

DISTRICT I
1625 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) 748-1283 Fax: (575) 748-0720

DISTRICT III
1000 Rio Bravo Ed., Artesia, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit 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 30-045-35514	² Pool Code 98175	³ Pool Name BETONNIE TSOSIE WASH UNIT MANCOS OIL POOL
⁴ Property Code 325179	⁵ Property Name BETONNIE TSOSIE WASH UNIT	⁶ Well Number 728H
⁷ GRID No. 371838	⁸ Operator Name DJR OPERATING, LLC	⁹ Elevation 6905'

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
M	11	23N	8W		362'	SOUTH	203'	WEST	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	23	23N	8W		515'	NORTH	387'	EAST	SAN JUAN

¹² Dedicated Acres NW/4, SW/4, SE/4, NE/4, NW/4, SW/4, SE/4, NE/4 SEC 14 (280 ACRES) & NE/4 SEC 23 (40 ACRES) 320.00 ACRES TOTAL	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-13930A - 13,137 ACRES (UNDIVIDED)
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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

16

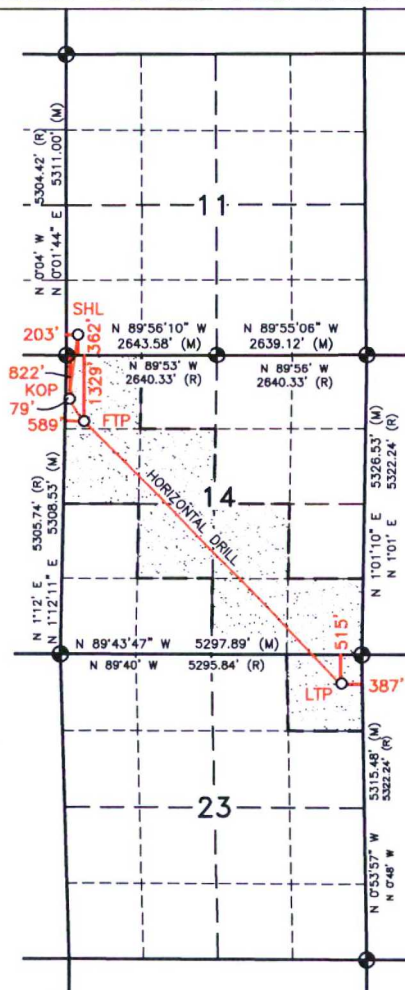
ALL CORNERS
FND 2" BC
GLO 1947

SHL
LAT. 36.235277° N (NAD83)
LONG. 107.659301° W (NAD83)

KOP
LAT. 36.232023° N (NAD83)
LONG. 107.659781° W (NAD83)

ETP
LAT. 36.231011° N (NAD83)
LONG. 107.658947° W (NAD83)

LTP
LAT. 36.218229° N (NAD83)
LONG. 107.643704° W (NAD83)



NMOCD

AUG 16 2019

DISTRICT III

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 N. Ford 08/15/2019
Signature Date

Shaw-Marie N. Ford

Printed Name

sford@djrlc.com

E-mail Address

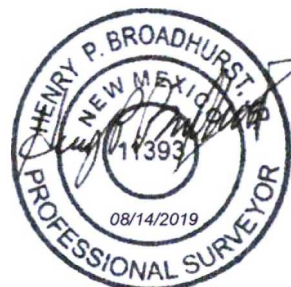
SURVEYOR CERTIFICATION

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.

AUGUST 1, 2019

Date of Survey

Signature and Seal of Professional Surveyor:



Certificate Number

11393



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.	M11 2308 728H
County & State	San Juan, NM
SDI Job No.	OP.019790 & OP.019964
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 445 feet to a measured depth of 12,047 feet is true and correct as determined from all available records.


Signature

31-Jul-19
Date

Janie Collins

Colorado District Well Planner
Scientific Drilling International



DJR Operating

Betonne Tsoie Unit
M11 2308 Pad
728H

Original drilling

Design: As Drilled

Standard Survey Report

31 July, 2019

NMOCD
AUG 09 2019
DISTRICT III



Scientific Drilling

www.scientificdrilling.com

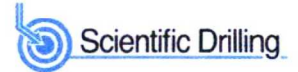


TABLE OF CONTENTS

- 1. Landmark Compass Directional Plot and Surveys**
- 2. BHA Summary & Daily Activity Reports**
- 3. Drilling Records and Slide Sheets**
- 4. Graphical Job History**
- 5. Support Staff**

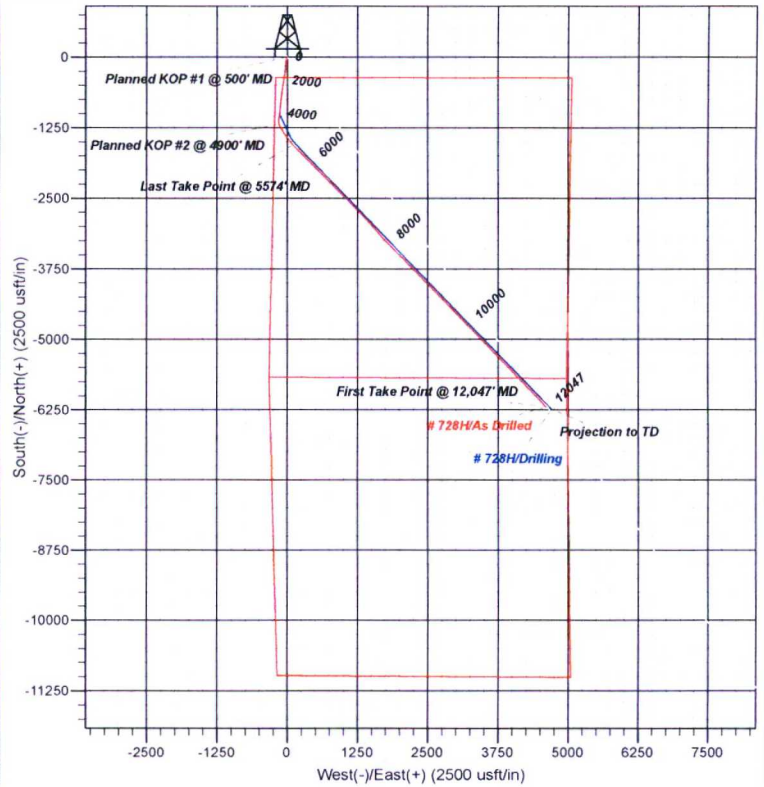
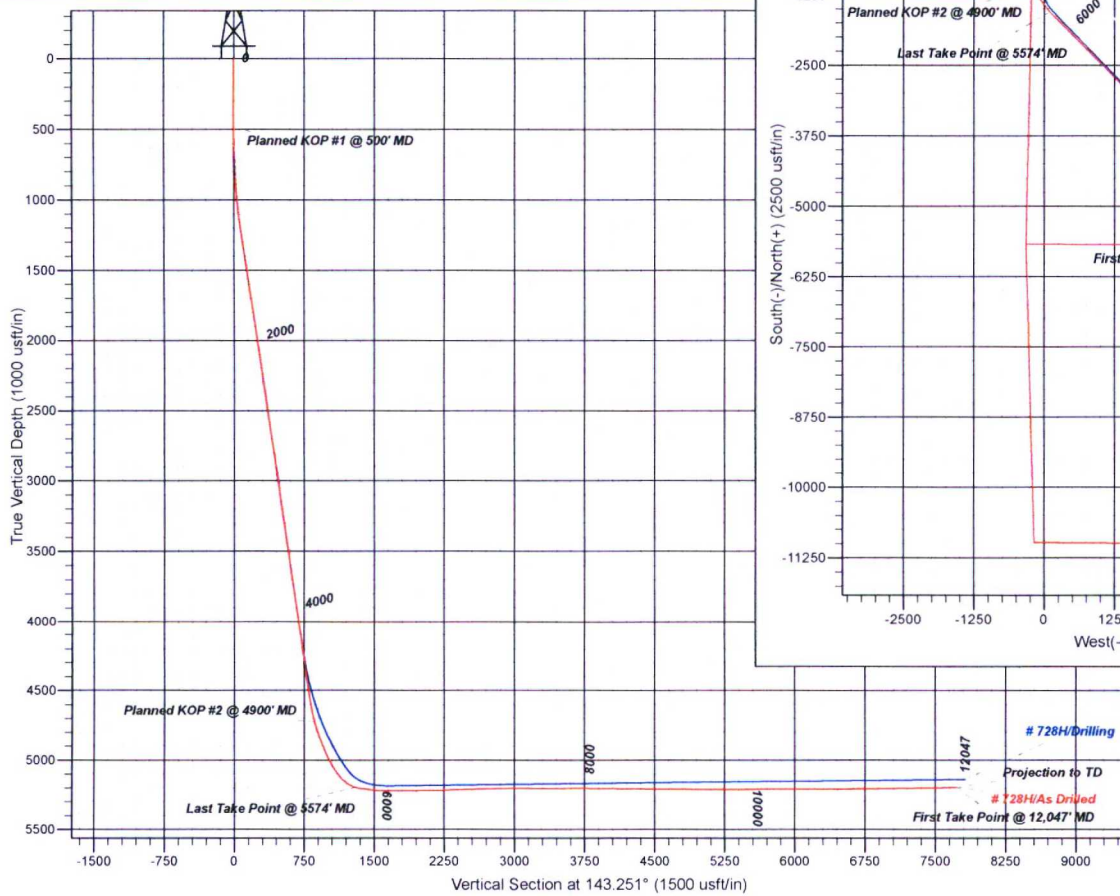


Company Name: DJR Operating
Project: Bettonie Tsosie Unit
Site: M11 2308 Pad
Well: # 728H
Wellbore: Original drilling



WELL DETAILS: # 728H

+N/-S	+E/-W	GL 6905' & RKB 14' @ 6919.00usft (Aztec 920) 6905.00	Northings	Eastings	Latitude	Longitude
0.00	0.00		1904986.18	2774415.21	36.2352800	-107.6593000



Design: As Drilled (# 728H/Original drilling)
Created By: Janie Collins Date: 15/20, July 31 2019

PROJECT DETAILS: Bettonie Tsosie Unit
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Western Zone
System Datum: Mean Sea Level
Local North: True



Scientific Drilling, Intl
Survey Report



Company: DJR Operating
Project: Bettonnie Tsose Unit
Site: M11 2308 Pad
Well: # 728H
Wellbore: Original drilling
Design: As Drilled

Local Co-ordinate Reference: Well # 728H
TVD Reference: GL 6905' & RKB 14' @ 6919.00usft (Aztec 920)
MD Reference: GL 6905' & RKB 14' @ 6919.00usft (Aztec 920)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Grand Junction District

Project	Bettonnie Tsose 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	M11 2308 Pad		
Site Position:		Northing:	1,904,963.10 usft
From:	Lat/Long	Easting:	2,774,400.51 usft
Position Uncertainty:	0.00 usft	Slot Radius:	16.00 in
		Latitude:	36.2352166
		Longitude:	-107.6593500
		Grid Convergence:	0.10 °

Well	# 728H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	36.2352800
		Longitude:	-107.6593000
		Ground Level:	6,905.00 usft

Wellbore	Original drilling		
Magnetics	Model Name	Sample Date	Declination
	HDGM	7/5/2019	8.77
		Dip Angle	62.80
		Field Strength	49,428
		(nT)	

Design	As Drilled		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
		Direction	143.251
		(°)	

Survey Program	Date 7/31/2019		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
14.00	377.00	Survey #1 - Surface Inc Survey (Original d	INCLINOMETER
377.00	4,368.00	Survey #2 - Surface MWD Survey (Origina	MWD+HDGM
4,431.00	5,566.00	Survey #3 - Curve MWD Survey (Original	MWD+HDGM
5,653.00	12,047.00	Survey #4 - Lateral MWD Survey (Original	MWD+HDGM
			Description
			Inclination Only : < 3 degrees
			OWSG MWD + HDGM
			OWSG MWD + HDGM
			OWSG MWD + HDGM

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.00	0.00	0.000	14.00	0.00	0.00	0.00	0.00	0.00	0.00
190.00	0.00	0.000	190.00	0.00	0.00	0.00	0.00	0.00	0.00
377.00	0.00	0.000	377.00	0.00	0.00	0.00	0.00	0.00	0.00
445.00	0.15	91.920	445.00	0.00	0.09	0.06	0.22	0.22	0.00
500.00	1.11	171.650	500.00	-0.53	0.24	0.57	1.99	1.75	144.96
Planned KOP #1 @ 500' MD									
506.00	1.23	172.400	506.00	-0.65	0.26	0.68	1.99	1.97	12.50



Scientific Drilling, Intl
Survey Report



Company: DJR Operating
Project: Betonnie Tsosie Unit
Site: M11 2308 Pad
Well: # 728H
Wellbore: Original drilling
Design: As Drilled

Local Co-ordinate Reference: Well # 728H
TVD Reference: GL 6905' & RKB 14' @ 6919.00usft (Aztec 920)
MD Reference: GL 6905' & RKB 14' @ 6919.00usft (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)
566.00	2.73	186.100	565.96	-2.71	0.19	2.29	2.60	2.50	22.83
627.00	3.78	191.300	626.86	-6.13	-0.36	4.70	1.79	1.72	8.52
688.00	5.69	195.960	687.65	-11.01	-1.59	7.87	3.19	3.13	7.64
749.00	6.68	197.450	748.29	-17.30	-3.48	11.78	1.64	1.62	2.44
809.00	8.20	195.790	807.79	-24.75	-5.69	16.43	2.56	2.53	-2.77
869.00	8.97	197.420	867.11	-33.33	-8.26	21.77	1.35	1.28	2.72
931.00	10.36	195.400	928.23	-43.32	-11.18	28.02	2.31	2.24	-3.26
992.00	12.37	194.600	988.03	-54.93	-14.29	35.46	3.31	3.30	-1.31
1,052.00	13.68	191.070	1,046.49	-68.11	-17.27	44.24	2.55	2.18	-5.88
1,113.00	15.10	189.070	1,105.57	-83.04	-19.91	54.62	2.47	2.33	-3.28
1,174.00	16.17	187.130	1,164.32	-99.31	-22.21	66.28	1.95	1.75	-3.18
1,235.00	17.31	184.020	1,222.73	-116.79	-23.91	79.28	2.38	1.87	-5.10
1,296.00	17.49	184.090	1,280.94	-134.99	-25.20	93.09	0.30	0.30	0.11
1,358.00	17.20	182.990	1,340.12	-153.44	-26.34	107.19	0.71	-0.47	-1.77
1,419.00	16.34	181.400	1,398.53	-171.02	-27.02	120.87	1.60	-1.41	-2.61
1,479.00	16.55	182.540	1,456.07	-188.00	-27.60	134.12	0.64	0.35	1.90
1,541.00	16.38	186.510	1,515.53	-205.51	-28.99	147.32	1.84	-0.27	6.40
1,602.00	16.96	187.230	1,573.97	-222.88	-31.08	159.99	1.01	0.95	1.18
1,661.00	17.42	187.890	1,630.33	-240.16	-33.38	172.46	0.85	0.78	1.12
1,722.00	17.95	187.150	1,688.45	-258.53	-35.80	185.73	0.94	0.87	-1.21
1,783.00	17.11	186.060	1,746.62	-276.78	-37.92	199.09	1.48	-1.38	-1.79
1,844.00	16.62	182.100	1,804.99	-294.43	-39.18	212.47	2.05	-0.80	-6.49
1,905.00	16.32	186.410	1,863.49	-311.66	-40.46	225.52	2.06	-0.49	7.07
1,968.00	16.16	185.290	1,923.98	-329.19	-42.26	238.48	0.56	-0.25	-1.78
2,032.00	16.79	186.960	1,985.35	-347.23	-44.20	251.78	1.23	0.98	2.61
2,095.00	18.10	190.760	2,045.45	-365.88	-47.13	264.97	2.75	2.08	6.03
2,158.00	18.34	190.870	2,105.30	-385.23	-50.82	278.26	0.38	0.38	0.17
2,221.00	17.92	190.750	2,165.17	-404.48	-54.50	291.49	0.67	-0.67	-0.19
2,284.00	17.61	191.050	2,225.16	-423.36	-58.14	304.44	0.51	-0.49	0.48
2,347.00	17.14	190.130	2,285.29	-441.85	-61.59	317.19	0.86	-0.75	-1.46
2,411.00	16.77	189.540	2,346.51	-460.24	-64.78	330.01	0.64	-0.58	-0.92
2,474.00	17.72	189.170	2,406.67	-478.67	-67.82	342.96	1.52	1.51	-0.59
2,537.00	17.83	190.610	2,466.67	-497.61	-71.12	356.17	0.72	0.17	2.29
2,600.00	17.97	186.700	2,526.62	-516.75	-74.03	369.76	1.92	0.22	-6.21
2,663.00	18.76	186.420	2,586.41	-536.47	-76.30	384.20	1.26	1.25	-0.44
2,727.00	18.02	186.230	2,647.14	-556.53	-78.52	398.95	1.16	-1.16	-0.30
2,790.00	17.16	187.200	2,707.20	-575.44	-80.75	412.77	1.44	-1.37	1.54
2,853.00	16.79	185.340	2,767.45	-593.72	-82.76	426.21	1.04	-0.59	-2.95
2,916.00	16.03	185.670	2,827.88	-611.44	-84.46	439.39	1.22	-1.21	0.52
2,979.00	16.02	187.030	2,888.44	-628.72	-86.39	452.09	0.60	-0.02	2.16
3,042.00	16.69	187.150	2,948.89	-646.33	-88.58	464.88	1.06	1.06	0.19
3,105.00	17.04	188.230	3,009.18	-664.44	-91.02	477.93	0.75	0.56	1.71
3,169.00	17.25	189.590	3,070.33	-683.08	-93.95	491.11	0.71	0.33	2.13



Scientific Drilling, Intl
Survey Report



Company: DJR Operating
Project: Bettonnie Tsosie Unit
Site: M11 2308 Pad
Well: # 728H
Wellbore: Original drilling
Design: As Drilled

Local Co-ordinate Reference: Well # 728H
TVD Reference: GL 6905' & RKB 14' @ 6919.00usft (Aztec 920)
MD Reference: GL 6905' & RKB 14' @ 6919.00usft (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)
3,232.00	16.89	187.180	3,130.56	-701.37	-96.65	504.15	1.26	-0.57	-3.83
3,295.00	15.93	187.170	3,190.99	-719.02	-98.87	516.97	1.52	-1.52	-0.02
3,358.00	17.15	187.090	3,251.38	-736.82	-101.10	529.90	1.94	1.94	-0.13
3,421.00	17.21	186.730	3,311.57	-755.29	-103.33	543.36	0.19	0.10	-0.57
3,484.00	16.79	186.540	3,371.82	-773.59	-105.46	556.75	0.67	-0.67	-0.30
3,547.00	15.69	185.460	3,432.31	-791.11	-107.31	569.68	1.81	-1.75	-1.71
3,611.00	16.93	185.420	3,493.73	-809.00	-109.01	583.00	1.94	1.94	-0.06
3,674.00	16.07	184.410	3,554.13	-826.83	-110.55	596.36	1.44	-1.37	-1.60
3,737.00	16.94	185.360	3,614.54	-844.66	-112.08	609.74	1.45	1.38	1.51
3,800.00	16.79	184.910	3,674.83	-862.86	-113.72	623.35	0.32	-0.24	-0.71
3,863.00	16.25	183.730	3,735.23	-880.73	-115.07	636.85	1.01	-0.86	-1.87
3,926.00	17.23	186.250	3,795.56	-898.80	-116.66	650.38	1.94	1.56	4.00
3,989.00	16.52	185.860	3,855.84	-916.98	-118.59	663.79	1.14	-1.13	-0.62
4,053.00	17.06	187.570	3,917.12	-935.34	-120.75	677.21	1.14	0.84	2.67
4,115.00	16.99	187.860	3,976.40	-953.33	-123.19	690.16	0.18	-0.11	0.47
4,178.00	17.33	186.830	4,036.59	-971.77	-125.56	703.51	0.72	0.54	-1.63
4,241.00	17.07	186.090	4,096.78	-990.28	-127.66	717.09	0.54	-0.41	-1.17
4,304.00	15.70	185.600	4,157.22	-1,007.95	-129.47	730.17	2.19	-2.17	-0.78
4,368.00	15.57	187.690	4,218.85	-1,025.08	-131.47	742.70	0.90	-0.20	3.27
4,431.00	15.61	187.500	4,279.53	-1,041.87	-133.71	754.81	0.10	0.06	-0.30
4,493.00	16.06	192.240	4,339.18	-1,058.52	-136.61	766.42	2.21	0.73	7.65
4,557.00	17.19	193.060	4,400.51	-1,076.38	-140.63	778.33	1.80	1.77	1.28
4,620.00	17.90	187.140	4,460.58	-1,095.06	-143.93	791.32	3.05	1.13	-9.40
4,683.00	17.90	183.250	4,520.53	-1,114.33	-145.69	805.71	1.90	0.00	-6.17
4,746.00	17.83	183.180	4,580.49	-1,133.63	-146.77	820.52	0.12	-0.11	-0.11
4,809.00	18.58	177.370	4,640.35	-1,153.29	-146.85	836.23	3.12	1.19	-9.22
4,873.00	22.01	162.780	4,700.40	-1,174.95	-142.82	855.99	9.51	5.36	-22.80
4,900.00	23.11	159.946	4,725.34	-1,184.76	-139.51	865.84	5.73	4.08	-10.50
Planned KOP #2 @ 4900' MD									
4,936.00	24.65	156.550	4,758.25	-1,198.29	-134.10	879.91	5.73	4.27	-9.43
4,999.00	27.03	153.520	4,814.95	-1,223.16	-122.48	906.79	4.32	3.78	-4.81
5,062.00	30.47	150.860	4,870.18	-1,249.93	-108.32	936.72	5.82	5.46	-4.22
5,125.00	33.01	149.740	4,923.76	-1,278.71	-91.89	969.61	4.14	4.03	-1.78
5,188.00	36.05	149.060	4,975.65	-1,309.44	-73.71	1,005.11	4.86	4.83	-1.08
5,220.00	37.99	147.630	5,001.20	-1,325.84	-63.59	1,024.30	6.63	6.06	-4.47
5,251.00	39.35	146.550	5,025.40	-1,342.10	-53.07	1,043.62	4.90	4.39	-3.48
5,282.00	41.33	144.770	5,049.03	-1,358.66	-41.74	1,063.67	7.39	6.39	-5.74
5,314.00	43.01	144.420	5,072.75	-1,376.17	-29.30	1,085.15	5.30	5.25	-1.09
5,346.00	46.29	144.110	5,095.51	-1,394.42	-16.16	1,107.63	10.27	10.25	-0.97
5,377.00	50.90	144.110	5,116.01	-1,413.25	-2.54	1,130.87	14.87	14.87	0.00
5,409.00	55.66	144.360	5,135.13	-1,434.06	12.45	1,156.51	14.89	14.88	0.78
5,440.00	60.59	144.440	5,151.50	-1,455.46	27.77	1,182.82	15.90	15.90	0.26
5,472.00	65.57	143.090	5,165.98	-1,478.46	44.64	1,211.34	16.01	15.56	-4.22
5,503.00	69.85	141.570	5,177.74	-1,501.15	62.16	1,240.02	14.53	13.81	-4.90



Scientific Drilling, Intl
Survey Report



Company: DJR Operating
Project: Bettonnie Tsosie Unit
Site: M11 2308 Pad
Well: # 728H
Wellbore: Original drilling
Design: As Drilled

Local Co-ordinate Reference: Well # 728H
TVD Reference: GL 6905' & RKB 14' @ 6919.00usft (Aztec 920)
MD Reference: GL 6905' & RKB 14' @ 6919.00usft (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)
5,534.00	74.54	139.010	5,187.22	-1,523.85	81.02	1,269.48	17.05	15.13	-8.26
5,566.00	78.93	136.970	5,194.56	-1,546.98	101.86	1,300.48	15.06	13.72	-6.38
5,574.00	79.46	136.669	5,196.06	-1,552.71	107.24	1,308.29	7.60	6.64	-3.77
Last Take Point @ 5574' MD									
5,653.00	84.72	133.740	5,206.93	-1,608.20	162.36	1,385.73	7.60	6.66	-3.71
5,716.00	85.76	134.630	5,212.16	-1,651.96	207.38	1,447.73	2.17	1.65	1.41
5,778.00	86.24	134.920	5,216.48	-1,695.52	251.28	1,508.90	0.90	0.77	0.47
5,841.00	88.08	134.000	5,219.60	-1,739.59	296.19	1,571.08	3.26	2.92	-1.46
5,904.00	90.17	135.520	5,220.56	-1,783.94	340.91	1,633.38	4.10	3.32	2.41
5,967.00	90.30	135.650	5,220.31	-1,828.94	385.00	1,695.82	0.29	0.21	0.21
6,029.00	90.20	135.130	5,220.04	-1,873.08	428.55	1,757.23	0.85	-0.16	-0.84
6,092.00	90.37	134.920	5,219.72	-1,917.64	473.07	1,819.58	0.43	0.27	-0.33
6,154.00	90.10	134.620	5,219.47	-1,961.31	517.09	1,880.91	0.65	-0.44	-0.48
6,217.00	90.77	134.790	5,218.99	-2,005.62	561.86	1,943.20	1.10	1.06	0.27
6,281.00	89.46	134.790	5,218.86	-2,050.71	607.28	2,006.51	2.05	-2.05	0.00
6,344.00	90.10	134.520	5,219.10	-2,094.99	652.10	2,068.80	1.10	1.02	-0.43
6,407.00	90.77	135.470	5,218.62	-2,139.53	696.65	2,131.14	1.85	1.06	1.51
6,470.00	91.34	136.890	5,217.46	-2,184.98	740.26	2,193.65	2.43	0.90	2.25
6,533.00	90.94	136.770	5,216.21	-2,230.92	783.35	2,256.24	0.66	-0.63	-0.19
6,596.00	90.97	136.680	5,215.16	-2,276.78	826.53	2,318.83	0.15	0.05	-0.14
6,659.00	91.01	136.080	5,214.07	-2,322.38	869.99	2,381.36	0.95	0.06	-0.95
6,721.00	91.21	135.830	5,212.87	-2,366.94	913.08	2,442.85	0.52	0.32	-0.40
6,784.00	91.38	135.680	5,211.45	-2,412.06	957.03	2,505.30	0.36	0.27	-0.24
6,847.00	91.34	135.120	5,209.95	-2,456.90	1,001.25	2,567.69	0.89	-0.06	-0.89
6,910.00	90.13	133.150	5,209.14	-2,500.76	1,046.46	2,629.88	3.67	-1.92	-3.13
6,973.00	91.41	133.970	5,208.30	-2,544.17	1,092.11	2,691.98	2.41	2.03	1.30
7,036.00	92.45	135.960	5,206.18	-2,588.67	1,136.66	2,754.28	3.56	1.65	3.16
7,098.00	91.14	136.010	5,204.23	-2,633.23	1,179.72	2,815.75	2.11	-2.11	0.08
7,161.00	91.41	136.110	5,202.83	-2,678.58	1,223.42	2,878.24	0.46	0.43	0.16
7,224.00	90.40	135.930	5,201.84	-2,723.91	1,267.16	2,940.73	1.63	-1.60	-0.29
7,287.00	89.87	135.100	5,201.69	-2,768.86	1,311.31	3,003.15	1.56	-0.84	-1.32
7,347.00	89.63	135.480	5,201.95	-2,811.50	1,353.52	3,062.58	0.75	-0.40	0.63
7,408.00	89.83	136.350	5,202.24	-2,855.31	1,395.96	3,123.07	1.46	0.33	1.43
7,468.00	89.90	136.700	5,202.38	-2,898.85	1,437.24	3,182.66	0.59	0.12	0.58
7,529.00	89.93	136.170	5,202.47	-2,943.05	1,479.28	3,243.23	0.87	0.05	-0.87
7,590.00	90.03	137.880	5,202.49	-2,987.68	1,520.86	3,303.87	2.81	0.16	2.80
7,651.00	90.03	138.890	5,202.46	-3,033.29	1,561.37	3,364.65	1.66	0.00	1.66
7,713.00	89.50	139.130	5,202.71	-3,080.08	1,602.04	3,426.48	0.94	-0.85	0.39
7,774.00	89.66	138.960	5,203.16	-3,126.15	1,642.02	3,487.31	0.38	0.26	-0.28
7,835.00	89.73	138.910	5,203.48	-3,172.14	1,682.09	3,548.14	0.14	0.11	-0.08
7,896.00	89.60	138.960	5,203.84	-3,218.13	1,722.16	3,608.96	0.23	-0.21	0.08
7,958.00	89.60	137.000	5,204.27	-3,264.19	1,763.66	3,670.70	3.16	0.00	-3.16
8,019.00	89.36	135.320	5,204.83	-3,308.19	1,805.91	3,731.23	2.78	-0.39	-2.75



Scientific Drilling, Intl
Survey Report



Company: DJR Operating
Project: Betonnie Tsosie Unit
Site: M11 2308 Pad
Well: # 728H
Wellbore: Original drilling
Design: As Drilled

Local Co-ordinate Reference: Well # 728H
TVD Reference: GL 6905' & RKB 14' @ 6919.00usft (Aztec 920)
MD Reference: GL 6905' & RKB 14' @ 6919.00usft (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)
8,080.00	91.21	134.950	5,204.52	-3,351.42	1,848.94	3,791.61	3.09	3.03	-0.61
8,141.00	90.81	133.590	5,203.45	-3,393.99	1,892.61	3,851.85	2.32	-0.66	-2.23
8,202.00	89.60	134.360	5,203.23	-3,436.34	1,936.51	3,912.05	2.35	-1.98	1.26
8,264.00	89.36	134.850	5,203.79	-3,479.88	1,980.65	3,973.34	0.88	-0.39	0.79
8,324.00	88.72	133.910	5,204.80	-3,521.84	2,023.52	4,032.62	1.90	-1.07	-1.57
8,385.00	88.66	134.640	5,206.19	-3,564.41	2,067.19	4,092.85	1.20	-0.10	1.20
8,447.00	89.63	135.060	5,207.12	-3,608.13	2,111.14	4,154.18	1.70	1.56	0.68
8,508.00	89.50	135.000	5,207.58	-3,651.29	2,154.25	4,214.55	0.23	-0.21	-0.10
8,569.00	90.81	135.740	5,207.42	-3,694.70	2,197.10	4,274.98	2.47	2.15	1.21
8,630.00	90.44	135.890	5,206.75	-3,738.44	2,239.61	4,335.46	0.65	-0.61	0.25
8,691.00	89.80	135.860	5,206.62	-3,782.22	2,282.08	4,395.95	1.05	-1.05	-0.05
8,752.00	89.97	135.630	5,206.75	-3,825.91	2,324.65	4,456.43	0.47	0.28	-0.38
8,813.00	89.76	135.550	5,206.89	-3,869.49	2,367.34	4,516.89	0.37	-0.34	-0.13
8,874.00	89.66	135.220	5,207.20	-3,912.91	2,410.18	4,577.31	0.57	-0.16	-0.54
8,935.00	89.36	134.620	5,207.72	-3,955.98	2,453.37	4,637.66	1.10	-0.49	-0.98
8,997.00	89.63	135.290	5,208.27	-3,999.79	2,497.24	4,699.01	1.17	0.44	1.08
9,058.00	89.73	135.570	5,208.61	-4,043.24	2,540.05	4,759.44	0.49	0.16	0.46
9,120.00	89.19	135.100	5,209.19	-4,087.34	2,583.63	4,820.85	1.15	-0.87	-0.76
9,180.00	89.90	135.290	5,209.67	-4,129.90	2,625.91	4,880.26	1.22	1.18	0.32
9,240.00	90.10	135.010	5,209.67	-4,172.44	2,668.23	4,939.66	0.57	0.33	-0.47
9,301.00	90.03	135.940	5,209.60	-4,215.93	2,711.00	5,000.10	1.53	-0.11	1.52
9,362.00	89.50	135.350	5,209.85	-4,259.55	2,753.65	5,060.56	1.30	-0.87	-0.97
9,423.00	90.27	136.010	5,209.97	-4,303.19	2,796.26	5,121.03	1.66	1.26	1.08
9,484.00	90.54	136.230	5,209.54	-4,347.16	2,838.55	5,181.55	0.57	0.44	0.36
9,545.00	89.76	135.800	5,209.38	-4,391.05	2,880.91	5,242.07	1.46	-1.28	-0.70
9,606.00	90.60	136.720	5,209.19	-4,435.12	2,923.08	5,302.61	2.04	1.38	1.51
9,667.00	90.48	136.550	5,208.61	-4,479.46	2,964.96	5,363.20	0.34	-0.20	-0.28
9,728.00	89.76	135.850	5,208.49	-4,523.49	3,007.18	5,423.74	1.65	-1.18	-1.15
9,790.00	89.87	136.700	5,208.69	-4,568.29	3,050.04	5,485.28	1.38	0.18	1.37
9,851.00	89.83	136.860	5,208.85	-4,612.74	3,091.81	5,545.89	0.27	-0.07	0.26
9,913.00	89.29	136.330	5,209.32	-4,657.79	3,134.41	5,607.47	1.22	-0.87	-0.85
9,974.00	90.87	135.400	5,209.24	-4,701.56	3,176.89	5,667.96	3.01	2.59	-1.52
10,035.00	90.54	135.940	5,208.49	-4,745.20	3,219.51	5,728.42	1.04	-0.54	0.89
10,097.00	90.67	135.810	5,207.83	-4,789.70	3,262.67	5,789.91	0.30	0.21	-0.21
10,157.00	90.13	135.470	5,207.41	-4,832.59	3,304.62	5,849.38	1.06	-0.90	-0.57
10,219.00	90.17	135.630	5,207.25	-4,876.85	3,348.04	5,910.82	0.27	0.06	0.26
10,280.00	90.40	136.410	5,206.95	-4,920.75	3,390.40	5,971.33	1.33	0.38	1.28
10,340.00	89.87	136.760	5,206.81	-4,964.33	3,431.64	6,030.92	1.06	-0.88	0.58
10,401.00	89.60	136.460	5,207.09	-5,008.66	3,473.54	6,091.51	0.66	-0.44	-0.49
10,464.00	89.56	136.490	5,207.55	-5,054.34	3,516.92	6,154.07	0.08	-0.06	0.05
10,526.00	88.89	135.890	5,208.39	-5,099.07	3,559.84	6,215.60	1.45	-1.08	-0.97
10,589.00	89.09	136.440	5,209.50	-5,144.51	3,603.47	6,278.11	0.93	0.32	0.87
10,652.00	90.00	136.590	5,210.00	-5,190.22	3,646.82	6,340.67	1.46	1.44	0.24
10,714.00	90.84	136.680	5,209.54	-5,235.29	3,689.39	6,402.25	1.36	1.35	0.15



Scientific Drilling, Intl
Survey Report



Company: DJR Operating
Project: Betonnie Tsosie Unit
Site: M11 2308 Pad
Well: # 728H
Wellbore: Original drilling
Design: As Drilled

Local Co-ordinate Reference: Well # 728H
TVD Reference: GL 6905' & RKB 14' @ 6919.00usft (Aztec 920)
MD Reference: GL 6905' & RKB 14' @ 6919.00usft (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)
10,777.00	91.31	136.350	5,208.36	-5,280.99	3,732.74	6,464.81	0.91	0.75	-0.52
10,840.00	90.60	136.260	5,207.31	-5,326.54	3,776.25	6,527.33	1.14	-1.13	-0.14
10,903.00	90.30	136.190	5,206.82	-5,372.03	3,819.84	6,589.86	0.49	-0.48	-0.11
10,966.00	89.60	135.830	5,206.87	-5,417.35	3,863.59	6,652.36	1.25	-1.11	-0.57
11,029.00	90.20	136.300	5,206.98	-5,462.72	3,907.30	6,714.86	1.21	0.95	0.75
11,091.00	90.44	136.150	5,206.64	-5,507.49	3,950.19	6,776.39	0.46	0.39	-0.24
11,154.00	90.48	136.110	5,206.13	-5,552.90	3,993.85	6,838.91	0.09	0.06	-0.06
11,217.00	91.24	135.640	5,205.19	-5,598.12	4,037.71	6,901.38	1.42	1.21	-0.75
11,279.00	90.77	134.760	5,204.10	-5,642.11	4,081.39	6,962.76	1.61	-0.76	-1.42
11,341.00	90.37	135.420	5,203.48	-5,686.01	4,125.16	7,024.13	1.24	-0.65	1.06
11,403.00	90.87	136.280	5,202.81	-5,730.50	4,168.34	7,085.60	1.60	0.81	1.39
11,466.00	90.91	135.450	5,201.83	-5,775.70	4,212.21	7,148.07	1.32	0.06	-1.32
11,528.00	91.28	136.690	5,200.65	-5,820.35	4,255.21	7,209.57	2.09	0.60	2.00
11,591.00	90.47	136.830	5,199.68	-5,866.24	4,298.37	7,272.16	1.30	-1.29	0.22
11,654.00	90.44	136.270	5,199.18	-5,911.97	4,341.69	7,334.73	0.89	-0.05	-0.89
11,716.00	90.37	135.340	5,198.75	-5,956.42	4,384.91	7,396.21	1.50	-0.11	-1.50
11,779.00	90.81	135.700	5,198.10	-6,001.37	4,429.05	7,458.63	0.90	0.70	0.57
11,842.00	91.01	136.970	5,197.10	-6,046.94	4,472.54	7,521.16	2.04	0.32	2.02
11,905.00	90.34	137.440	5,196.35	-6,093.16	4,515.34	7,583.81	1.30	-1.06	0.75
11,968.00	90.40	137.120	5,195.95	-6,139.44	4,558.08	7,646.46	0.52	0.10	-0.51
11,994.00	89.70	136.990	5,195.93	-6,158.48	4,575.79	7,672.31	2.74	-2.69	-0.50
12,047.00	89.70	136.990	5,196.20	-6,197.23	4,611.94	7,724.99	0.00	0.00	0.00

Projection to TD - First Take Point @ 12,047' MD

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
728H toe	0.00	0.000	5,226.00	-6,189.51	4,621.72	1,898,804.98	2,779,048.04	36.2182759	-107.6436316
- actual wellpath misses target center by 32.30usft at 12047.00usft MD (5196.20 TVD, -6197.23 N, 4611.94 E)									
- Circle (radius 100.00)									
728H heel	0.00	0.000	5,226.00	-1,693.01	357.30	1,903,293.82	2,774,775.56	36.2306291	-107.6580885
- actual wellpath misses target center by 76.23usft at 5851.69usft MD (5219.93 TVD, -1747.03 N, 303.86 E)									
- Circle (radius 50.00)									



Scientific Drilling, Intl
Survey Report



Company: DJR Operating
Project: Betonnie Tsoie Unit
Site: M11 2308 Pad
Well: # 728H
Wellbore: Original drilling
Design: As Drilled

Local Co-ordinate Reference: Well # 728H
TVD Reference: GL 6905' & RKB 14' @ 6919.00usft (Aztec 920)
MD Reference: GL 6905' & RKB 14' @ 6919.00usft (Aztec 920)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Grand Junction District

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
500.00	500.00	-0.53	0.24	Planned KOP #1 @ 500' MD
4,900.00	4,725.34	-1,184.76	-139.51	Planned KOP #2 @ 4900' MD
5,574.00	5,196.06	-1,552.71	107.24	Last Take Point @ 5574' MD
12,047.00	5,196.20	-6,197.23	4,611.94	Projection to TD
12,047.00	5,196.20	-6,197.23	4,611.94	First Take Point @ 12,047' MD

Checked By: _____ Approved By: _____ Date: _____