

DISTRICT I

1885 N. French Dr., Hobbs, N.M. 88240
Phone: (505) 286-6181 Fax: (505) 283-0720

DISTRICT II

511 E. First St., Artesia, N.M. 88210
Phone: (505) 748-1233 Fax: (505) 748-9780

DISTRICT III

1000 Rio Bravo Rd., Antec, N.M. 87410
Phone: (505) 384-6178 Fax: (505) 384-6170

DISTRICT IV

1280 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 478-8480 Fax: (505) 478-8482

State of New Mexico Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

OIL CONSERVATION DIVISION

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

Submit one copy to appropriate
District Office

☒ AS-DRILLED
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-38178		² Pool Code 98194	³ Pool Name CROW CANYON MANCOS OIL POOL
⁴ Property Code 325183	⁵ Property Name CROW CANYON UNIT		⁶ Well Number 124H
⁷ OGRI No. 371838	⁸ Operator Name DJR OPERATING, LLC		⁹ Elevation 6793'

¹⁰ Surface Location

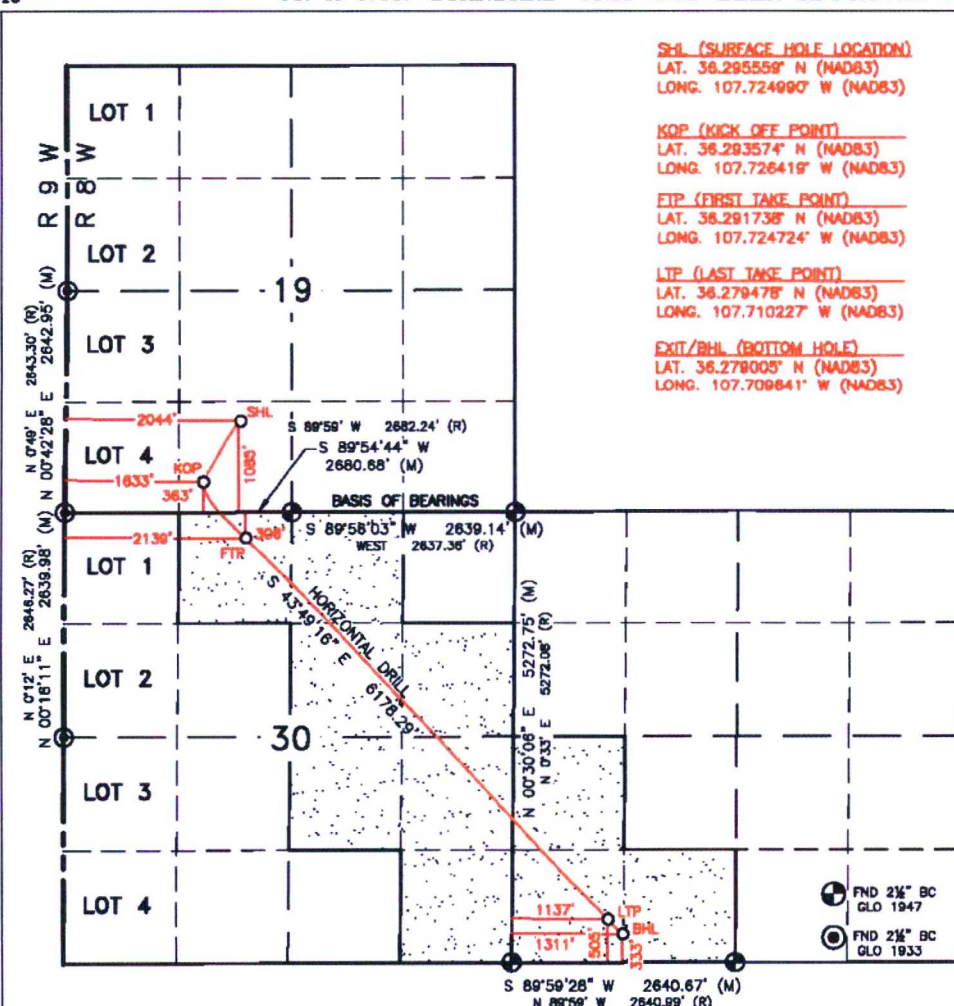
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	19	24N	8W		1085'	SOUTH	2044'	WEST	SAN JUAN

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
M	29	24N	8W		333'	SOUTH	1311'	WEST	SAN JUAN

¹² Dedicated Acres NE/NE, NW/NE, SW/NE, SE/NE, NE/SE, NW/SE & SE/SE SEC. 30 (280 AC.); NW/SW, SW/SW & SE/SW SEC. 29 (120 AC.) = 400 ACRES TOTAL	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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



17 OPERATOR CERTIFICATION

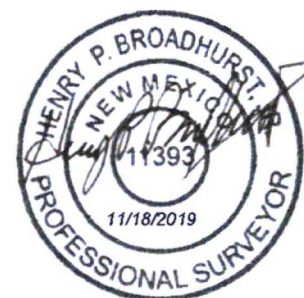
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this 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 11/18/19
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.
OCTOBER 11, 2019

Date of Survey
Signature and Seal of Professional Surveyor:



Certificate Number 11393

DISTRICT I

1625 N. French Dr., Hobbs, N.M. 88240
Phone: (505) 393-6161 Fax: (505) 393-0720

DISTRICT II

811 S. First St., Artesia, N.M. 86210
Phone: (505) 748-1283 Fax: (505) 748-9720

DISTRICT III

1000 Rio Brazos Rd., 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) 478-3460 Fax: (505) 478-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

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

DJR OPERATING, LLC
CROW CANYON UNIT #124H RD

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

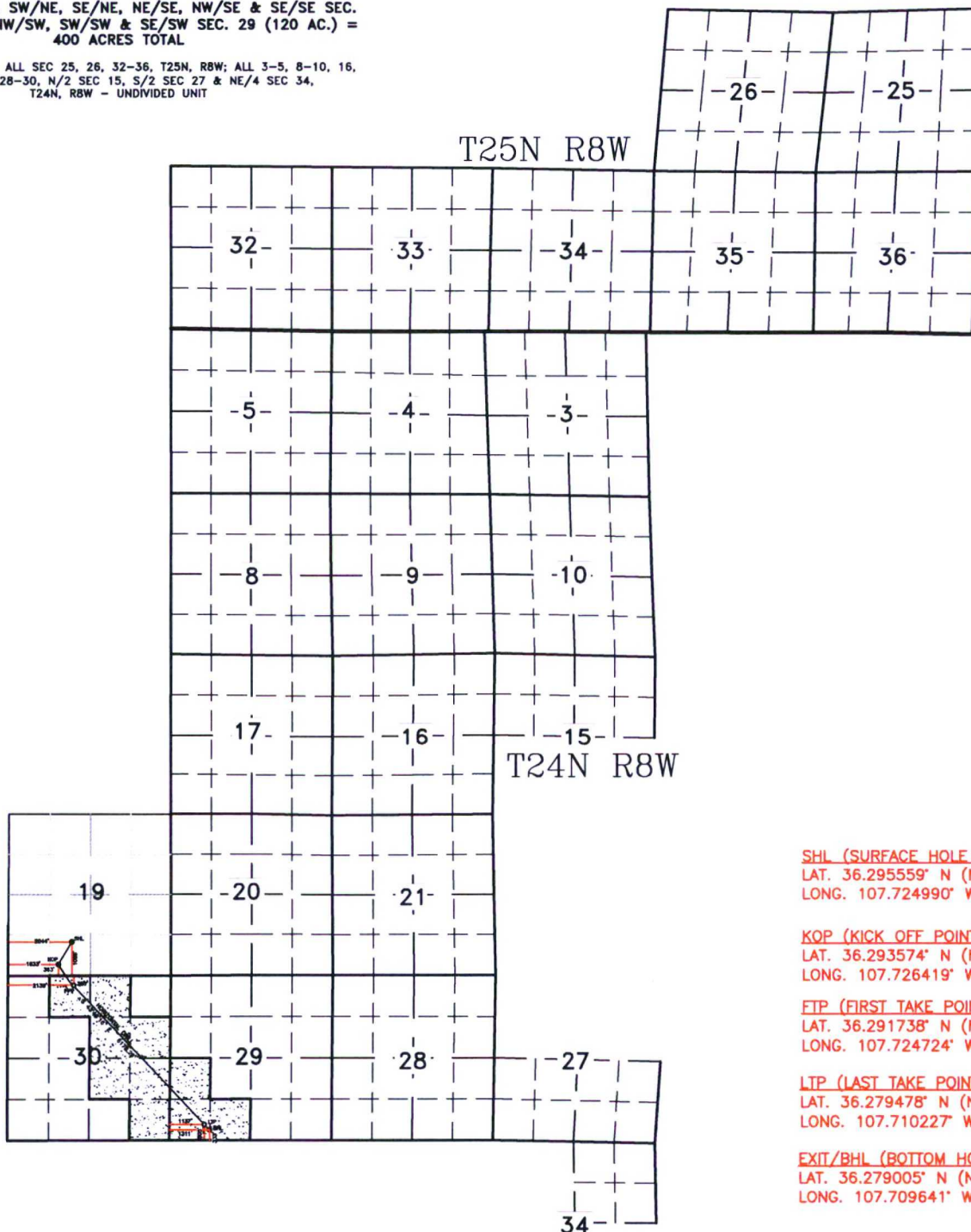
☐ AMENDED REPORT

☒ AS-DRILLED

PENETRATED SPACING UNIT;

NE/NW, NW/NE, SW/NE, SE/NE, NE/SE, NW/SE & SE/SE SEC.
30 (280 AC.); NW/SW, SW/SW & SE/SW SEC. 29 (120 AC.) =
400 ACRES TOTAL

13,604.06 ACRES - ALL SEC 25, 26, 32-36, T25N, R8W; ALL 3-5, 8-10, 16,
17, 20, 21, 28-30, N/2 SEC 15, S/2 SEC 27 & NE/4 SEC 34,
T24N, R8W - UNDIVIDED UNIT



SHL (SURFACE HOLE LOCATION)
LAT. 36.295559° N (NAD83)
LONG. 107.724990° W (NAD83)

KOP (KICK OFF POINT)
LAT. 36.293574° N (NAD83)
LONG. 107.726419° W (NAD83)

FTP (FIRST TAKE POINT)
LAT. 36.291738° N (NAD83)
LONG. 107.724724° W (NAD83)

LTP (LAST TAKE POINT)
LAT. 36.279478° N (NAD83)
LONG. 107.710227° W (NAD83)

EXIT/BHL (BOTTOM HOLE)
LAT. 36.279005° N (NAD83)
LONG. 107.709641° W (NAD83)



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.	N19 2408 124H RD
County & State	San Juan, NM
SDI Job No.	OP.021197
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 440 feet to a measured depth of 12,439 feet is true and correct as determined from all available records.



Signature

9-Oct-19

Date

Janie Collins
Colorado District Well Planner
Scientific Drilling International

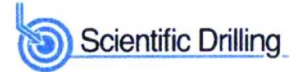
WMOCD

NOV 05 2019

DISTRICT III

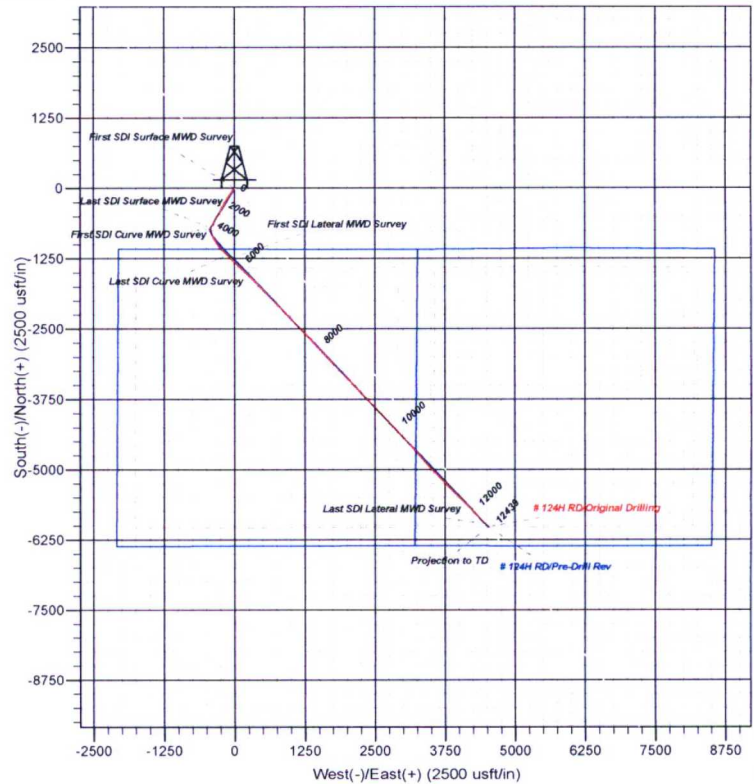
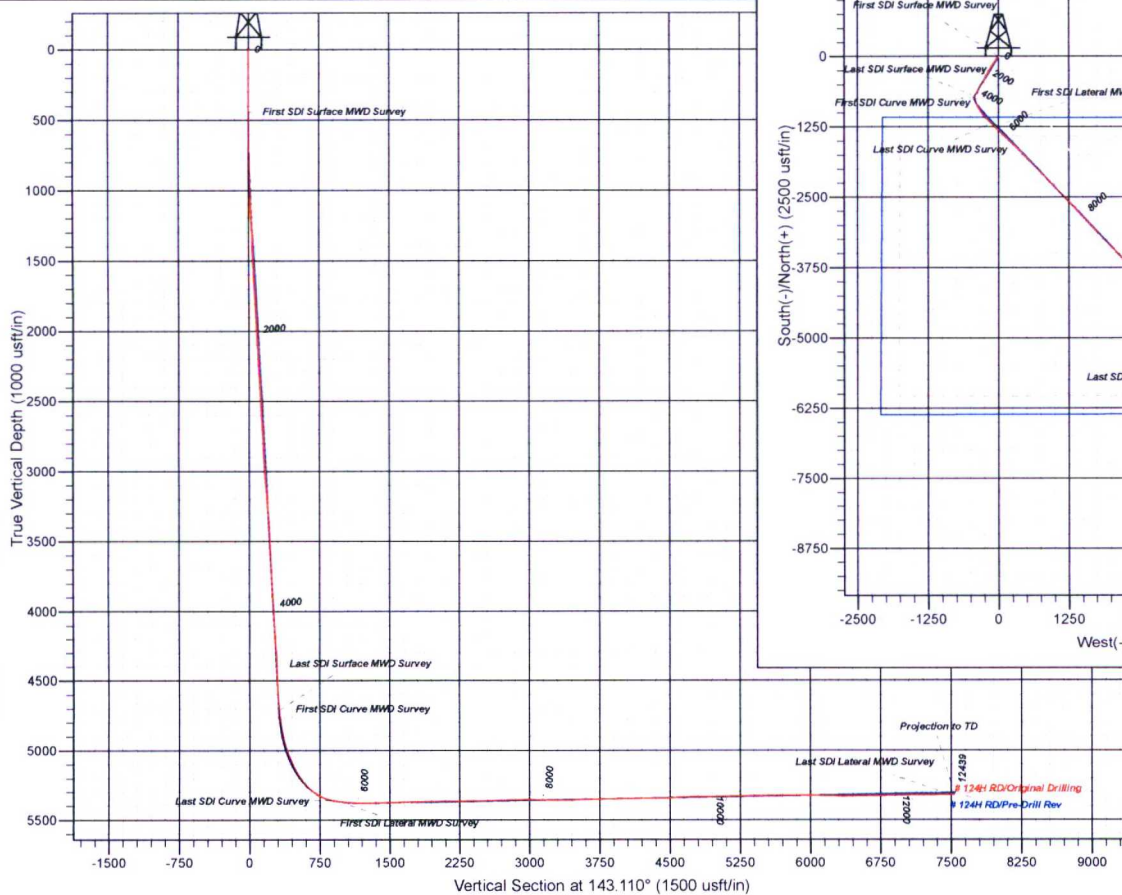


Company Name: DJR Operating
Project: Crow Canyon Unit
Site: N19 2408 Pad
Well: # 124H RD
Wellbore: Original Drilling



WELL DETAILS: # 124H RD

GL 6792' & RKB 14' @ 6806.00usft (Aztec 920) 6792.00
+N/-S +E/-W Northing Easting Latitude Longitude
0.00 0.00 1926900.96 2755018.26 36.2955590 -107.7249900



Design: Original Drilling (# 124H RD/Original Drilling)
Created By: Janie Collins Date: 9:53, October 09 2019

PROJECT DETAILS: Crow Canyon 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: Crow Canyon Unit
Site: N19 2408 Pad
Well: # 124H RD
Wellbore: Original Drilling
Design: Original Drilling

Local Co-ordinate Reference: Well # 124H RD
TVD Reference: GL 6792' & RKB 14' @ 6806.00usft (Aztec 920)
MD Reference: GL 6792' & RKB 14' @ 6806.00usft (Aztec 920)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Grand Junction District

Project	Crow Canyon 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	N19 2408 Pad				
Site Position:		Northing:	1,926,901.02 usft	Latitude:	36.2955590
From:	Lat/Long	Easting:	2,755,068.36 usft	Longitude:	-107.7248200
Position Uncertainty:	0.00 usft	Slot Radius:	16.00 in	Grid Convergence:	0.06 °

Well	# 124H RD					
Well Position	+N/-S	0.00 usft	Northing:	1,926,900.97 usft	Latitude:	36.2955590
	+E/-W	0.00 usft	Easting:	2,755,018.26 usft	Longitude:	-107.7249900
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,792.00 usft	

Wellbore	Original Drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	9/18/2019	8.77	62.83	49,471

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	143.110	

Survey Program		Date	10/9/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
440.00	4,794.00	Survey #1 - Surface MWD Survey (Original)	MWD+HDGM	OWSG MWD + HDGM	
4,857.00	5,717.00	Survey #2 - Curve MWD Survey (Original)	MWD+HDGM	OWSG MWD + HDGM	
5,806.00	12,439.00	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
440.00	0.19	183.420	440.00	-0.73	-0.04	0.56	0.04	0.04	0.00
502.00	2.00	218.690	501.99	-1.68	-0.73	0.90	2.98	2.92	56.89
562.00	2.16	215.260	561.95	-3.42	-2.03	1.51	0.34	0.27	-5.72
624.00	3.68	216.970	623.86	-5.96	-3.90	2.42	2.46	2.45	2.76
685.00	4.37	212.430	684.71	-9.49	-6.33	3.79	1.25	1.13	-7.44
747.00	4.21	207.740	746.54	-13.49	-8.65	5.60	0.62	-0.26	-7.56
808.00	5.18	212.890	807.33	-17.79	-11.19	7.51	1.73	1.59	8.44
870.00	6.47	218.130	869.01	-22.89	-14.87	9.38	2.25	2.08	8.45



Scientific Drilling, Intl
Survey Report



Company: DJR Operating
Project: Crow Canyon Unit
Site: N19 2408 Pad
Well: # 124H RD
Wellbore: Original Drilling
Design: Original Drilling

Local Co-ordinate Reference: Well # 124H RD
TVD Reference: GL 6792' & RKB 14' @ 6806.00usft (Aztec 920)
MD Reference: GL 6792' & RKB 14' @ 6806.00usft (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)
930.00	7.58	218.050	928.56	-28.66	-19.40	11.28	1.85	1.85	-0.13
991.00	9.94	214.240	988.85	-36.18	-24.84	14.03	3.98	3.87	-6.25
1,052.00	11.90	212.810	1,048.74	-45.82	-31.21	17.91	3.24	3.21	-2.34
1,113.00	12.32	211.050	1,108.38	-56.68	-37.97	22.54	0.92	0.69	-2.89
1,174.00	12.26	211.126	1,167.98	-67.80	-44.68	27.41	0.10	-0.10	0.12
1,236.00	11.80	209.420	1,228.62	-78.96	-51.19	32.42	0.94	-0.74	-2.75
1,296.00	11.71	219.370	1,287.37	-89.01	-58.07	36.33	3.38	-0.15	16.58
1,357.00	11.88	218.680	1,347.08	-98.70	-65.92	39.37	0.36	0.28	-1.13
1,419.00	11.61	216.950	1,407.78	-108.67	-73.66	42.69	0.72	-0.44	-2.79
1,479.00	11.29	216.130	1,466.59	-118.24	-80.75	46.09	0.60	-0.53	-1.37
1,540.00	11.02	216.500	1,526.44	-127.74	-87.74	49.50	0.46	-0.44	0.61
1,600.00	11.75	211.670	1,585.26	-137.55	-94.36	53.37	2.00	1.22	-8.05
1,662.00	11.45	209.970	1,645.99	-148.26	-100.75	58.10	0.73	-0.48	-2.74
1,722.00	12.35	211.810	1,704.70	-158.87	-107.11	62.77	1.63	1.50	3.07
1,783.00	12.53	212.570	1,764.27	-169.99	-114.11	67.46	0.40	0.30	1.25
1,844.00	11.74	211.190	1,823.91	-180.88	-120.88	72.10	1.38	-1.30	-2.26
1,905.00	11.80	211.010	1,883.62	-191.53	-127.31	76.76	0.12	0.10	-0.30
1,968.00	11.28	209.470	1,945.35	-202.42	-133.66	81.66	0.96	-0.83	-2.44
2,031.00	10.99	209.180	2,007.16	-213.02	-139.62	86.56	0.47	-0.46	-0.46
2,095.00	11.27	209.610	2,069.96	-223.79	-145.68	91.53	0.46	0.44	0.67
2,158.00	11.46	209.330	2,131.73	-234.59	-151.79	96.51	0.31	0.30	-0.44
2,221.00	11.07	211.420	2,193.51	-245.21	-158.01	101.27	0.90	-0.62	3.32
2,284.00	10.58	212.430	2,255.39	-255.26	-164.26	105.55	0.83	-0.78	1.60
2,347.00	11.86	206.700	2,317.19	-265.92	-170.27	110.47	2.69	2.03	-9.10
2,410.00	11.87	207.180	2,378.84	-277.47	-176.14	116.18	0.16	0.02	0.76
2,474.00	11.64	205.830	2,441.50	-289.14	-181.96	122.02	0.56	-0.36	-2.11
2,537.00	11.32	205.510	2,503.24	-300.44	-187.40	127.80	0.52	-0.51	-0.51
2,600.00	11.79	210.010	2,564.96	-311.59	-193.28	133.19	1.61	0.75	7.14
2,663.00	12.16	212.300	2,626.59	-322.77	-200.04	138.07	0.96	0.59	3.63
2,726.00	12.40	212.060	2,688.15	-334.11	-207.18	142.86	0.39	0.38	-0.38
2,789.00	12.18	206.520	2,749.71	-345.79	-213.74	148.26	1.90	-0.35	-8.79
2,852.00	11.25	208.280	2,811.40	-357.15	-219.62	153.82	1.58	-1.48	2.79
2,916.00	11.07	209.240	2,874.19	-368.01	-225.57	158.92	0.40	-0.28	1.50
2,979.00	11.17	209.000	2,936.00	-378.63	-231.49	163.86	0.17	0.16	-0.38
3,042.00	12.12	208.890	2,997.71	-389.75	-237.64	169.07	1.51	1.51	-0.17
3,105.00	12.06	207.950	3,059.31	-401.36	-243.92	174.58	0.33	-0.10	-1.49
3,168.00	12.01	204.080	3,120.92	-413.16	-249.68	180.56	1.28	-0.08	-6.14
3,231.00	13.21	202.550	3,182.40	-425.79	-255.12	187.40	1.98	1.90	-2.43
3,294.00	13.54	204.620	3,243.70	-439.14	-260.95	194.58	0.92	0.52	3.29
3,357.00	12.90	201.290	3,305.03	-452.40	-266.57	201.81	1.58	-1.02	-5.29
3,420.00	13.81	205.280	3,366.32	-465.75	-272.34	209.02	2.06	1.44	6.33
3,483.00	13.29	211.400	3,427.57	-478.73	-279.32	215.21	2.42	-0.83	9.71
3,547.00	13.04	215.760	3,489.89	-490.87	-287.38	220.09	1.60	-0.39	6.81



Scientific Drilling, Intl
Survey Report



Company: DJR Operating
Project: Crow Canyon Unit
Site: N19 2408 Pad
Well: # 124H RD
Wellbore: Original Drilling
Design: Original Drilling

Local Co-ordinate Reference: Well # 124H RD
TVD Reference: GL 6792' & RKB 14' @ 6806.00usft (Aztec 920)
MD Reference: GL 6792' & RKB 14' @ 6806.00usft (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)
3,610.00	12.70	217.940	3,551.31	-502.10	-295.79	224.02	0.94	-0.54	3.46
3,673.00	12.43	214.820	3,612.80	-513.13	-303.92	227.96	1.16	-0.43	-4.95
3,736.00	12.98	215.840	3,674.26	-524.43	-311.93	232.19	0.94	0.87	1.62
3,799.00	12.41	213.570	3,735.72	-535.81	-319.82	236.55	1.20	-0.90	-3.60
3,862.00	12.41	210.940	3,797.25	-547.25	-327.04	241.37	0.90	0.00	-4.17
3,925.00	12.19	206.560	3,858.80	-559.01	-333.50	246.90	1.52	-0.35	-6.95
3,988.00	12.35	206.560	3,920.36	-570.98	-339.48	252.88	0.25	0.25	0.00
4,051.00	11.47	206.570	3,982.01	-582.61	-345.30	258.69	1.40	-1.40	0.02
4,114.00	11.98	211.380	4,043.69	-593.80	-351.50	263.91	1.75	0.81	7.63
4,177.00	11.60	211.560	4,105.36	-604.78	-358.22	268.66	0.61	-0.60	0.29
4,240.00	11.90	213.930	4,167.04	-615.56	-365.16	273.12	0.90	0.48	3.76
4,303.00	11.98	211.280	4,228.68	-626.54	-372.18	277.69	0.88	0.13	-4.21
4,366.00	11.34	205.790	4,290.38	-637.71	-378.27	282.96	2.03	-1.02	-8.71
4,429.00	11.67	211.120	4,352.12	-648.74	-384.26	288.19	1.77	0.52	8.46
4,492.00	10.82	211.060	4,413.91	-659.26	-390.61	292.80	1.35	-1.35	-0.10
4,556.00	11.36	212.370	4,476.71	-669.73	-397.08	297.28	0.93	0.84	2.05
4,619.00	10.65	210.530	4,538.56	-679.98	-403.36	301.72	1.26	-1.13	-2.92
4,682.00	10.98	206.210	4,600.44	-690.38	-408.97	306.66	1.39	0.52	-6.86
4,731.00	11.44	206.310	4,648.50	-698.92	-413.18	310.97	0.94	0.94	0.20
4,794.00	10.68	201.830	4,710.33	-709.94	-418.12	316.82	1.82	-1.21	-7.11
4,857.00	14.29	180.600	4,771.86	-723.15	-420.38	326.02	9.18	5.73	-33.70
4,920.00	17.45	173.810	4,832.46	-740.32	-419.44	340.32	5.81	5.02	-10.78
4,983.00	20.18	169.950	4,892.09	-760.42	-416.52	358.14	4.76	4.33	-6.13
5,046.00	23.96	164.470	4,950.47	-783.45	-411.20	379.76	6.83	6.00	-8.70
5,109.00	27.74	161.600	5,007.16	-809.70	-403.14	405.59	6.32	6.00	-4.56
5,172.00	32.49	156.670	5,061.65	-839.17	-391.81	435.97	8.50	7.54	-7.83
5,235.00	37.23	155.260	5,113.33	-872.04	-377.12	471.07	7.63	7.52	-2.24
5,299.00	42.38	152.850	5,162.48	-908.84	-359.16	511.28	8.40	8.05	-3.77
5,362.00	46.79	149.160	5,207.35	-947.47	-337.69	555.07	8.12	7.00	-5.86
5,425.00	53.00	146.090	5,247.92	-988.11	-311.86	603.08	10.54	9.86	-4.87
5,488.00	59.03	142.150	5,283.13	-1,030.36	-281.21	655.27	10.88	9.57	-6.25
5,551.00	65.23	138.800	5,312.57	-1,073.26	-245.76	710.86	10.90	9.84	-5.32
5,614.00	72.23	135.620	5,335.41	-1,116.28	-205.88	769.21	12.06	11.11	-5.05
5,677.00	79.16	134.820	5,350.97	-1,159.58	-162.90	829.64	11.07	11.00	-1.27
5,717.00	81.37	134.840	5,357.73	-1,187.38	-134.94	868.65	5.53	5.53	0.05
5,806.00	84.45	133.430	5,368.72	-1,248.87	-71.56	955.87	3.80	3.46	-1.58
5,869.00	86.24	132.670	5,373.83	-1,291.73	-25.68	1,017.70	3.09	2.84	-1.21
5,931.00	87.71	132.980	5,377.10	-1,333.81	19.73	1,078.61	2.42	2.37	0.50
5,994.00	89.60	133.980	5,378.58	-1,377.15	65.43	1,140.71	3.39	3.00	1.59
6,057.00	89.43	133.820	5,379.11	-1,420.83	110.82	1,202.89	0.37	-0.27	-0.25
6,120.00	90.47	134.110	5,379.17	-1,464.57	156.17	1,265.09	1.71	1.65	0.46
6,183.00	90.64	134.430	5,378.56	-1,508.54	201.28	1,327.34	0.58	0.27	0.51
6,246.00	90.57	133.480	5,377.89	-1,552.27	246.63	1,389.53	1.51	-0.11	-1.51



Scientific Drilling, Intl
Survey Report



Company: DJR Operating
Project: Crow Canyon Unit
Site: N19 2408 Pad
Well: # 124H RD
Wellbore: Original Drilling
Design: Original Drilling

Local Co-ordinate Reference: Well # 124H RD
TVD Reference: GL 6792' & RKB 14' @ 6806.00usft (Aztec 920)
MD Reference: GL 6792' & RKB 14' @ 6806.00usft (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)
6,309.00	91.41	134.710	5,376.81	-1,596.10	291.86	1,451.74	2.36	1.33	1.95
6,372.00	90.37	134.190	5,375.83	-1,640.21	336.83	1,514.01	1.85	-1.65	-0.83
6,435.00	90.47	135.570	5,375.37	-1,684.66	381.47	1,576.36	2.20	0.16	2.19
6,498.00	91.04	135.710	5,374.54	-1,729.70	425.51	1,638.82	0.93	0.90	0.22
6,561.00	91.91	136.030	5,372.91	-1,774.90	469.36	1,701.30	1.47	1.38	0.51
6,624.00	91.98	137.250	5,370.78	-1,820.68	512.59	1,763.86	1.94	0.11	1.94
6,686.00	90.20	136.890	5,369.60	-1,866.07	554.81	1,825.50	2.93	-2.87	-0.58
6,750.00	89.97	136.060	5,369.50	-1,912.47	598.89	1,889.07	1.35	-0.36	-1.30
6,812.00	90.07	135.870	5,369.48	-1,957.04	641.98	1,950.59	0.35	0.16	-0.31
6,875.00	91.47	136.960	5,368.63	-2,002.67	685.41	2,013.15	2.82	2.22	1.73
6,939.00	90.84	136.390	5,367.34	-2,049.22	729.31	2,076.74	1.33	-0.98	-0.89
7,002.00	90.81	135.820	5,366.44	-2,094.61	772.99	2,139.26	0.91	-0.05	-0.90
7,065.00	90.64	135.250	5,365.64	-2,139.57	817.12	2,201.71	0.94	-0.27	-0.90
7,128.00	90.40	134.770	5,365.07	-2,184.12	861.65	2,264.07	0.85	-0.38	-0.76
7,191.00	90.10	133.960	5,364.79	-2,228.17	906.69	2,326.34	1.37	-0.48	-1.29
7,254.00	89.43	132.920	5,365.05	-2,271.49	952.43	2,388.44	1.96	-1.06	-1.65
7,316.00	90.24	135.090	5,365.23	-2,314.56	997.03	2,449.66	3.74	1.31	3.50
7,376.00	91.71	137.110	5,364.21	-2,357.78	1,038.62	2,509.20	4.16	2.45	3.37
7,437.00	92.12	136.920	5,362.17	-2,402.38	1,080.19	2,569.82	0.74	0.67	-0.31
7,498.00	91.61	137.050	5,360.18	-2,446.96	1,121.78	2,630.44	0.86	-0.84	0.21
7,559.00	91.17	135.940	5,358.70	-2,491.19	1,163.76	2,691.01	1.96	-0.72	-1.82
7,621.00	91.01	137.230	5,357.52	-2,536.22	1,206.36	2,752.60	2.10	-0.26	2.08
7,682.00	89.83	137.840	5,357.08	-2,581.22	1,247.54	2,813.31	2.18	-1.93	1.00
7,743.00	90.03	137.420	5,357.15	-2,626.28	1,288.65	2,874.03	0.76	0.33	-0.69
7,805.00	91.38	137.820	5,356.39	-2,672.08	1,330.44	2,935.74	2.27	2.18	0.65
7,866.00	90.27	137.900	5,355.51	-2,717.30	1,371.36	2,996.47	1.82	-1.82	0.13
7,926.00	89.46	138.490	5,355.65	-2,762.03	1,411.36	3,056.25	1.67	-1.35	0.98
7,988.00	88.96	137.660	5,356.51	-2,808.15	1,452.78	3,118.01	1.56	-0.81	-1.34
8,048.00	88.59	137.260	5,357.79	-2,852.35	1,493.34	3,177.70	0.91	-0.62	-0.67
8,109.00	90.54	137.220	5,358.25	-2,897.13	1,534.75	3,238.38	3.20	3.20	-0.07
8,170.00	90.37	136.510	5,357.77	-2,941.65	1,576.45	3,299.01	1.20	-0.28	-1.16
8,231.00	90.00	135.890	5,357.57	-2,985.67	1,618.67	3,359.57	1.18	-0.61	-1.02
8,291.00	89.53	134.960	5,357.82	-3,028.41	1,660.78	3,419.03	1.74	-0.78	-1.55
8,352.00	90.80	135.510	5,357.64	-3,071.72	1,703.74	3,479.45	2.27	2.08	0.90
8,413.00	91.61	136.770	5,356.36	-3,115.69	1,745.99	3,539.98	2.46	1.33	2.07
8,474.00	91.68	136.710	5,354.61	-3,160.10	1,787.78	3,600.58	0.15	0.11	-0.10
8,534.00	91.90	136.540	5,352.73	-3,203.69	1,828.97	3,660.17	0.46	0.37	-0.28
8,596.00	89.50	135.720	5,351.98	-3,248.38	1,871.93	3,721.70	4.09	-3.87	-1.32
8,657.00	90.34	135.950	5,352.06	-3,292.14	1,914.43	3,782.21	1.43	1.38	0.38
8,718.00	91.67	136.920	5,350.99	-3,336.33	1,956.46	3,842.78	2.70	2.18	1.59
8,778.00	89.46	135.670	5,350.40	-3,379.70	1,997.91	3,902.35	4.23	-3.68	-2.08
8,840.00	90.37	135.390	5,350.49	-3,423.94	2,041.34	3,963.81	1.54	1.47	-0.45
8,901.00	91.95	136.030	5,349.26	-3,467.59	2,083.93	4,024.29	2.79	2.59	1.05
8,962.00	90.74	135.120	5,347.83	-3,511.14	2,126.61	4,084.74	2.48	-1.98	-1.49



Scientific Drilling, Intl
Survey Report



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TVD Reference: GL 6792' & RKB 14' @ 6806.00usft (Aztec 920)
MD Reference: GL 6792' & RKB 14' @ 6806.00usft (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)
9,024.00	90.77	134.580	5,347.01	-3,554.87	2,170.57	4,146.09	0.87	0.05	-0.87
9,085.00	89.93	134.000	5,346.64	-3,597.46	2,214.23	4,206.37	1.67	-1.38	-0.95
9,146.00	89.93	134.980	5,346.71	-3,640.21	2,257.74	4,266.68	1.61	0.00	1.61
9,208.00	91.11	135.890	5,346.15	-3,684.38	2,301.25	4,328.12	2.40	1.90	1.47
9,268.00	90.20	135.990	5,345.46	-3,727.49	2,342.97	4,387.65	1.53	-1.52	0.17
9,328.00	90.60	135.590	5,345.04	-3,770.50	2,384.81	4,447.16	0.94	0.67	-0.67
9,389.00	92.08	136.540	5,343.62	-3,814.41	2,427.12	4,507.68	2.88	2.43	1.56
9,450.00	93.53	136.680	5,340.63	-3,858.68	2,468.97	4,568.21	2.39	2.38	0.23
9,510.00	92.76	136.830	5,337.34	-3,902.32	2,510.01	4,627.75	1.31	-1.28	0.25
9,570.00	91.48	136.770	5,335.12	-3,946.03	2,551.06	4,687.35	2.14	-2.13	-0.10
9,631.00	89.63	135.910	5,334.53	-3,990.16	2,593.17	4,747.91	3.34	-3.03	-1.41
9,692.00	90.03	135.550	5,334.71	-4,033.84	2,635.75	4,808.41	0.88	0.66	-0.59
9,754.00	90.34	135.160	5,334.51	-4,077.95	2,679.32	4,869.84	0.80	0.50	-0.63
9,815.00	90.40	136.030	5,334.12	-4,121.53	2,722.00	4,930.32	1.43	0.10	1.43
9,876.00	90.98	136.950	5,333.38	-4,165.76	2,763.99	4,990.90	1.78	0.95	1.51
9,937.00	91.44	136.470	5,332.09	-4,210.15	2,805.81	5,051.51	1.09	0.75	-0.79
9,997.00	90.67	138.210	5,330.99	-4,254.27	2,846.46	5,111.19	3.17	-1.28	2.90
10,058.00	90.20	137.150	5,330.53	-4,299.37	2,887.53	5,171.92	1.90	-0.77	-1.74
10,119.00	90.40	136.630	5,330.21	-4,343.90	2,929.21	5,232.56	0.91	0.33	-0.85
10,180.00	91.28	136.280	5,329.31	-4,388.11	2,971.23	5,293.14	1.55	1.44	-0.57
10,240.00	91.64	135.870	5,327.78	-4,431.31	3,012.84	5,352.67	0.91	0.60	-0.68
10,301.00	90.03	137.990	5,326.89	-4,475.86	3,054.49	5,413.30	4.36	-2.64	3.48
10,362.00	90.61	137.780	5,326.55	-4,521.11	3,095.40	5,474.05	1.01	0.95	-0.34
10,423.00	90.70	139.280	5,325.86	-4,566.82	3,135.79	5,534.84	2.46	0.15	2.46
10,484.00	90.70	139.250	5,325.11	-4,613.03	3,175.59	5,595.70	0.05	0.00	-0.05
10,545.00	89.93	139.970	5,324.78	-4,659.49	3,215.12	5,656.59	1.73	-1.26	1.18
10,606.00	89.93	139.920	5,324.85	-4,706.18	3,254.37	5,717.49	0.08	0.00	-0.08
10,667.00	89.50	139.150	5,325.15	-4,752.59	3,293.96	5,778.37	1.45	-0.70	-1.26
10,727.00	89.76	138.430	5,325.54	-4,797.73	3,333.49	5,838.20	1.28	0.43	-1.20
10,788.00	90.27	137.880	5,325.52	-4,843.17	3,374.18	5,898.97	1.23	0.84	-0.90
10,849.00	89.90	137.850	5,325.43	-4,888.41	3,415.11	5,959.72	0.61	-0.61	-0.05
10,910.00	88.96	137.130	5,326.04	-4,933.37	3,456.32	6,020.42	1.94	-1.54	-1.18
10,971.00	90.00	137.050	5,326.59	-4,978.05	3,497.85	6,081.08	1.71	1.70	-0.13
11,033.00	90.27	136.980	5,326.45	-5,023.40	3,540.12	6,142.73	0.45	0.44	-0.11
11,093.00	88.25	136.090	5,327.22	-5,066.94	3,581.39	6,202.33	3.68	-3.37	-1.48
11,154.00	88.85	135.970	5,328.77	-5,110.83	3,623.73	6,262.84	1.00	0.98	-0.20
11,215.00	88.99	135.350	5,329.92	-5,154.45	3,666.36	6,323.32	1.04	0.23	-1.02
11,275.00	89.93	134.530	5,330.48	-5,196.83	3,708.82	6,382.70	2.08	1.57	-1.37
11,336.00	90.94	135.380	5,330.02	-5,239.93	3,751.99	6,443.08	2.16	1.66	1.39
11,396.00	90.17	134.310	5,329.44	-5,282.23	3,794.53	6,502.46	2.20	-1.28	-1.78
11,456.00	90.81	133.850	5,328.92	-5,323.97	3,837.63	6,561.71	1.31	1.07	-0.77
11,516.00	90.87	132.680	5,328.05	-5,365.09	3,881.31	6,620.82	1.95	0.10	-1.95
11,576.00	90.44	134.430	5,327.36	-5,406.43	3,924.79	6,679.98	3.00	-0.72	2.92



Scientific Drilling, Intl
Survey Report



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TVD Reference: GL 6792' & RKB 14' @ 6806.00usft (Aztec 920)
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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)
11,636.00	90.30	134.070	5,326.97	-5,448.29	3,967.77	6,739.26	0.64	-0.23	-0.60
11,696.00	91.34	135.740	5,326.11	-5,490.64	4,010.26	6,798.64	3.28	1.73	2.78
11,758.00	90.50	136.060	5,325.12	-5,535.16	4,053.40	6,860.14	1.45	-1.35	0.52
11,818.00	89.97	136.080	5,324.87	-5,578.37	4,095.03	6,919.69	0.88	-0.88	0.03
11,879.00	90.77	135.430	5,324.48	-5,622.07	4,137.59	6,980.18	1.69	1.31	-1.07
11,940.00	90.54	134.740	5,323.78	-5,665.26	4,180.65	7,040.58	1.19	-0.38	-1.13
12,001.00	90.37	135.090	5,323.30	-5,708.33	4,223.85	7,100.96	0.64	-0.28	0.57
12,062.00	91.07	136.030	5,322.53	-5,751.88	4,266.55	7,161.42	1.92	1.15	1.54
12,123.00	89.97	137.190	5,321.98	-5,796.21	4,308.46	7,222.03	2.62	-1.80	1.90
12,183.00	90.27	136.640	5,321.85	-5,840.03	4,349.44	7,281.68	1.04	0.50	-0.92
12,245.00	91.24	135.650	5,321.03	-5,884.73	4,392.39	7,343.21	2.24	1.56	-1.60
12,309.00	91.25	135.030	5,319.64	-5,930.24	4,437.37	7,406.61	0.97	0.02	-0.97
12,372.00	89.87	133.940	5,319.03	-5,974.38	4,482.31	7,468.89	2.79	-2.19	-1.73
12,439.00	89.87	133.940	5,319.18	-6,020.87	4,530.55	7,535.03	0.00	0.00	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
440.00	440.00	-0.73	-0.04	First SDI Surface MWD Survey
4,794.00	4,710.33	-709.94	-418.12	Last SDI Surface MWD Survey
4,857.00	4,771.86	-723.15	-420.38	First SDI Curve MWD Survey
5,717.00	5,357.73	-1,187.38	-134.94	Last SDI Curve MWD Survey
5,806.00	5,368.72	-1,248.87	-71.56	First SDI Lateral MWD Survey
12,372.00	5,319.03	-5,974.38	4,482.31	Last SDI Lateral MWD Survey
12,439.00	5,319.18	-6,020.87	4,530.55	Projection to TD

Checked By: _____ Approved By: _____ Date: _____