

NMOC

DEC 12 2019

DISTRICT I

1825 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II

811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1883 Fax: (575) 748-9720

DISTRICT III

1000 Rio Bravos Rd., Aztec, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 475-3480 Fax: (505) 475-3482State of New Mexico
Energy, Minerals & Natural Resources Department

DISTRICT III

Form C-102
Revised August 1, 2011Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, NM 87505☒ AMENDED REPORT
☒ AS-DRILLED

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-35859	² Pool Code 98080	³ Pool Name NAGEEZI UNIT MANCOS OIL POOL
⁴ Property Code 325268	⁵ Property Name NAGEEZI UNIT	⁶ Well Number 508H
⁷ OGRID No. 371838	⁸ Operator Name DJR OPERATING, LLC	⁹ Elevation 6748

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	9	23N	9W		260'	NORTH	339'	EAST	SAN JUAN

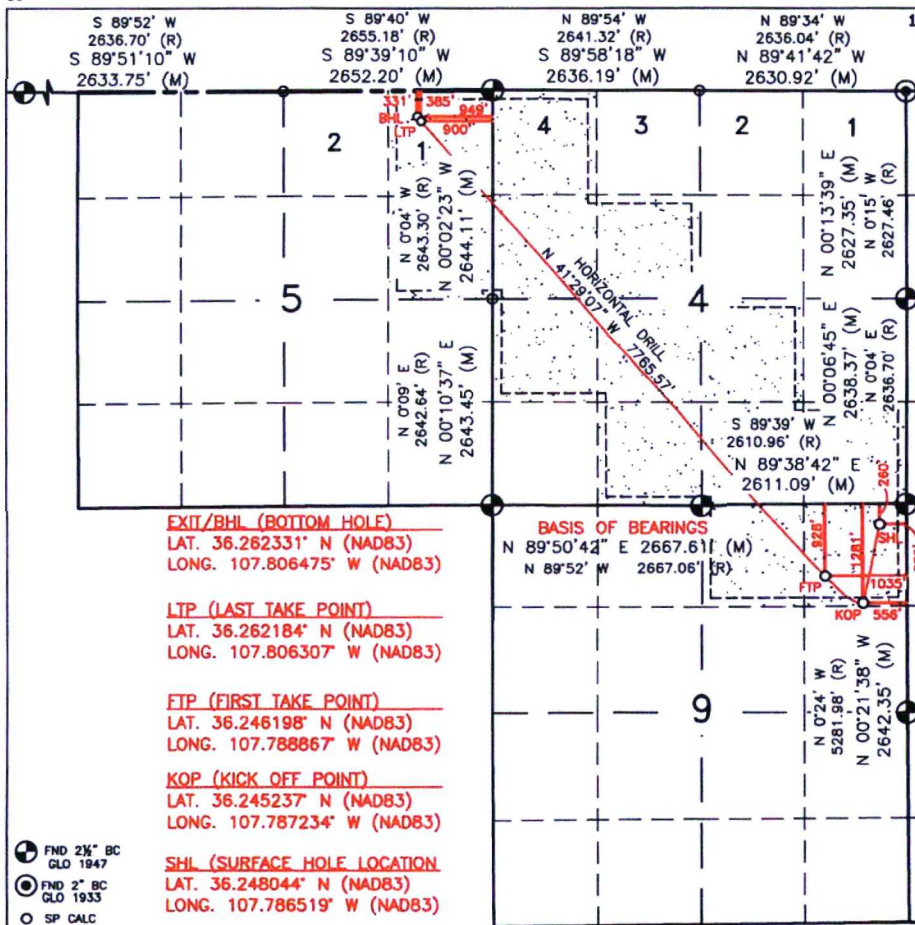
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	5	23N	9W	1	331'	NORTH	949'	EAST	SAN JUAN

¹² Dedicated Acres PENETRATED SPACING UNIT; SE/SE, SW/SE, NW/SE, SE/SW, NE/SW, NW/SW, SE/NW, SW/NW, & LOT 4 SEC. 4 (360.99 AC), SE/NE & LOT 1 SEC 5 (80.96 AC), NE/NE & NW/NE SEC 9 (80 AC) = 521.95 ACRES TOTAL	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-13856, R-13856A
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

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EXIT/BHL (BOTTOM HOLE)
LAT. 36.262331° N (NAD83)
LONG. 107.806475° W (NAD83)LTP (LAST TAKE POINT)
LAT. 36.262184° N (NAD83)
LONG. 107.806307° W (NAD83)FTP (FIRST TAKE POINT)
LAT. 36.246198° N (NAD83)
LONG. 107.788867° W (NAD83)KOP (KICK OFF POINT)
LAT. 36.245237° N (NAD83)
LONG. 107.787234° W (NAD83)SHL (SURFACE HOLE LOCATION)
LAT. 36.248044° N (NAD83)
LONG. 107.786519° W (NAD83)FND 2 1/2\" BC
GLO 1947
FND 2\" BC
GLO 1933
SP CALC

17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Shaw-Marie Ford 12/05/19
Signature Date

Shaw-Marie Ford

Printed Name

sford@djrlc.com

E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

DECEMBER 4, 2019

Date of Survey
Signature and Seal of Professional Surveyor:

FY

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State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

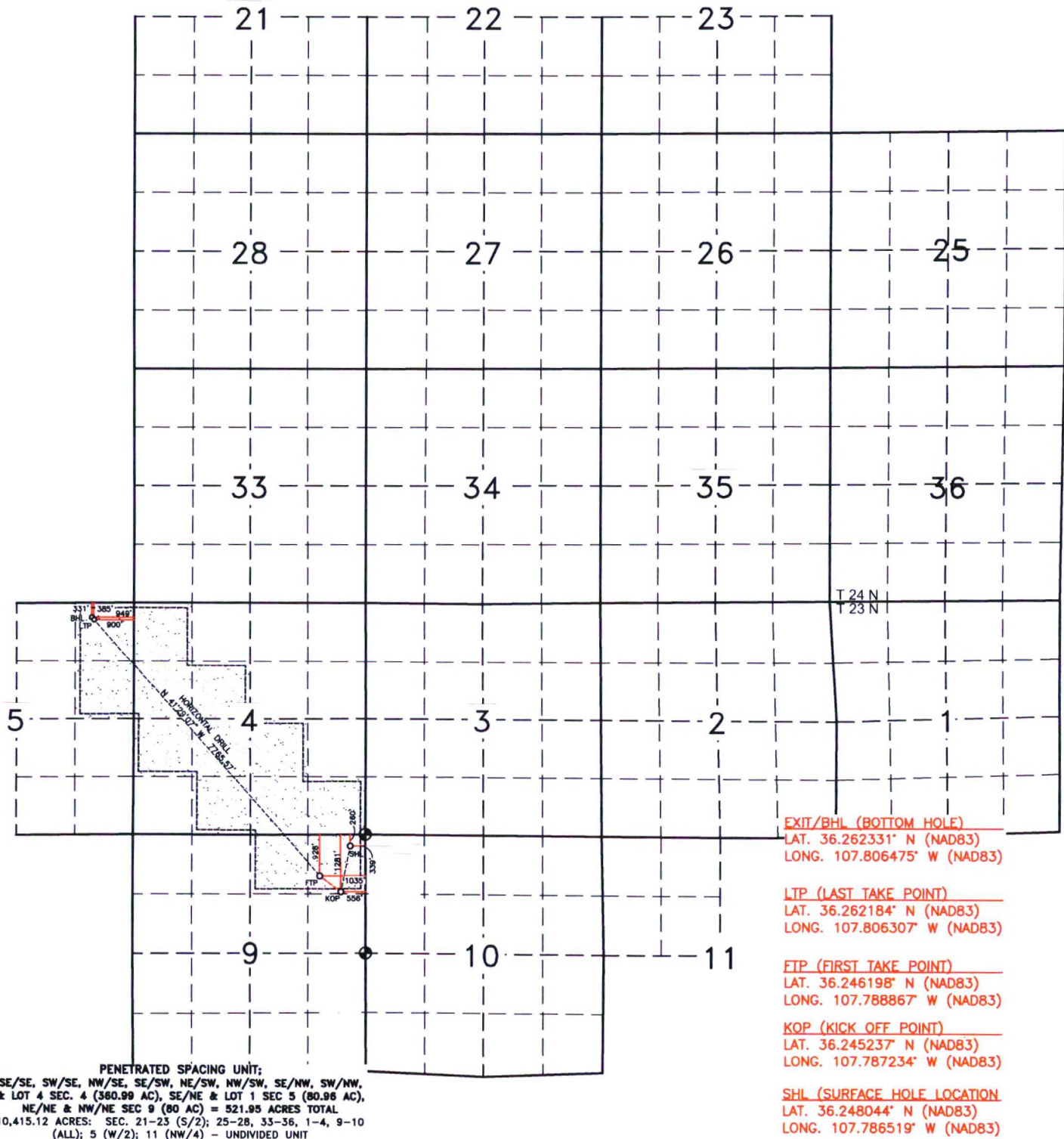
1220 South St. Francis Dr.
Santa Fe, NM 87505

DJR OPERATING, LTD
NAGEEZI UNIT #508H

Form C-102
Revised August 1, 2011

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☐ AMENDED REPORT
☒ AS-DRILLED





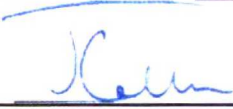
Scientific Drilling

Directional Survey Certification

2948 I-70 Business Loop
Grand Junction, CO 81504
(970)-245-9447 Fax (970)-245-9454

Operator	DJR Operating
Well Name & No.	Nageezi A09 2309 508H
County & State	San Juan, NM
SDI Job No.	OP.021982
Rig	Aztec 920

I, Janie Collins, having personal knowledge of all the facts, hereby certify that the attached directional survey run from a measured depth of 378 feet to a measured depth of 13,150 feet is true and correct as determined from all available records.



Signature

14-Nov-19

Date

Janie Collins
Colorado District Well Planner
Scientific Drilling International



Scientific Drilling, Intl
Survey Report



Company: DJR Operating
Project: Nageezi Unit
Site: A09 2309
Well: 508H
Wellbore: Original drilling
Design: Original drilling

Local Co-ordinate Reference: Well 508H
TVD Reference: GL 6748' & RKB 14' @ 6762.00usft (Aztec 920)
MD Reference: GL 6748' & RKB 14' @ 6762.00usft (Aztec 920)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Grand Junction District

Project	Nageezi Unit		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site	A09 2309				
Site Position:		Northing:	1,909,589.82 usft	Latitude:	36.2480440
From:	Lat/Long	Easting:	2,736,895.26 usft	Longitude:	-107.7865190
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.03 °

Well	508H					
Well Position	+N/-S	0.00 usft	Northing:	1,909,589.82 usft	Latitude:	36.2480440
	+E/-W	0.00 usft	Easting:	2,736,895.26 usft	Longitude:	-107.7865190
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,748.00 usft

Wellbore	Original drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/31/2019	8.83	62.75	49,422

Design	Original drilling				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	311.484	

Survey Program	Date 11/14/2019				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
378.00	4,287.00	Survey #1 - Surface MWD Survey (Original)	MWD+HDGM	OWSG MWD + HDGM	
4,348.00	5,161.00	Survey #2 - Curve MWD Survey (Original)	MWD+HDGM	OWSG MWD + HDGM	
5,267.00	13,150.00	Survey #3 - Lateral MWD Survey (Original)	MWD+HDGM	OWSG MWD + HDGM	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
378.00	0.11	235.770	378.00	-0.20	-0.30	0.09	0.03	0.03	0.00	
439.00	0.95	182.080	439.00	-0.74	-0.37	-0.22	1.46	1.38	-88.02	
499.00	2.05	186.160	498.98	-2.31	-0.50	-1.15	1.84	1.83	6.80	
560.00	3.92	194.250	559.89	-5.41	-1.13	-2.74	3.13	3.07	13.26	
621.00	5.89	194.860	620.66	-10.46	-2.45	-5.10	3.23	3.23	1.00	
682.00	7.35	193.280	681.26	-17.28	-4.15	-8.34	2.41	2.39	-2.59	
743.00	8.97	195.660	741.64	-25.66	-6.33	-12.26	2.71	2.66	3.90	
804.00	9.32	196.450	801.86	-34.98	-9.01	-16.42	0.61	0.57	1.30	



Scientific Drilling, Intl

Survey Report



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Project: Nageezi Unit

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Well: 508H

Wellbore: Original drilling

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Local Co-ordinate Reference: Well 508H

TVD Reference: GL 6748' & RKB 14' @ 6762.00usft (Aztec 920)

MD Reference: GL 6748' & RKB 14' @ 6762.00usft (Aztec 920)

North Reference: True

Survey Calculation Method: Minimum Curvature

Database: Grand Junction District

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
864.00	11.11	198.000	860.91	-45.13	-12.17	-20.78	3.02	2.98	2.58
925.00	12.39	196.030	920.63	-57.01	-15.79	-25.93	2.20	2.10	-3.23
986.00	13.71	195.350	980.05	-70.27	-19.51	-31.93	2.18	2.16	-1.11
1,047.00	14.50	196.600	1,039.21	-84.56	-23.61	-38.33	1.39	1.30	2.05
1,107.00	14.25	195.560	1,097.33	-98.88	-27.74	-44.72	0.60	-0.42	-1.73
1,168.00	13.63	189.240	1,156.54	-113.20	-30.91	-51.84	2.69	-1.02	-10.36
1,229.00	13.56	186.580	1,215.83	-127.40	-32.88	-59.76	1.03	-0.11	-4.36
1,289.00	15.05	186.000	1,273.97	-142.14	-34.50	-68.31	2.49	2.48	-0.97
1,349.00	15.70	185.970	1,331.82	-157.96	-36.16	-77.55	1.08	1.08	-0.05
1,410.00	15.12	186.060	1,390.63	-174.08	-37.86	-86.95	0.95	-0.95	0.15
1,471.00	15.93	186.590	1,449.40	-190.31	-39.66	-96.35	1.35	1.33	0.87
1,531.00	15.83	185.260	1,507.11	-206.64	-41.35	-105.90	0.63	-0.17	-2.22
1,592.00	17.06	187.510	1,565.62	-223.79	-43.28	-115.82	2.27	2.02	3.69
1,653.00	17.50	188.470	1,623.86	-241.73	-45.80	-125.81	0.86	0.72	1.57
1,714.00	17.14	189.460	1,682.10	-259.67	-48.63	-135.58	0.76	-0.59	1.62
1,774.00	17.55	190.710	1,739.37	-277.28	-51.77	-144.89	0.92	0.68	2.08
1,836.00	17.34	192.010	1,798.52	-295.50	-55.43	-154.22	0.71	-0.34	2.10
1,896.00	16.67	191.800	1,855.89	-312.67	-59.05	-162.88	1.12	-1.12	-0.35
1,957.00	18.42	192.620	1,914.05	-330.64	-62.94	-171.87	2.90	2.87	1.34
2,018.00	19.97	192.300	1,971.66	-350.23	-67.27	-181.60	2.55	2.54	-0.52
2,079.00	20.09	191.420	2,028.97	-370.67	-71.56	-191.93	0.53	0.20	-1.44
2,139.00	19.88	191.560	2,085.36	-390.77	-75.65	-202.18	0.36	-0.35	0.23
2,200.00	19.00	192.140	2,142.88	-410.64	-79.81	-212.22	1.48	-1.44	0.95
2,261.00	18.54	190.500	2,200.64	-429.88	-83.67	-222.08	1.15	-0.75	-2.69
2,323.00	18.51	189.500	2,259.42	-449.28	-87.09	-232.37	0.51	-0.05	-1.61
2,383.00	18.99	189.090	2,316.24	-468.31	-90.20	-242.64	0.83	0.80	-0.68
2,444.00	19.04	189.170	2,373.91	-487.94	-93.36	-253.28	0.09	0.08	0.13
2,505.00	17.81	189.200	2,431.78	-506.97	-96.43	-263.58	2.02	-2.02	0.05
2,565.00	17.51	188.930	2,488.96	-524.94	-99.30	-273.34	0.52	-0.50	-0.45
2,626.00	16.90	192.330	2,547.23	-542.67	-102.62	-282.60	1.93	-1.00	5.57
2,687.00	16.17	192.640	2,605.70	-559.62	-106.37	-291.01	1.21	-1.20	0.51
2,748.00	15.05	190.190	2,664.45	-575.71	-109.63	-299.22	2.13	-1.84	-4.02
2,809.00	15.75	189.420	2,723.26	-591.67	-112.39	-307.73	1.20	1.15	-1.26
2,870.00	16.99	189.800	2,781.79	-608.62	-115.26	-316.81	2.04	2.03	0.62
2,931.00	17.44	190.510	2,840.06	-626.39	-118.44	-326.20	0.81	0.74	1.16
2,992.00	17.51	193.120	2,898.24	-644.31	-122.19	-335.26	1.29	0.11	4.28
3,053.00	17.48	195.520	2,956.42	-662.08	-126.73	-343.63	1.18	-0.05	3.93
3,114.00	17.00	195.130	3,014.68	-679.51	-131.51	-351.60	0.81	-0.79	-0.64
3,175.00	17.22	194.560	3,072.98	-696.86	-136.11	-359.65	0.45	0.36	-0.93
3,236.00	17.14	193.220	3,131.26	-714.35	-140.43	-367.99	0.66	-0.13	-2.20
3,298.00	17.38	192.740	3,190.47	-732.28	-144.56	-376.77	0.45	0.39	-0.77
3,359.00	17.60	191.230	3,248.65	-750.21	-148.37	-385.80	0.83	0.36	-2.48
3,420.00	18.23	192.470	3,306.69	-768.57	-152.22	-395.07	1.21	1.03	2.03



Scientific Drilling, Intl

Survey Report



Company: DJR Operating

Project: Nageezi Unit

Site: A09 2309

Well: 508H

Wellbore: Original drilling

Design: Original drilling

Local Co-ordinate Reference: Well 508H

TVD Reference: GL 6748' & RKB 14' @ 6762.00usft (Aztec 920)

MD Reference: GL 6748' & RKB 14' @ 6762.00usft (Aztec 920)

North Reference: True

Survey Calculation Method: Minimum Curvature

Database: Grand Junction District

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,480.00	18.27	192.730	3,363.67	-786.91	-156.32	-404.15	0.15	0.07	0.43
3,541.00	17.76	191.850	3,421.68	-805.34	-160.34	-413.35	0.95	-0.84	-1.44
3,602.00	16.99	190.650	3,479.90	-823.20	-163.90	-422.52	1.39	-1.26	-1.97
3,677.00	17.22	190.650	3,551.58	-844.88	-167.97	-433.82	0.31	0.31	0.00
3,738.00	18.28	190.760	3,609.68	-863.16	-171.43	-443.34	1.74	1.74	0.18
3,799.00	18.28	190.940	3,667.60	-881.95	-175.03	-453.09	0.09	0.00	0.30
3,860.00	18.24	190.480	3,725.53	-900.73	-178.58	-462.87	0.25	-0.07	-0.75
3,921.00	16.94	188.170	3,783.67	-918.91	-181.58	-472.67	2.42	-2.13	-3.79
3,982.00	16.36	187.370	3,842.12	-936.23	-183.95	-482.37	1.02	-0.95	-1.31
4,043.00	15.53	186.680	3,900.77	-952.86	-186.00	-491.85	1.40	-1.36	-1.13
4,104.00	16.02	186.480	3,959.47	-969.33	-187.90	-501.33	0.81	0.80	-0.33
4,166.00	15.28	183.350	4,019.17	-985.99	-189.34	-511.29	1.81	-1.19	-5.05
4,227.00	13.63	202.340	4,078.27	-1,000.67	-192.55	-518.61	8.19	-2.70	31.13
4,287.00	13.21	216.690	4,136.65	-1,012.71	-199.33	-521.50	5.58	-0.70	23.92
4,348.00	14.07	235.290	4,195.96	-1,022.53	-209.60	-520.32	7.29	1.41	30.49
4,409.00	14.22	256.790	4,255.15	-1,028.47	-222.99	-514.21	8.57	0.25	35.25
4,470.00	15.26	276.350	4,314.18	-1,029.29	-238.28	-503.31	8.29	1.70	32.07
4,531.00	18.38	288.760	4,372.58	-1,025.31	-255.37	-487.87	7.77	5.11	20.34
4,592.00	22.87	291.350	4,429.66	-1,017.90	-275.53	-467.86	7.51	7.36	4.25
4,653.00	26.94	294.280	4,484.98	-1,007.89	-299.17	-443.52	6.97	6.67	4.80
4,714.00	30.54	296.050	4,538.45	-995.40	-325.70	-415.37	6.06	5.90	2.90
4,746.00	33.00	298.610	4,565.66	-987.66	-340.66	-399.03	8.76	7.69	8.00
4,775.00	34.83	301.480	4,589.72	-979.55	-354.66	-383.17	8.38	6.31	9.90
4,806.00	38.52	303.030	4,614.58	-969.66	-370.31	-364.90	12.27	11.90	5.00
4,837.00	41.53	303.590	4,638.32	-958.71	-386.97	-345.17	9.78	9.71	1.81
4,868.00	42.92	304.620	4,661.28	-947.03	-404.21	-324.51	5.01	4.48	3.32
4,898.00	46.98	305.890	4,682.50	-934.79	-421.51	-303.44	13.86	13.53	4.23
4,928.00	51.23	307.590	4,702.14	-921.22	-439.67	-280.85	14.80	14.17	5.67
4,959.00	55.81	309.060	4,720.57	-905.76	-459.22	-255.97	15.26	14.77	4.74
5,020.00	63.61	311.080	4,751.31	-871.86	-499.47	-203.36	13.10	12.79	3.31
5,080.00	69.77	313.380	4,775.05	-834.82	-540.23	-148.29	10.85	10.27	3.83
5,140.00	76.04	316.450	4,792.68	-794.34	-580.79	-91.08	11.54	10.45	5.12
5,161.00	78.98	316.770	4,797.22	-779.44	-594.88	-70.66	14.08	14.00	1.52
5,267.00	83.70	318.630	4,813.18	-701.95	-665.37	33.48	4.78	4.45	1.75
5,329.00	88.02	317.960	4,817.65	-655.80	-706.50	94.86	7.05	6.97	-1.08
5,391.00	89.56	317.180	4,818.96	-610.05	-748.32	156.50	2.78	2.48	-1.26
5,455.00	89.70	317.010	4,819.37	-563.17	-791.89	220.19	0.34	0.22	-0.27
5,518.00	88.96	316.230	4,820.11	-517.38	-835.16	282.93	1.71	-1.17	-1.24
5,580.00	89.53	315.490	4,820.93	-472.89	-878.33	344.75	1.51	0.92	-1.19
5,642.00	90.30	316.570	4,821.02	-428.27	-921.38	406.55	2.14	1.24	1.74
5,703.00	88.15	316.880	4,821.84	-383.87	-963.19	467.28	3.56	-3.52	0.51
5,766.00	87.45	317.460	4,824.26	-337.70	-1,005.98	529.93	1.44	-1.11	0.92
5,828.00	91.34	317.770	4,824.92	-291.91	-1,047.77	591.56	6.29	6.27	0.50



Scientific Drilling, Intl

Survey Report



Company: DJR Operating

Project: Nageezi Unit

Site: A09 2309

Well: 508H

Wellbore: Original drilling

Design: Original drilling

Local Co-ordinate Reference: Well 508H

TVD Reference: GL 6748' & RKB 14' @ 6762.00usft (Aztec 920)

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North Reference: True

Survey Calculation Method: Minimum Curvature

Database: Grand Junction District

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,891.00	89.80	317.920	4,824.29	-245.21	-1,090.05	654.16	2.46	-2.44	0.24
5,954.00	87.31	317.090	4,825.88	-198.78	-1,132.59	716.79	4.17	-3.95	-1.32
6,017.00	88.76	317.320	4,828.04	-152.58	-1,175.36	779.44	2.33	2.30	0.37
6,079.00	88.96	317.430	4,829.27	-106.97	-1,217.34	841.10	0.37	0.32	0.18
6,141.00	89.03	316.430	4,830.36	-61.69	-1,259.67	902.81	1.62	0.11	-1.61
6,204.00	89.06	316.080	4,831.41	-16.18	-1,303.23	965.58	0.56	0.05	-0.56
6,267.00	89.09	316.090	4,832.43	29.20	-1,346.92	1,028.37	0.05	0.05	0.02
6,329.00	89.53	317.950	4,833.17	74.55	-1,389.18	1,090.07	3.08	0.71	3.00
6,392.00	89.46	318.780	4,833.73	121.63	-1,431.03	1,152.62	1.32	-0.11	1.32
6,454.00	89.09	318.330	4,834.51	168.11	-1,472.07	1,214.14	0.94	-0.60	-0.73
6,517.00	88.76	317.060	4,835.70	214.69	-1,514.46	1,276.76	2.08	-0.52	-2.02
6,580.00	89.70	317.120	4,836.54	260.83	-1,557.35	1,339.45	1.50	1.49	0.10
6,643.00	89.66	316.060	4,836.89	306.59	-1,600.65	1,402.20	1.68	-0.06	-1.68
6,706.00	89.80	317.760	4,837.19	352.60	-1,643.68	1,464.91	2.71	0.22	2.70
6,768.00	90.00	318.610	4,837.30	398.81	-1,685.02	1,526.49	1.41	0.32	1.37
6,831.00	89.63	318.530	4,837.50	446.04	-1,726.71	1,589.01	0.60	-0.59	-0.13
6,894.00	89.63	319.920	4,837.91	493.75	-1,767.85	1,651.43	2.21	0.00	2.21
6,956.00	88.76	318.910	4,838.78	540.83	-1,808.18	1,712.83	2.15	-1.40	-1.63
7,019.00	88.69	319.520	4,840.18	588.52	-1,849.32	1,775.24	0.97	-0.11	0.97
7,082.00	89.76	321.400	4,841.03	637.09	-1,889.42	1,837.46	3.43	1.70	2.98
7,145.00	89.29	321.320	4,841.56	686.30	-1,928.76	1,899.53	0.76	-0.75	-0.13
7,207.00	89.29	321.600	4,842.33	734.79	-1,967.39	1,960.58	0.45	0.00	0.45
7,271.00	89.30	321.100	4,843.11	784.77	-2,007.36	2,023.63	0.78	0.02	-0.78
7,333.00	90.54	320.640	4,843.20	832.86	-2,046.48	2,084.80	2.13	2.00	-0.74
7,395.00	90.34	320.130	4,842.72	880.62	-2,086.01	2,146.05	0.88	-0.32	-0.82
7,458.00	89.50	317.960	4,842.81	928.20	-2,127.30	2,208.50	3.69	-1.33	-3.44
7,520.00	90.03	318.830	4,843.07	974.56	-2,168.47	2,270.05	1.64	0.85	1.40
7,583.00	90.57	319.140	4,842.74	1,022.09	-2,209.81	2,332.51	0.99	0.86	0.49
7,646.00	91.04	318.680	4,841.85	1,069.57	-2,251.22	2,394.97	1.04	0.75	-0.73
7,708.00	88.86	318.380	4,841.90	1,116.02	-2,292.27	2,456.50	3.55	-3.52	-0.48
7,771.00	88.89	317.860	4,843.14	1,162.92	-2,334.32	2,519.07	0.83	0.05	-0.83
7,834.00	88.42	319.340	4,844.62	1,210.16	-2,375.97	2,581.56	2.46	-0.75	2.35
7,898.00	89.33	321.530	4,845.88	1,259.49	-2,416.73	2,644.77	3.70	1.42	3.42
7,961.00	91.34	323.200	4,845.51	1,309.37	-2,455.19	2,706.63	4.15	3.19	2.65
8,023.00	91.51	322.450	4,843.97	1,358.76	-2,492.64	2,767.40	1.24	0.27	-1.21
8,086.00	91.44	323.200	4,842.35	1,408.94	-2,530.70	2,829.15	1.20	-0.11	1.19
8,149.00	90.71	323.020	4,841.16	1,459.32	-2,568.51	2,890.84	1.19	-1.16	-0.29
8,212.00	90.91	323.150	4,840.27	1,509.68	-2,606.34	2,952.55	0.38	0.32	0.21
8,274.00	89.83	320.120	4,839.87	1,558.29	-2,644.82	3,013.57	5.19	-1.74	-4.89
8,337.00	89.73	318.800	4,840.11	1,606.16	-2,685.77	3,075.96	2.10	-0.16	-2.10
8,400.00	89.93	318.430	4,840.30	1,653.43	-2,727.42	3,138.47	0.67	0.32	-0.59
8,463.00	90.30	318.430	4,840.17	1,700.56	-2,769.22	3,201.01	0.59	0.59	0.00
8,526.00	89.46	317.110	4,840.31	1,747.21	-2,811.56	3,263.63	2.48	-1.33	-2.10
8,589.00	90.07	316.510	4,840.57	1,793.14	-2,854.68	3,326.35	1.36	0.97	-0.95



Scientific Drilling, Intl
Survey Report



Company: DJR Operating
Project: Nageezi Unit
Site: A09 2309
Well: 508H
Wellbore: Original drilling
Design: Original drilling

Local Co-ordinate Reference: Well 508H
TVD Reference: GL 6748' & RKB 14' @ 6762.00usft (Aztec 920)
MD Reference: GL 6748' & RKB 14' @ 6762.00usft (Aztec 920)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Grand Junction District

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,652.00	89.60	315.420	4,840.75	1,838.43	-2,898.47	3,389.16	1.88	-0.75	-1.73
8,715.00	88.42	315.490	4,841.84	1,883.33	-2,942.65	3,452.00	1.88	-1.87	0.11
8,778.00	88.22	315.000	4,843.68	1,928.04	-2,986.99	3,514.83	0.84	-0.32	-0.78
8,840.00	88.59	314.610	4,845.41	1,971.72	-3,030.96	3,576.71	0.87	0.60	-0.63
8,902.00	88.62	314.190	4,846.92	2,015.08	-3,075.25	3,638.61	0.68	0.05	-0.68
8,963.00	87.99	315.100	4,848.72	2,057.93	-3,118.63	3,699.49	1.81	-1.03	1.49
9,023.00	89.13	316.360	4,850.23	2,100.88	-3,160.50	3,759.30	2.83	1.90	2.10
9,085.00	90.00	316.710	4,850.70	2,145.88	-3,203.14	3,821.06	1.51	1.40	0.56
9,146.00	89.16	317.750	4,851.15	2,190.65	-3,244.57	3,881.75	2.19	-1.38	1.70
9,207.00	89.43	317.640	4,851.90	2,235.76	-3,285.62	3,942.39	0.48	0.44	-0.18
9,267.00	89.23	317.130	4,852.60	2,279.92	-3,326.24	4,002.06	0.91	-0.33	-0.85
9,328.00	89.63	317.860	4,853.21	2,324.88	-3,367.45	4,062.73	1.36	0.66	1.20
9,389.00	89.36	318.450	4,853.74	2,370.32	-3,408.15	4,123.31	1.06	-0.44	0.97
9,450.00	90.24	318.900	4,853.96	2,416.13	-3,448.43	4,183.83	1.62	1.44	0.74
9,511.00	90.64	321.190	4,853.49	2,462.89	-3,487.59	4,244.14	3.81	0.66	3.75
9,572.00	90.07	320.040	4,853.11	2,510.03	-3,526.30	4,304.37	2.10	-0.93	-1.89
9,633.00	89.97	319.200	4,853.09	2,556.50	-3,565.82	4,364.75	1.39	-0.16	-1.38
9,693.00	90.00	319.120	4,853.10	2,601.89	-3,605.06	4,424.22	0.14	0.05	-0.13
9,754.00	90.70	319.980	4,852.73	2,648.31	-3,644.63	4,484.61	1.82	1.15	1.41
9,815.00	90.94	320.450	4,851.86	2,695.18	-3,683.66	4,544.90	0.87	0.39	0.77
9,875.00	90.70	320.030	4,851.00	2,741.30	-3,722.03	4,604.19	0.81	-0.40	-0.70
9,936.00	90.44	319.850	4,850.39	2,787.98	-3,761.29	4,664.52	0.52	-0.43	-0.30
9,996.00	89.83	318.900	4,850.25	2,833.52	-3,800.35	4,723.96	1.88	-1.02	-1.58
10,057.00	89.97	318.830	4,850.36	2,879.47	-3,840.48	4,784.45	0.26	0.23	-0.11
10,117.00	88.69	316.740	4,851.06	2,923.90	-3,880.79	4,844.08	4.08	-2.13	-3.48
10,178.00	88.15	316.090	4,852.74	2,968.07	-3,922.83	4,904.83	1.39	-0.89	-1.07
10,238.00	88.32	317.670	4,854.59	3,011.84	-3,963.82	4,964.53	2.65	0.28	2.63
10,300.00	89.26	319.090	4,855.90	3,058.18	-4,004.99	5,026.07	2.75	1.52	2.29
10,360.00	88.52	318.030	4,857.06	3,103.15	-4,044.69	5,085.60	2.15	-1.23	-1.77
10,422.00	88.72	317.660	4,858.56	3,149.09	-4,086.29	5,147.20	0.68	0.32	-0.60
10,482.00	89.16	317.290	4,859.67	3,193.31	-4,126.84	5,206.86	0.96	0.73	-0.62
10,542.00	90.30	319.000	4,859.95	3,237.99	-4,166.87	5,266.45	3.43	1.90	2.85
10,604.00	92.48	320.830	4,858.44	3,285.41	-4,206.78	5,327.76	4.59	3.52	2.95
10,665.00	91.78	321.820	4,856.18	3,333.00	-4,244.87	5,387.82	1.99	-1.15	1.62
10,725.00	90.13	321.430	4,855.18	3,380.03	-4,282.11	5,446.87	2.83	-2.75	-0.65
10,786.00	89.80	321.050	4,855.21	3,427.59	-4,320.30	5,506.99	0.83	-0.54	-0.62
10,847.00	89.87	319.900	4,855.39	3,474.65	-4,359.12	5,567.24	1.89	0.11	-1.89
10,907.00	89.50	318.460	4,855.72	3,520.05	-4,398.34	5,626.69	2.48	-0.62	-2.40
10,968.00	88.96	317.440	4,856.54	3,565.34	-4,439.19	5,687.30	1.89	-0.89	-1.67
11,029.00	88.59	316.670	4,857.84	3,609.98	-4,480.74	5,748.00	1.40	-0.61	-1.26
11,091.00	88.62	316.470	4,859.35	3,654.99	-4,523.35	5,809.73	0.33	0.05	-0.32
11,151.00	88.56	317.520	4,860.83	3,698.86	-4,564.26	5,869.44	1.75	-0.10	1.75
11,212.00	88.99	319.250	4,862.13	3,744.45	-4,604.76	5,929.98	2.92	0.70	2.84



Scientific Drilling, Intl
Survey Report



Company: DJR Operating
Project: Nageezi Unit
Site: A09 2309
Well: 508H
Wellbore: Original drilling
Design: Original drilling

Local Co-ordinate Reference: Well 508H
TVD Reference: GL 6748' & RKB 14' @ 6762.00usft (Aztec 920)
MD Reference: GL 6748' & RKB 14' @ 6762.00usft (Aztec 920)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Grand Junction District

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,273.00	90.17	319.980	4,862.58	3,790.91	-4,644.28	5,990.36	2.27	1.93	1.20
11,333.00	90.47	319.740	4,862.25	3,836.78	-4,682.96	6,049.72	0.64	0.50	-0.40
11,394.00	90.60	319.500	4,861.68	3,883.25	-4,722.48	6,110.11	0.45	0.21	-0.39
11,455.00	90.03	317.780	4,861.34	3,929.03	-4,762.79	6,170.63	2.97	-0.93	-2.82
11,516.00	88.96	316.490	4,861.88	3,973.74	-4,804.28	6,231.33	2.75	-1.75	-2.11
11,577.00	87.92	315.040	4,863.54	4,017.42	-4,846.81	6,292.13	2.92	-1.70	-2.38
11,638.00	87.61	315.900	4,865.92	4,060.88	-4,889.56	6,352.94	1.50	-0.51	1.41
11,699.00	89.13	317.390	4,867.65	4,105.21	-4,931.42	6,413.66	3.49	2.49	2.44
11,761.00	89.83	317.590	4,868.22	4,150.91	-4,973.31	6,475.32	1.17	1.13	0.32
11,821.00	89.73	317.240	4,868.45	4,195.09	-5,013.91	6,535.00	0.61	-0.17	-0.58
11,882.00	89.26	317.830	4,868.98	4,240.08	-5,055.09	6,595.65	1.24	-0.77	0.97
11,943.00	89.13	318.350	4,869.84	4,285.48	-5,095.83	6,656.24	0.88	-0.21	0.85
12,004.00	89.19	319.730	4,870.74	4,331.53	-5,135.82	6,716.71	2.26	0.10	2.26
12,066.00	89.56	320.620	4,871.41	4,379.15	-5,175.52	6,777.99	1.55	0.60	1.44
12,127.00	89.56	320.130	4,871.88	4,426.13	-5,214.42	6,838.25	0.80	0.00	-0.80
12,187.00	87.82	318.000	4,873.25	4,471.44	-5,253.72	6,897.71	4.58	-2.90	-3.55
12,248.00	88.16	318.780	4,875.39	4,517.02	-5,294.20	6,958.23	1.39	0.56	1.28
12,309.00	89.13	320.760	4,876.83	4,563.58	-5,333.59	7,018.57	3.61	1.59	3.25
12,370.00	88.99	320.520	4,877.83	4,610.73	-5,372.27	7,078.78	0.46	-0.23	-0.39
12,431.00	91.01	321.090	4,877.83	4,658.01	-5,410.81	7,138.98	3.44	3.31	0.93
12,492.00	91.54	320.970	4,876.48	4,705.42	-5,449.17	7,199.12	0.89	0.87	-0.20
12,553.00	91.91	320.470	4,874.64	4,752.62	-5,487.77	7,259.30	1.02	0.61	-0.82
12,614.00	91.91	319.690	4,872.61	4,799.37	-5,526.89	7,319.58	1.28	0.00	-1.28
12,675.00	90.30	319.090	4,871.43	4,845.67	-5,566.59	7,379.99	2.82	-2.64	-0.98
12,735.00	90.60	318.940	4,870.96	4,890.96	-5,605.94	7,439.47	0.56	0.50	-0.25
12,797.00	88.29	318.380	4,871.56	4,937.51	-5,646.89	7,500.97	3.83	-3.73	-0.90
12,858.00	88.32	318.040	4,873.37	4,982.97	-5,687.52	7,561.53	0.56	0.05	-0.56
12,919.00	88.02	317.350	4,875.31	5,028.06	-5,728.56	7,622.14	1.23	-0.49	-1.13
12,980.00	90.30	317.630	4,876.21	5,073.02	-5,769.77	7,682.79	3.77	3.74	0.46
13,040.00	89.73	317.410	4,876.19	5,117.27	-5,810.29	7,742.46	1.02	-0.95	-0.37
13,100.00	89.90	317.230	4,876.39	5,161.38	-5,850.96	7,802.15	0.41	0.28	-0.30
13,150.00	89.90	317.230	4,876.47	5,198.08	-5,884.92	7,851.90	0.00	0.00	0.00



Scientific Drilling, Intl
Survey Report



Company: DJR Operating
Project: Nageezi Unit
Site: A09 2309
Well: 508H
Wellbore: Original drilling
Design: Original drilling

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well 508H
GL 6748' & RKB 14' @ 6762.00usft (Aztec 920)
GL 6748' & RKB 14' @ 6762.00usft (Aztec 920)
True
Minimum Curvature
Grand Junction District

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
378.00	378.00	-0.20	-0.30	First SDI Surface MWD Survey
4,287.00	4,136.65	-1,012.71	-199.33	Last SDI Surface MWD Survey
4,348.00	4,195.96	-1,022.53	-209.60	First SDI Curve MWD Survey
5,161.00	4,797.22	-779.44	-594.88	Last SDI Curve MWD Survey
5,267.00	4,813.18	-701.95	-665.37	First SDI Lateral MWD Survey
13,100.00	4,876.39	5,161.38	-5,850.96	Last SDI Lateral MWD Survey
13,150.00	4,876.47	5,198.08	-5,884.92	Projection to TD

Checked By: _____ Approved By: _____ Date: _____