648.8	4,691.7	341.2	341.7	-128.94	1,348.5	-6,745.2	515.0	-38.3	553.29	0.931	Level 1
15,600.0	4,365.7	15,748.8	4,690.6	344.6	345.0	-128.95	1,348.8	-6,845.2	515.2	-43.3	558.53	0.923	Level 1
15,650.1	4,365.0	15,798.9	4,690.0	346.2	346.7	-128.96	1,348.9	-6,895.3	515.4	-45.8	561.15	0.918	Level 1, ES, SF

Company:	Magpie Operating, Inc.	**Local Co-ordinate Reference:**	Well Bunker 8-9H
Project:	SEC.29-T5N-R68W	**TVD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.45 sigma
Reference Wellbore	Wellbore #1	**Database:**	US_EDM
Reference Design:	Plan #2 (12-06-18)	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 4998.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Bunker 8-9H
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.30°



Company:	Magpie Operating, Inc.	**Local Co-ordinate Reference:**	Well Bunker 8-9H
Project:	SEC.29-T5N-R68W	**TVD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Bunker 8 Well Pad Sec.29-T5N-R68W	**MD Reference:**	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	Bunker 8-9H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.45 sigma
Reference Wellbore	Wellbore #1	**Database:**	US_EDM
Reference Design:	Plan #2 (12-06-18)	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 4998.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Bunker 8-9H
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.30°