

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd E. Leahy, JD, PhD
Deputy Secretary

Adrienne Sandoval, Division Director
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-3 APD form.

Operator Signature Date: 3/27/2020

Operator: DJR **Well Name and Number:** Nageezi Unit 314H

API#: 30-045-38195 **Section:** 35, **Township:** 24N, **Range:** 9 W

Conditions of Approval: (See the below checked and handwritten conditions)

☒ Notify appropriate OCD district office 24hrs prior to spud, casing & cement.

☒ If cement does not circulate on any casing string or stage tool a CBL will be required. Contact the regulatory agencies prior to proceeding.

☒ Hold C-104 for directional survey & "As Drilled" Plat

☐ Hold C-104 for: ☐ NSL, ☐ NSP, ☐ DHC, ☐ 5.9 Compliance

☐ Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned

☒ Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:

- A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
- A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
- A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C

☒ Any change of plans must adhere to 19.15.7.14(A)(1). Field operation changes requiring immediate approval must be approved by the District Office prior to implementation.

☒ Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the freshwater zone or zones and shall immediately set in cement the water protection string

☒ Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84

☒ Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.

☒ Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.


NMOCD Approved by Signature

11/23/2020
Date

NMOCD REC'D
11-18-20

Form 3160-3
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMNM012374
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☒ Multiple Zone		7. If Unit or CA Agreement, Name and No. NMNM 132981A
2. Name of Operator DJR OPERATING LLC		8. Lease Name and Well No. NAGEEZI UNIT 314H
3a. Address 1700 LINCOLN STREET, SUITE 2800, DENVER, CO 802	3b. Phone No. (include area code) (505) 632-3476	9. API Well No. 30-045-38195
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWSW / 70 FSL / 269 FWL / LAT 36.263476 / LONG -107.76651 At proposed prod. zone SESW / 373 FSL / 1255 FWL / LAT 36.24974 / LONG -107.745082		10. Field and Pool, or Exploratory BASIN MANCOS/null
11. Sec., T. R. M. or Blk. and Survey or Area SEC 35/T24N/R9W/NMP		
14. Distance in miles and direction from nearest town or post office* 40 miles		12. County or Parish SAN JUAN
13. State NM		
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	70 feet	16. No of acres in lease 2240
17. Spacing Unit dedicated to this well	562.85	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	5280 feet	19. Proposed Depth 4835 feet / 13502 feet
20. BLM/BIA Bond No. in file	FED: NMB001464	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6864 feet	22. Approximate date work will start* 07/24/2020	23. Estimated duration 12 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- | | |
|--|---|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be requested by the BLM. |

25. Signature (Electronic Submission)	Name (Printed/Typed) SHAW N / Ph: (505) 632-3476	Date 02/11/2020
Title Regulatory Specialist		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) RICHARD FIELDS / Ph: (505) 564-7612	Date 11/13/2020
Title Field Manager		
Office Farmington Field Office		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.



(Continued on page 2)

*(Instructions on page 2)

AV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 478-3480 Fax: (505) 478-3482

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) 748-9720

DISTRICT III
1000 Rio Brasos Rd., Aztec, N.M. 87410
Phone: (505) 334-6176 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

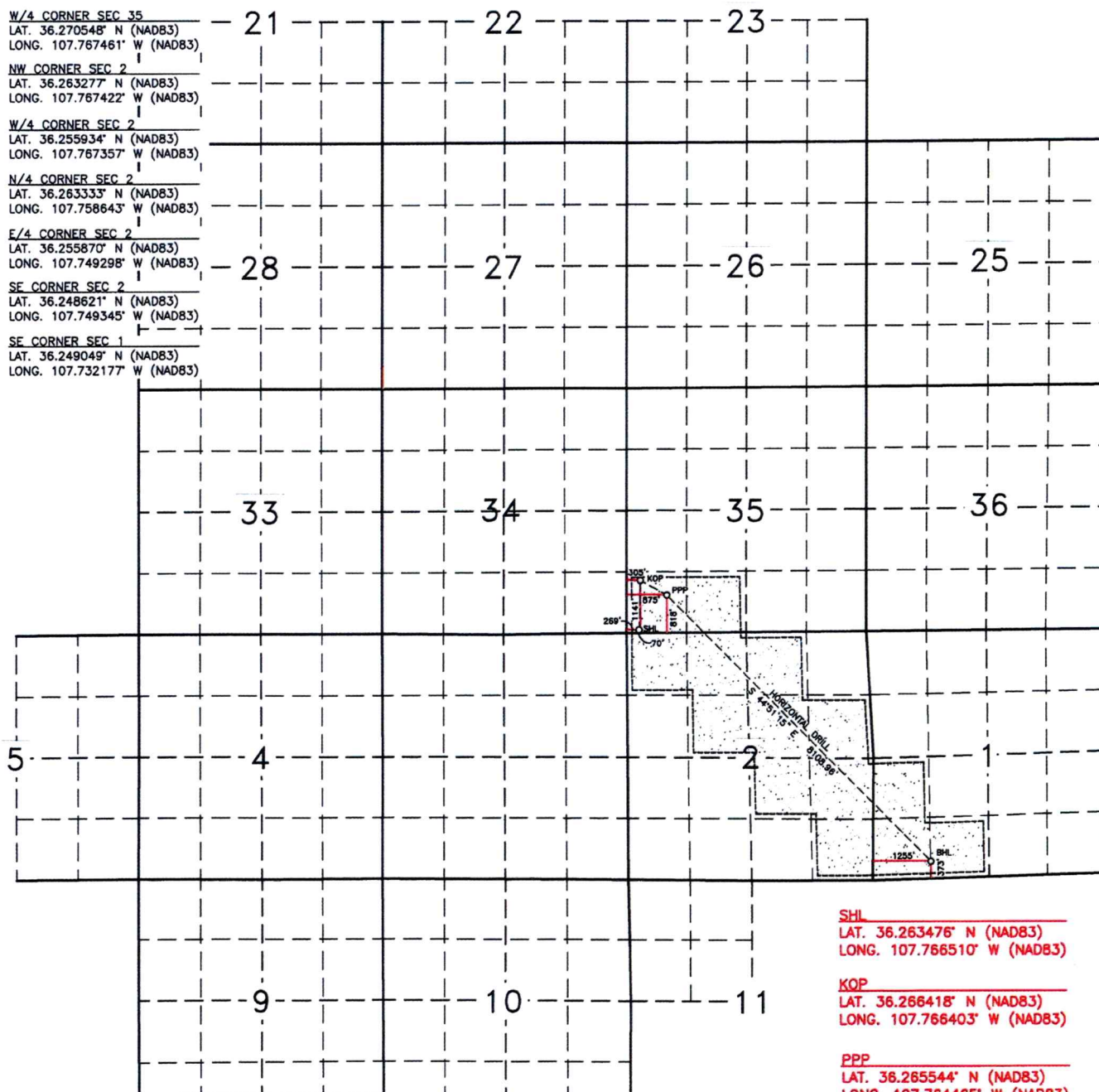
Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

☐ AMENDED REPORT

DJR OPERATING, LLC
NAGEEZI UNIT #314H

W/4 CORNER SEC 35
LAT. 36.270548° N (NAD83)
LONG. 107.767461° W (NAD83)
NW CORNER SEC 2
LAT. 36.263277° N (NAD83)
LONG. 107.767422° W (NAD83)
W/4 CORNER SEC 2
LAT. 36.255934° N (NAD83)
LONG. 107.767357° W (NAD83)
N/4 CORNER SEC 2
LAT. 36.263333° N (NAD83)
LONG. 107.758643° W (NAD83)
E/4 CORNER SEC 2
LAT. 36.255870° N (NAD83)
LONG. 107.749298° W (NAD83)
SE CORNER SEC 2
LAT. 36.248621° N (NAD83)
LONG. 107.749345° W (NAD83)
SE CORNER SEC 1
LAT. 36.249049° N (NAD83)
LONG. 107.732177° W (NAD83)



SHL
LAT. 36.263476° N (NAD83)
LONG. 107.766510° W (NAD83)

KOP
LAT. 36.266418° N (NAD83)
LONG. 107.766403° W (NAD83)

PPP
LAT. 36.265544° N (NAD83)
LONG. 107.764465° W (NAD83)

EXIT/BHL
LAT. 36.249740° N (NAD83)
LONG. 107.745082° W (NAD83)

PENETRATED SPACING UNIT;
SEC 35: SW/SW & SE/SW (80 AC); SEC 2: NW/NW, NE/NW, SE/NW,
NW/NE, SW/NE, SE/NE, NW/SE, NE/SE & SE/SE (362.85 AC.); SEC 1:
NW/SW, SW/SW & SE/SW (120 AC.) = 562.85 ACRES
TOTAL 10,415.12 ACRES: SEC. 21-23 (S/2); 25-28, 33-36, 1-4, 9-10
(ALL); 5 (W/2); 11 (NW/4) - UNDIVIDED UNIT

Rev 1



DRILLING PLAN Nageezi Unit 314H San Juan County, New Mexico

Surface Location

267-ft FWL & 90-ft FSL
Sec 35 T24N R09W
Graded Elevation 6864' MSL
RKB Elevation 6878' (14' KB)

SHL Geographical Coordinates (NAD-83)

Latitude 36.2634760° N
Longitude 107.7665100° W

Kick Off Point for Horizontal Build Curve

4247-ft MD
4083-ft TVD

Local Coordinates (from SHL)

1071-ft North
31-ft East

Heel Location (Pay zone entry)

875-ft FWL & 818-ft FSL
Sec 35 T24N R9W

Heel Geographical Coordinates (NAD-83)

Latitude 36.2655442° N
Longitude 107.76446490° W

Bottom Hole Location (TD)

1255-ft FWL & 373-ft FSL
Sec 1 T23N R9W

BHL Geographical Coordinates (NAD-83)

Latitude 36.24974° N
Longitude 107.7450816° W

Well objectives

This well is planned as a 8110-ft lateral in the Mancos Silt sand.

Bottom Hole temperature and pressure

The temperature in the Mancos Silt horizontal objective is 134°F. Bottom hole pressure in the Mancos Silt is forecast to be 1985 psi.

Formation Tops (Sd = Sand; Sh = Shale; Siltstone = Slt, Coal = C; W = water; O = oil; G = gas; NP = no penetration)

Name	MD (ft)	TVD (ft)	Lithology	Pore fluid	Expected Pore Pressure (ppg)	Planned Mud Weight (ppg)
Ojo Alamo	747	746	Sd	W	8.3	8.4 – 8.8
Kirtland	832	830	Sh	-	8.3	8.4 – 8.8
Fruitland	1151	1142	C	G	8.3	9.0 - 9.5
Pictured Cliffs	1511	1484	Sd	W	8.3	9.0 - 9.5
Lewis	1611	1579	Sh	-		9.0 - 9.5
Chacra	2336	2268	Sd	-	8.3	9.0 - 9.5
Menefee	3086	2980	Sd, C	G	8.3	9.0 - 9.5
Point Lookout	4111	3954	Sd	-	8.3	9.0 - 9.5
Mancos	4288	4122	Sh	-		9.0 - 9.5
Mancos Silt	4627	4446	Slt	O/G	6.6	9.0 - 9.5
Gallup A	NP	4944	Slt	O/G	6.6	9.0 - 9.5
Gallup B	NP	NP	Sd	O/G	6.6	8.8 - 9.0
Gallup C	NP	NP	Sd	O/G	6.6	8.8 - 9.0
Target	5392	4835	Sd	O/G	6.6	8.8 - 9.0

Casing Program

Casing OD	Hole Size	Weight (#/ft)	Grade	Coupling	MD Top	MD Bottom	TVD Top	TVD Bottom	Top of Cement
9-5/8"	12-1/4"	36	K-55	STC	surf	350	surf	350	surface
7"	8-3/4"	26	K-55	LTC	surf	5328	surf	4833	surface
4-1/2"	6-1/8"	11.6	P-110	BTC	5041	13502	4747	4744	5041

Note: all casing will be new

Rev 1



Casing Design Load Cases

		Casing String		
	Description	9-5/8" Surface	7" Intermediate	4-1/2" Production Liner
Collapse	Full internal evacuation ¹	✓	✓	✓
	Cementing	✓	✓	✓
Burst	Pressure test	✓ ²	✓ ²	✓
	Gas kick		✓ ³	
	Fracture at shoe, 1/3 BHP at surface		✓ ⁴	
	Injection down casing			✓ ⁵
Axial	Dynamic load on casing coupling ⁶	✓	✓	✓
Axial	Overpull ⁷	✓	✓	✓

Note

- 1 Fluid level at shoe, air column to surface, pore pressure outside
- 2 Tested to 80% of minimum internal yield with freshwater inside, pore pressure outside
- 3 50 bbl kick at TD, 0.50 ppg intensity, 4" drill pipe, 9.0 ppg mud, fracture gradient at shoe
- 4 2060 psi BHP, 687 psi surface pressure, 12.5 ppg EMW shoe integrity
- 5 Surface stimulation pressure of 8000 psi on 8.3 ppg fluid column. Stimulation will be down frac string, so load does not apply to 7" intermediate casing.
- 6 Shock load from abrupt pipe deceleration, evaluated against coupling rating
- 7 Overpull values as follows: Surface casing 20,000 lbs, Intermediate & Production 100,000 lbs

Casing Design Factors

		Design Factors			
Casing string	Casing OD	Burst	Collapse	Axial	Triaxial
Surface	9-5/8"	1.25	13.38	8.16	1.56
Intermediate	7"	1.25	1.50	1.68	1.34
Production liner	4-1/2"	1.37	3.68	1.88	1.69

Cement Design

9-5/8" Surface Casing

	Lead
Name	Redi-Mix
Type	I-II
Planned top	Surface
Density (ppg)	14.50
Yield (cf/sx)	1.61
Mix water (gal/sx)	7.41
Volume (sx)	114
Volume (bbls)	33
Volume (cu. ft.)	185
Excess %	50

7" Intermediate Casing

	Lead	Tail
	BJ Services	BJ Services
Type	III	Poz/G
Planned top	Surface	3747-ft
Density (ppg)	12.30	13.50
Yield (cf/sx)	2.34	1.50
Mix water (gal/sx)	13.26	7.20
Volume (sx)	374	260
Volume (bbls)	156	69
Volume (cu.ft.)	876	389
Excess %	50	50

Rev 1

4-1/2" Production Liner

	BJ Services
Type	Poz/G
Planned top	5041-ft
Density (ppg)	13.3
Yield (cf/sx)	1.56
Mix water (gal/sx)	7.71
Volume (sx)	711
Volume (bbls)	198
Volume (cu.ft)	1111
Excess %	40

Wellhead & Pressure Control

The well head will be an 11" 5M multi-bowl system. A 3M BOPE conforming to Onshore Order #2 will be installed on the surface casing. The BOP and accumulator will meet API 16D and 16E respectively.

A PVT mud monitoring system and a trip tank will be rigged up and operational for all hole intervals. An electronic geograph will be employed to monitor and record drilling data (ROP, WOB, SPM, Pressure, RPM and torque).

Mud Program

Surface hole will be drilled with a fresh water, native mud system. In intermediate hole, a low weight 7% KCl LSND drilling fluid will be used, with KCl providing chemical stability for the young shales and clays present in the interval. In production hole a LSND system with polymer and lubricant additives is programmed. Sufficient drill water and mud additives will be on hand to maintain adequate pit volumes and maintain well control.

Hole Section	Fluid type	Interval (MD)	Density (ppg)	Funnel Viscosity	Yield Point	Fluid Loss (cc/30 min)
Surface	Fresh water spud mud	0 – 350	8.4 – 8.8	32 – 44	2 – 12	NC
Intermediate	7% KCl Low solids, non-dispersed	350 – 5328	9.0 – 9.5	38 – 45	8 – 14	<20
Production	Low solids, non-dispersed	5328 – 13502	8.8 – 9.2	34 – 38	6 – 8	6 – 8

Cores, tests and logs

Wellbore surveying: Drift (inclination only) surveys will be obtained in surface hole. MWD directional surveys will be taken in intermediate and production hole.

Logging while drilling: None in surface hole. MWD GR in intermediate and production hole.

Mud logging: a two-person mud logging unit with C1 – C4 gas analysis will be operational in intermediate and production hole.

Electric logging: No open hole electric logs are programmed. A cased hole GR/CCL will be run during completions for perforating depth control.

Cuttings and drilling fluids management

- ✓ A closed loop, steel tank-based circulating system will be used. In addition to the rig solids control equipment, a dewatering centrifuge and chemical flocculation system will be operational to strip solids from the whole mud. All solids will be collected in 3-sided bins and will then be put into transports with a bucket loader. Drying agents will be used if necessary. The solids will be taken to a licensed commercial disposal facility. Whole mud will be dewatered back to drill water and used as make up for subsequent wells or hauled off for disposal. A diagram of the closed loop system is included.

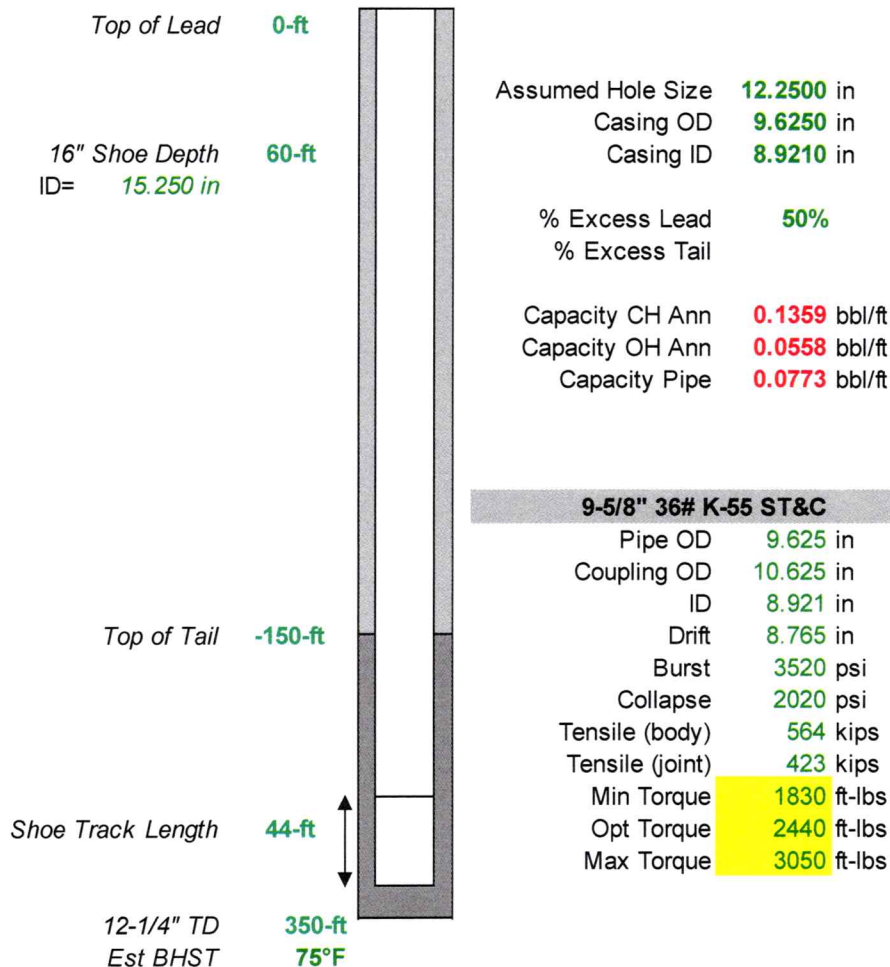
Completion

It is envisioned that this well will be completed with a multi-stage sand frac, using the plug and perf technique. After drilling out the plugs, the current plan is to install a 2-7/8" plunger-assisted gas lift tubing string. The stimulation and completion plan will be sundried at a later date.

Rev 0



9-5/8" Surface Casing & Cementing



Lead Slurry		Properties	
Redi Mix Type I/II		Density	14.50 ppg
20% Fly Ash		Yield	1.61 cf/sk
		Total Mix Fluid	7.41 gal/sk
		Est pump time (70Bc)	NA
		8-hr compressive	475 psi
		24-hr compressive	1375 psi

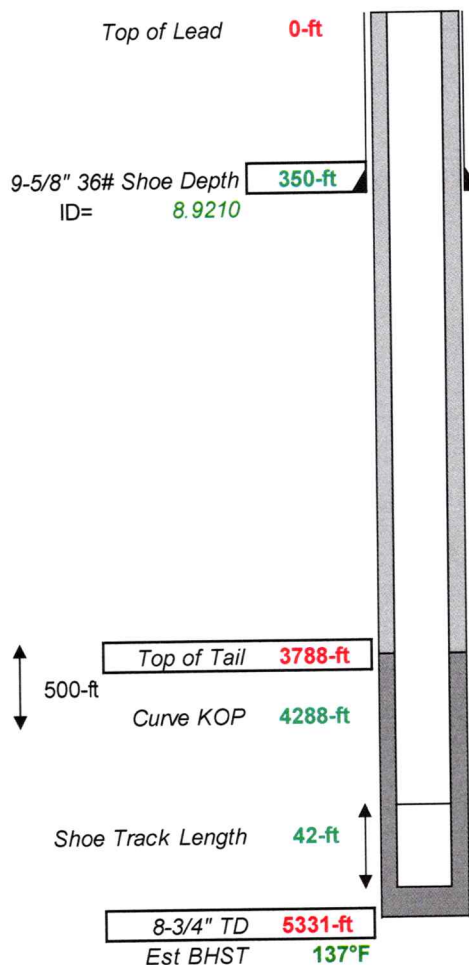
Tail Slurry		Properties	
None		Density	ppg
		Yield	cf/sk
		Total Mix Fluid	gal/sk
		Est pump time (70Bc)	
		50 psi strength in	
		24/72 hr strength	psi

Volumes			
Lead Volume	33 bbls	114 sx	
Tail Volume	bbls	sx	
Displacement	24 bbls		
Total Volume	56 bbls		



Rev 0

7" Intermediate Casing & Cementing Nageezi Unit 622H



Assumed Hole Size Lead	8.7500 in
Assumed Hole Size Tail	8.7500 in
Casing OD	7.0000 in
Casing ID	6.2760 in

% OH Excess Lead	60%
% OH Excess Tail	60%

Capacity CH Ann	0.0297 bbl/ft
Capacity OH Ann Lead	0.0268 bbl/ft
Capacity OH Ann Tail	0.0268 bbl/ft
Capacity Pipe	0.0383 bbl/ft

7" 26# K-55 LT&C

Pipe OD	7.000 in
Weight	26 lbs/ft
Grade	K-55
Coupling	LTC
Coupling OD	7.656 in
ID	6.276 in
Drift	6.151 in
Burst	4980 psi
Collapse	4320 psi
Tensile (body)	415 kips
Tensile (joint)	401 kips
Min Torque	3008 ft-lbs
Opt Torque	4010 ft-lbs
Max Torque	5013 ft-lbs

BJ Lead Slurry

Type III	
BA-90	5 lb/sx%
KCI	3.00%
GW-86	0.10%
FL-66	0.20%
R-3	0.50%
FP-25	0.30%

Properties

Density	12.30 ppg
Yield	2.3404 cf/sk
Total Mix Fluid	13.26 gal/sk
Thickening Time	3:11 hr:min
Time to 50 psi (80°F)	5:10 hr:min
24-hr UCA (80°F)	659 psi

BJ Tail Slurry

G+Pozz	50:50
BA-90	3 lb/sx
FL-66	0.40%
FP-25	0.30%
Sod. Met	0.50%
Gyp	3.00%

Properties

Density	13.50 ppg
Yield	1.4946 cf/sk
Total Mix Fluid	7.24 gal/sk
Thickening Time	3:26 hr:min
Time to 50 psi (135°F)	2:55 hr:min
Time to 500 psi (135°F)	6:40 hr:min

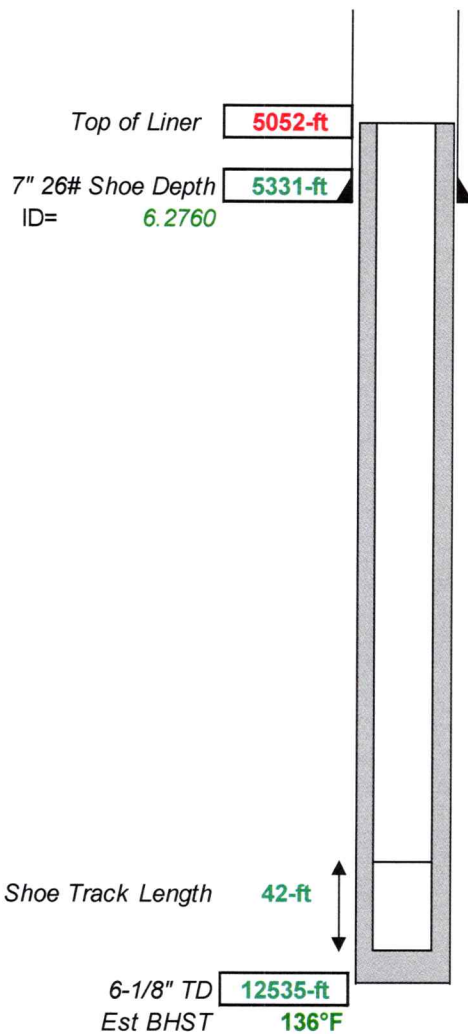
Volumes

Lead Volume	158 bbls	378 sx
Tail Volume	68 bbls	254 sx
Approx Displacement	202 bbls	
Total Volume	428 bbls	

Rev 0



4-1/2" Liner Cementing Nageezi Unit 622H

Assumed Hole Size **6.1250** inCasing OD **4.5000** inCasing ID **4.0000** in% Excess Open Hole **40%**Capacity CH Ann **0.0186** bbl/ftCapacity OH Ann **0.0168** bbl/ftCapacity Pipe **0.0155** bbl/ft

4-1/2" 11.6# HCP-110 BTC

Pipe OD **4.500** inWeight **11.6** lbs/ftGrade **P-110**Coupling **LTC**Coupling OD **5.000** inID **4.000** inDrift **3.875** inBurst **10690** psiCollapse **8650** psiTensile (body) **367** kipsTensile (joint) **385** kipsMin Torque **ft-lbs**Opt Torque **Triangle** ft-lbsMax Torque **ft-lbs**

BJ Lead Slurry

G+Pozz **50:50**

BA-90 **3 lb/sx**

GW-86 **0.10%**

R-3 **0.40%**

FP-25 **30.00%**

FL-24 **0.40%**

Gel **4.00%**

Properties

Density **13.30** ppg

Yield **1.5629** cf/sk

Total Mix Fluid **7.70** gal/sk

Thickening Time **6:04** hr:min

Time to 50 psi (147°F) **7:15** hr:min

24-hr UCA (147°F) **1293** psi

Volumes

Lead Volume **175** bbls **629** sxApprox Displacement **135** bblsTotal Volume **310** bbls



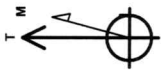
Company: DJR Operating
Project: Nageezi Unit
Site: M35 2409
Well: 314H
Wellbore: Original Drilling
Design: APD

PROJECT DETAILS: Nageezi 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



Azimuths to True North
Magnetic North: 8.78°
Magnetic Field
Strength: 49423.4nT
Dip Angle: 62.78°
Date: 12/20/2019
Model: HDGM_FILE



CASING DETAILS

TVD	MD	Name
350.00	350.00	Surface Casing
4832.53	327.90	Intermediate Casing

FORMATION DETAILS

TVDPath	MDPath	Formation
746.00	747.04	Ojo Alamo
830.00	831.93	Kirtland
1142.00	1151.47	Fruitland
1484.00	1510.57	Pictured Cliffs
1579.00	1610.61	Lewis
2268.00	2336.10	Chacra
2980.00	3085.82	Menefee
3954.00	4111.41	Point Lookout
4122.00	4288.05	Mancos
4446.00	4627.41	Mancos Silt

WELL DETAILS: 314H

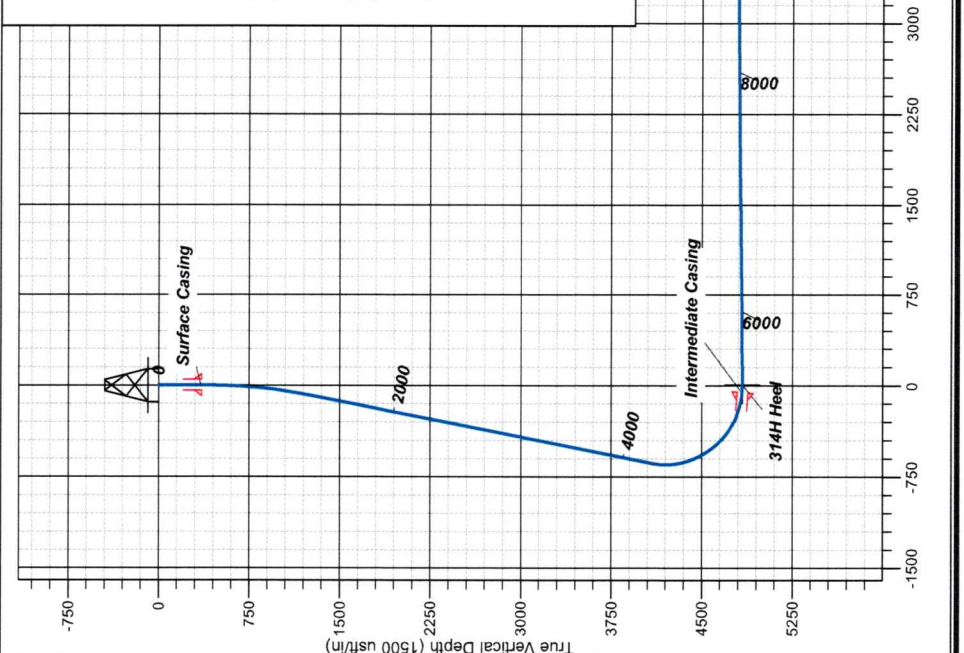
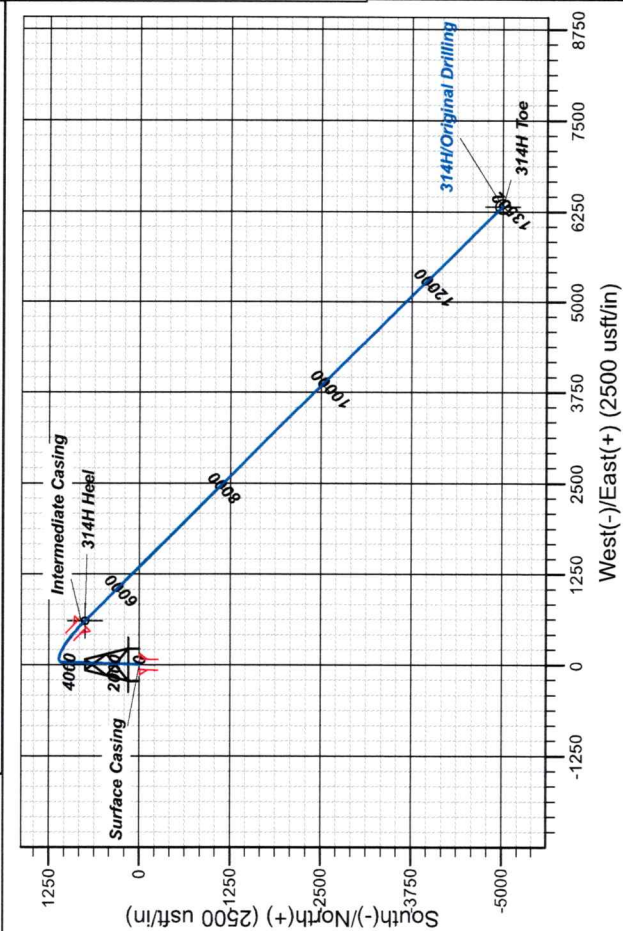
GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)		Longitude
+N/-S	+E/-W	1915210.89
0.00	0.00	2742791.21
		36.2634760

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
314H Heel	4835.00	752.88	602.88	1915964.18	2743393.57	36.2655442	-107.7644649
314H Toe	4744.00	-4999.53	6318.21	1910215.72	2749112.87	36.2497400	-107.7450816

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Diag	TFace	VSect	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
375.00	18.25	1.646	1272.20	144.06	4.14	2.00	1.65	-86.14	
4247.01	18.25	1.646	4062.77	1070.52	30.76	0.00	0.00	-640.16	
5392.38	90.64	135.185	4835.00	752.88	602.88	9.00	131.91	5.60	314H Heel
13501.85	90.64	135.185	4744.00	-4999.53	6318.21	0.00	0.00	8056.99	314H Toe





DJR Operating

Nageezi Unit

M35 2409

314H - Slot 5

Original Drilling

Plan: APD

Standard Planning Report

08 January, 2020



www.scientificdrilling.com



Scientific Drilling, Intl
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 314H - Slot 5
Company:	DJR Operating	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site:	M35 2409	North Reference:	True
Well:	314H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

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	M35 2409		
Site Position:		Northing:	1,915,230.54 usft
From:	Lat/Long	Easting:	2,742,788.84 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in
		Latitude:	36.2635300
		Longitude:	-107.7665180
		Grid Convergence:	0.04 °

Well	314H - Slot 5		
Well Position	+N/-S	-19.65 usft	Northing: 1,915,210.89 usft
	+E/-W	2.36 usft	Easting: 2,742,791.21 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	Latitude: 36.2634760
			Longitude: -107.7665100
			Ground Level: 6,864.00 usft

Wellbore	Original Drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	12/20/2019	8.78	62.78	49,423.40000000

Design	APD			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	128.354

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
375.00	0.00	0.000	375.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,287.55	18.25	1.646	1,272.20	144.06	4.14	2.00	2.00	0.00	1.65	
4,247.01	18.25	1.646	4,082.77	1,070.52	30.76	0.00	0.00	0.00	0.00	
5,392.38	90.64	135.185	4,835.00	752.88	602.88	9.00	6.32	11.66	131.91	314H Heel
13,501.85	90.64	135.185	4,744.00	-4,999.53	6,318.21	0.00	0.00	0.00	0.00	314H Toe



Scientific Drilling, Intl
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 314H - Slot 5
Company:	DJR Operating	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site:	M35 2409	North Reference:	True
Well:	314H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Planned 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
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00
375.00	0.00	0.000	375.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.50	1.646	400.00	0.11	0.00	-0.07	2.00	2.00	0.00
500.00	2.50	1.646	499.96	2.73	0.08	-1.63	2.00	2.00	0.00
600.00	4.50	1.646	599.77	8.83	0.25	-5.28	2.00	2.00	0.00
700.00	6.50	1.646	699.30	18.41	0.53	-11.01	2.00	2.00	0.00
800.00	8.50	1.646	798.44	31.45	0.90	-18.81	2.00	2.00	0.00
900.00	10.50	1.646	897.06	47.95	1.38	-28.67	2.00	2.00	0.00
1,000.00	12.50	1.646	995.05	67.88	1.95	-40.59	2.00	2.00	0.00
1,100.00	14.50	1.646	1,092.28	91.21	2.62	-54.54	2.00	2.00	0.00
1,200.00	16.50	1.646	1,188.64	117.92	3.39	-70.52	2.00	2.00	0.00
1,287.55	18.25	1.646	1,272.20	144.06	4.14	-86.14	2.00	2.00	0.00
1,300.00	18.25	1.646	1,284.02	147.95	4.25	-88.47	0.00	0.00	0.00
1,400.00	18.25	1.646	1,378.99	179.26	5.15	-107.19	0.00	0.00	0.00
1,500.00	18.25	1.646	1,473.96	210.56	6.05	-125.91	0.00	0.00	0.00
1,600.00	18.25	1.646	1,568.92	241.87	6.95	-144.63	0.00	0.00	0.00
1,700.00	18.25	1.646	1,663.89	273.18	7.85	-163.35	0.00	0.00	0.00
1,800.00	18.25	1.646	1,758.86	304.48	8.75	-182.07	0.00	0.00	0.00
1,900.00	18.25	1.646	1,853.83	335.79	9.65	-200.79	0.00	0.00	0.00
2,000.00	18.25	1.646	1,948.80	367.09	10.55	-219.51	0.00	0.00	0.00
2,100.00	18.25	1.646	2,043.77	398.40	11.45	-238.23	0.00	0.00	0.00
2,200.00	18.25	1.646	2,138.74	429.70	12.35	-256.95	0.00	0.00	0.00
2,300.00	18.25	1.646	2,233.71	461.01	13.25	-275.67	0.00	0.00	0.00
2,400.00	18.25	1.646	2,328.68	492.31	14.15	-294.39	0.00	0.00	0.00
2,500.00	18.25	1.646	2,423.65	523.62	15.05	-313.11	0.00	0.00	0.00
2,599.99	18.25	1.646	2,518.62	554.92	15.95	-331.83	0.00	0.00	0.00
2,699.99	18.25	1.646	2,613.58	586.23	16.85	-350.55	0.00	0.00	0.00
2,799.99	18.25	1.646	2,708.55	617.53	17.75	-369.27	0.00	0.00	0.00
2,899.99	18.25	1.646	2,803.52	648.84	18.65	-387.99	0.00	0.00	0.00
2,999.99	18.25	1.646	2,898.49	680.14	19.55	-406.71	0.00	0.00	0.00
3,099.99	18.25	1.646	2,993.46	711.45	20.45	-425.43	0.00	0.00	0.00
3,199.99	18.25	1.646	3,088.43	742.75	21.35	-444.15	0.00	0.00	0.00
3,299.99	18.25	1.646	3,183.40	774.06	22.24	-462.87	0.00	0.00	0.00
3,399.99	18.25	1.646	3,278.37	805.36	23.14	-481.59	0.00	0.00	0.00
3,499.99	18.25	1.646	3,373.34	836.67	24.04	-500.31	0.00	0.00	0.00
3,599.99	18.25	1.646	3,468.31	867.97	24.94	-519.03	0.00	0.00	0.00
3,699.99	18.25	1.646	3,563.28	899.28	25.84	-537.75	0.00	0.00	0.00
3,799.99	18.25	1.646	3,658.25	930.58	26.74	-556.47	0.00	0.00	0.00
3,899.99	18.25	1.646	3,753.21	961.89	27.64	-575.19	0.00	0.00	0.00
3,999.99	18.25	1.646	3,848.18	993.19	28.54	-593.91	0.00	0.00	0.00
4,099.99	18.25	1.646	3,943.15	1,024.50	29.44	-612.63	0.00	0.00	0.00
4,199.99	18.25	1.646	4,038.12	1,055.80	30.34	-631.35	0.00	0.00	0.00
4,247.01	18.25	1.646	4,082.77	1,070.52	30.76	-640.16	0.00	0.00	0.00
4,299.99	15.46	15.062	4,133.49	1,085.65	32.84	-647.91	9.00	-5.26	25.32
4,399.99	13.54	50.787	4,230.49	1,105.96	45.40	-650.67	9.00	-1.92	35.73
4,499.99	16.93	83.102	4,327.13	1,115.13	68.98	-637.87	9.00	3.39	32.32
4,599.99	23.43	101.454	4,421.04	1,112.93	102.99	-609.83	9.00	6.50	18.35
4,699.99	31.14	111.666	4,509.89	1,099.41	146.60	-567.25	9.00	7.72	10.21
4,799.99	39.37	118.047	4,591.51	1,074.90	198.73	-511.16	9.00	8.22	6.38



Scientific Drilling, Intl
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 314H - Slot 5
Company:	DJR Operating	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site:	M35 2409	North Reference:	True
Well:	314H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Planned 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)
4,899.99	47.83	122.495	4,663.87	1,040.00	258.10	-442.95	9.00	8.47	4.45
4,999.99	56.43	125.879	4,725.21	995.59	323.24	-364.30	9.00	8.60	3.38
5,099.99	65.10	128.644	4,774.01	942.74	392.56	-277.15	9.00	8.67	2.77
5,199.99	73.82	131.043	4,809.07	882.77	464.35	-183.64	9.00	8.72	2.40
5,299.99	82.56	133.237	4,829.53	817.14	536.83	-86.07	9.00	8.74	2.19
5,392.38	90.64	135.185	4,835.00	752.88	602.88	5.60	9.00	8.75	2.11
5,399.99	90.64	135.185	4,834.91	747.48	608.24	13.15	0.00	0.00	0.00
5,499.99	90.64	135.185	4,833.79	676.55	678.72	112.43	0.00	0.00	0.00
5,599.99	90.64	135.185	4,832.67	605.61	749.20	211.72	0.00	0.00	0.00
5,699.99	90.64	135.185	4,831.55	534.68	819.67	311.00	0.00	0.00	0.00
5,799.99	90.64	135.185	4,830.43	463.74	890.15	410.28	0.00	0.00	0.00
5,899.99	90.64	135.185	4,829.30	392.81	960.63	509.57	0.00	0.00	0.00
5,999.99	90.64	135.185	4,828.18	321.87	1,031.10	608.85	0.00	0.00	0.00
6,099.99	90.64	135.185	4,827.06	250.94	1,101.58	708.13	0.00	0.00	0.00
6,199.99	90.64	135.185	4,825.94	180.01	1,172.06	807.42	0.00	0.00	0.00
6,299.99	90.64	135.185	4,824.82	109.07	1,242.54	906.70	0.00	0.00	0.00
6,399.99	90.64	135.185	4,823.69	38.14	1,313.01	1,005.99	0.00	0.00	0.00
6,499.99	90.64	135.185	4,822.57	-32.80	1,383.49	1,105.27	0.00	0.00	0.00
6,599.99	90.64	135.185	4,821.45	-103.73	1,453.97	1,204.55	0.00	0.00	0.00
6,699.99	90.64	135.185	4,820.33	-174.67	1,524.44	1,303.84	0.00	0.00	0.00
6,799.99	90.64	135.185	4,819.20	-245.60	1,594.92	1,403.12	0.00	0.00	0.00
6,899.99	90.64	135.185	4,818.08	-316.53	1,665.40	1,502.40	0.00	0.00	0.00
6,999.99	90.64	135.185	4,816.96	-387.47	1,735.88	1,601.69	0.00	0.00	0.00
7,099.99	90.64	135.185	4,815.84	-458.40	1,806.35	1,700.97	0.00	0.00	0.00
7,199.99	90.64	135.185	4,814.72	-529.34	1,876.83	1,800.26	0.00	0.00	0.00
7,299.99	90.64	135.185	4,813.59	-600.27	1,947.31	1,899.54	0.00	0.00	0.00
7,399.99	90.64	135.185	4,812.47	-671.21	2,017.78	1,998.82	0.00	0.00	0.00
7,499.99	90.64	135.185	4,811.35	-742.14	2,088.26	2,098.11	0.00	0.00	0.00
7,599.98	90.64	135.185	4,810.23	-813.07	2,158.74	2,197.39	0.00	0.00	0.00
7,699.98	90.64	135.185	4,809.11	-884.01	2,229.21	2,296.67	0.00	0.00	0.00
7,799.98	90.64	135.185	4,807.98	-954.94	2,299.69	2,395.96	0.00	0.00	0.00
7,899.98	90.64	135.185	4,806.86	-1,025.88	2,370.17	2,495.24	0.00	0.00	0.00
7,999.98	90.64	135.185	4,805.74	-1,096.81	2,440.65	2,594.52	0.00	0.00	0.00
8,099.98	90.64	135.185	4,804.62	-1,167.75	2,511.12	2,693.81	0.00	0.00	0.00
8,199.98	90.64	135.185	4,803.49	-1,238.68	2,581.60	2,793.09	0.00	0.00	0.00
8,299.98	90.64	135.185	4,802.37	-1,309.61	2,652.08	2,892.38	0.00	0.00	0.00
8,399.98	90.64	135.185	4,801.25	-1,380.55	2,722.55	2,991.66	0.00	0.00	0.00
8,499.98	90.64	135.185	4,800.13	-1,451.48	2,793.03	3,090.94	0.00	0.00	0.00
8,599.98	90.64	135.185	4,799.01	-1,522.42	2,863.51	3,190.23	0.00	0.00	0.00
8,699.98	90.64	135.185	4,797.88	-1,593.35	2,933.99	3,289.51	0.00	0.00	0.00
8,799.98	90.64	135.185	4,796.76	-1,664.29	3,004.46	3,388.79	0.00	0.00	0.00
8,899.98	90.64	135.185	4,795.64	-1,735.22	3,074.94	3,488.08	0.00	0.00	0.00
8,999.98	90.64	135.185	4,794.52	-1,806.16	3,145.42	3,587.36	0.00	0.00	0.00
9,099.98	90.64	135.185	4,793.40	-1,877.09	3,215.89	3,686.64	0.00	0.00	0.00
9,199.98	90.64	135.185	4,792.27	-1,948.02	3,286.37	3,785.93	0.00	0.00	0.00
9,299.98	90.64	135.185	4,791.15	-2,018.96	3,356.85	3,885.21	0.00	0.00	0.00
9,399.98	90.64	135.185	4,790.03	-2,089.89	3,427.33	3,984.50	0.00	0.00	0.00
9,499.98	90.64	135.185	4,788.91	-2,160.83	3,497.80	4,083.78	0.00	0.00	0.00
9,599.98	90.64	135.185	4,787.78	-2,231.76	3,568.28	4,183.06	0.00	0.00	0.00
9,699.98	90.64	135.185	4,786.66	-2,302.70	3,638.76	4,282.35	0.00	0.00	0.00
9,799.98	90.64	135.185	4,785.54	-2,373.63	3,709.23	4,381.63	0.00	0.00	0.00
9,899.98	90.64	135.185	4,784.42	-2,444.56	3,779.71	4,480.91	0.00	0.00	0.00



Scientific Drilling, Intl Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 314H - Slot 5
Company:	DJR Operating	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site:	M35 2409	North Reference:	True
Well:	314H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Planned 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)	
9,999.98	90.64	135.185	4,783.30	-2,515.50	3,850.19	4,580.20	0.00	0.00	0.00	
10,099.98	90.64	135.185	4,782.17	-2,586.43	3,920.66	4,679.48	0.00	0.00	0.00	
10,199.98	90.64	135.185	4,781.05	-2,657.37	3,991.14	4,778.77	0.00	0.00	0.00	
10,299.98	90.64	135.185	4,779.93	-2,728.30	4,061.62	4,878.05	0.00	0.00	0.00	
10,399.98	90.64	135.185	4,778.81	-2,799.24	4,132.10	4,977.33	0.00	0.00	0.00	
10,499.98	90.64	135.185	4,777.69	-2,870.17	4,202.57	5,076.62	0.00	0.00	0.00	
10,599.98	90.64	135.185	4,776.56	-2,941.10	4,273.05	5,175.90	0.00	0.00	0.00	
10,699.98	90.64	135.185	4,775.44	-3,012.04	4,343.53	5,275.18	0.00	0.00	0.00	
10,799.98	90.64	135.185	4,774.32	-3,082.97	4,414.00	5,374.47	0.00	0.00	0.00	
10,899.98	90.64	135.185	4,773.20	-3,153.91	4,484.48	5,473.75	0.00	0.00	0.00	
10,999.98	90.64	135.185	4,772.07	-3,224.84	4,554.96	5,573.03	0.00	0.00	0.00	
11,099.98	90.64	135.185	4,770.95	-3,295.78	4,625.44	5,672.32	0.00	0.00	0.00	
11,199.98	90.64	135.185	4,769.83	-3,366.71	4,695.91	5,771.60	0.00	0.00	0.00	
11,299.98	90.64	135.185	4,768.71	-3,437.65	4,766.39	5,870.89	0.00	0.00	0.00	
11,399.98	90.64	135.185	4,767.59	-3,508.58	4,836.87	5,970.17	0.00	0.00	0.00	
11,499.98	90.64	135.185	4,766.46	-3,579.51	4,907.34	6,069.45	0.00	0.00	0.00	
11,599.98	90.64	135.185	4,765.34	-3,650.45	4,977.82	6,168.74	0.00	0.00	0.00	
11,699.98	90.64	135.185	4,764.22	-3,721.38	5,048.30	6,268.02	0.00	0.00	0.00	
11,799.98	90.64	135.185	4,763.10	-3,792.32	5,118.78	6,367.30	0.00	0.00	0.00	
11,899.98	90.64	135.185	4,761.98	-3,863.25	5,189.25	6,466.59	0.00	0.00	0.00	
11,999.98	90.64	135.185	4,760.85	-3,934.19	5,259.73	6,565.87	0.00	0.00	0.00	
12,099.98	90.64	135.185	4,759.73	-4,005.12	5,330.21	6,665.15	0.00	0.00	0.00	
12,199.98	90.64	135.185	4,758.61	-4,076.05	5,400.68	6,764.44	0.00	0.00	0.00	
12,299.98	90.64	135.185	4,757.49	-4,146.99	5,471.16	6,863.72	0.00	0.00	0.00	
12,399.98	90.64	135.185	4,756.36	-4,217.92	5,541.64	6,963.01	0.00	0.00	0.00	
12,499.98	90.64	135.185	4,755.24	-4,288.86	5,612.12	7,062.29	0.00	0.00	0.00	
12,599.98	90.64	135.185	4,754.12	-4,359.79	5,682.59	7,161.57	0.00	0.00	0.00	
12,699.97	90.64	135.185	4,753.00	-4,430.73	5,753.07	7,260.86	0.00	0.00	0.00	
12,799.97	90.64	135.185	4,751.88	-4,501.66	5,823.55	7,360.14	0.00	0.00	0.00	
12,899.97	90.64	135.185	4,750.75	-4,572.59	5,894.02	7,459.42	0.00	0.00	0.00	
12,999.97	90.64	135.185	4,749.63	-4,643.53	5,964.50	7,558.71	0.00	0.00	0.00	
13,099.97	90.64	135.185	4,748.51	-4,714.46	6,034.98	7,657.99	0.00	0.00	0.00	
13,199.97	90.64	135.185	4,747.39	-4,785.40	6,105.45	7,757.28	0.00	0.00	0.00	
13,299.97	90.64	135.185	4,746.27	-4,856.33	6,175.93	7,856.56	0.00	0.00	0.00	
13,399.97	90.64	135.185	4,745.14	-4,927.27	6,246.41	7,955.84	0.00	0.00	0.00	
13,499.97	90.64	135.185	4,744.02	-4,998.20	6,316.89	8,055.13	0.00	0.00	0.00	
13,501.85	90.64	135.185	4,744.00	-4,999.53	6,318.21	8,056.99	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
314H Toe	0.00	0.000	4,744.00	-4,999.53	6,318.21	1,910,215.72	2,749,112.87	36.2497400	-107.7450816	
- plan hits target center										
- Circle (radius 100.00)										
314H Heel	0.00	0.000	4,835.00	752.88	602.88	1,915,964.18	2,743,393.57	36.2655442	-107.7644649	
- plan hits target center										
- Circle (radius 50.00)										



Scientific Drilling, Intl
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 314H - Slot 5
Company:	DJR Operating	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site:	M35 2409	North Reference:	True
Well:	314H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
350.00	350.00	Surface Casing	9.62	12.25	
5,327.90	4,832.55	Intermediate Casing	7.00	8.75	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
747.04	746.00	Ojo Alamo		0.00	0.000	
831.93	830.00	Kirtland		0.00	0.000	
1,151.47	1,142.00	Fruitland		0.00	0.000	
1,510.57	1,484.00	Pictured Cliffs		0.00	0.000	
1,610.61	1,579.00	Lewis		0.00	0.000	
2,336.10	2,268.00	Chacra		0.00	0.000	
3,085.82	2,980.00	Menefee		0.00	0.000	
4,111.41	3,954.00	Point Lookout		0.00	0.000	
4,288.05	4,122.00	Mancos		0.00	0.000	
4,627.41	4,446.00	Mancos Silt		0.00	0.000	



DJR Operating

Nageezi Unit

M35 2409

314H

Original Drilling

APD

Anticollision Report

08 January, 2020



www.scientificdrilling.com



Scientific Drilling, Intl

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 314H - Slot 5
Project:	Nageezi Unit	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Reference Site:	M35 2409	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	314H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference	APD		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum ellipse separation of 1,000.00 usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	1/8/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	13,501.85	APD (Original Drilling)	MWD+IGRF	OWSG MWD + IGRF or WMM	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
M35 2409						
315H - Original Drilling - APD	300.00	300.00	39.90	38.16	22.901	CC
315H - Original Drilling - APD	700.00	704.18	41.10	36.47	8.885	ES
315H - Original Drilling - APD	5,100.00	4,898.36	224.59	182.84	5.379	SF
316H - Original Drilling - APD	300.00	300.00	20.13	18.39	11.553	CC
316H - Original Drilling - APD	400.00	400.00	20.24	17.78	8.229	ES
316H - Original Drilling - APD	13,443.78	13,464.56	370.02	219.72	2.462	SF
318H - Original Drilling - APD	300.00	300.00	60.02	58.28	34.454	CC
318H - Original Drilling - APD	400.00	400.00	60.13	57.67	24.452	ES
318H - Original Drilling - APD	12,500.00	11,937.65	1,125.06	780.90	3.269	SF
319H - Original Drilling - APD	300.00	300.00	80.15	78.41	46.007	CC
319H - Original Drilling - APD	400.00	399.33	80.36	77.91	32.763	ES
319H - Original Drilling - APD	600.00	592.74	97.27	93.43	25.329	SF

Offset Design												Offset Site Error:		0.00 usft
Survey Program: 0-MWD+IGRF												Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance					Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	174.05	-39.68	4.13	39.90					
100.00	100.00	100.00	100.00	0.15	0.15	174.05	-39.68	4.13	39.90	39.59	0.31	129.417		
200.00	200.00	200.00	200.00	0.51	0.51	174.05	-39.68	4.13	39.90	38.87	1.03	38.916		
300.00	300.00	300.00	300.00	0.87	0.87	174.05	-39.68	4.13	39.90	38.16	1.74	22.901	CC	
300.03	300.03	300.03	300.03	0.87	0.87	174.05	-39.68	4.13	39.90	38.16	1.74	22.898		
400.00	400.00	400.33	400.33	1.23	1.23	172.37	-39.58	4.16	39.90	37.44	2.46	16.219		
500.00	499.96	501.63	501.59	1.59	1.60	171.44	-36.99	4.90	40.04	36.86	3.18	12.585		
600.00	599.77	602.92	602.68	1.95	1.96	169.28	-30.97	6.63	40.41	36.51	3.90	10.355		
700.00	699.30	704.18	703.45	2.32	2.34	165.99	-21.52	9.33	41.10	36.47	4.63	8.885	ES	
800.00	798.44	805.39	803.78	2.72	2.74	161.70	-8.66	13.02	42.24	36.88	5.36	7.880		
900.00	897.07	906.55	903.51	3.13	3.16	156.64	7.59	17.67	44.00	37.88	6.12	7.186		
1,000.00	995.05	1,007.05	1,002.03	3.59	3.62	151.46	26.69	23.14	46.84	39.91	6.94	6.752		
1,100.00	1,092.29	1,106.85	1,099.76	4.08	4.09	148.60	46.08	28.69	52.65	44.86	7.79	6.760		
1,200.00	1,188.64	1,206.45	1,197.31	4.61	4.56	148.08	65.44	34.23	61.49	52.84	8.65	7.108		

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



Scientific Drilling, Intl

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 314H - Slot 5
Project:	Nageezi Unit	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Reference Site:	M35 2409	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	314H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M35 2409 - 315H - Original Drilling - APD													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)				Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	
1,300.00	1,284.02	1,305.74	1,294.55	5.20	5.05	149.10	84.74	39.76	73.26	63.75	7.703			
1,400.00	1,378.99	1,404.89	1,391.64	5.81	5.54	150.36	104.01	45.28	86.21	75.85	10.317			
1,500.00	1,473.96	1,504.03	1,488.74	6.44	6.03	151.30	123.28	50.80	99.19	87.96	11.23			
1,600.00	1,568.93	1,603.17	1,585.83	7.08	6.52	152.02	142.55	56.31	112.19	100.09	12.10			
1,700.00	1,663.90	1,702.32	1,682.93	7.72	7.02	152.58	161.82	61.83	125.20	112.23	12.97			
1,800.00	1,758.87	1,801.46	1,780.02	8.37	7.52	153.05	181.09	67.35	138.22	124.38	13.84			
1,900.00	1,853.84	1,900.60	1,877.12	9.03	8.03	153.43	200.37	72.87	151.25	136.53	14.72			
2,000.00	1,948.80	1,999.75	1,974.22	9.69	8.53	153.75	219.64	78.38	164.29	148.69	15.60			
2,100.00	2,043.77	2,098.89	2,071.31	10.35	9.03	154.02	238.91	83.90	177.33	160.84	16.49			
2,200.00	2,138.74	2,198.03	2,168.41	11.02	9.54	154.26	258.18	89.42	190.37	173.00	17.37			
2,300.00	2,233.71	2,297.17	2,265.50	11.69	10.05	154.47	277.45	94.94	203.42	185.16	18.26			
2,400.00	2,328.68	2,396.32	2,362.60	12.36	10.55	154.65	296.72	100.46	216.46	197.32	19.14			
2,500.00	2,423.65	2,495.46	2,459.69	13.03	11.06	154.81	315.99	105.97	229.51	209.48	20.03			
2,600.00	2,518.62	2,594.60	2,556.79	13.70	11.57	154.95	335.26	111.49	242.57	221.64	20.92			
2,700.00	2,613.59	2,693.75	2,653.88	14.37	12.08	155.08	354.53	117.01	255.62	233.81	21.81			
2,800.00	2,708.56	2,792.89	2,750.98	15.05	12.59	155.20	373.80	122.53	268.67	245.97	22.70			
2,900.00	2,803.53	2,892.03	2,848.07	15.72	13.10	155.30	393.07	128.05	281.73	258.13	23.59			
3,000.00	2,898.50	2,991.17	2,945.17	16.40	13.61	155.40	412.34	133.56	294.78	270.30	24.48			
3,100.00	2,993.47	3,090.32	3,042.26	17.08	14.12	155.49	431.61	139.08	307.84	282.46	25.38			
3,200.00	3,088.44	3,189.46	3,139.36	17.75	14.63	155.57	450.88	144.60	320.90	294.63	26.27			
3,300.00	3,183.41	3,288.60	3,236.46	18.43	15.14	155.64	470.15	150.12	333.95	306.79	27.16			
3,400.00	3,278.38	3,387.75	3,333.55	19.11	15.65	155.71	489.42	155.63	347.01	318.96	28.06			
3,500.00	3,373.34	3,486.89	3,430.65	19.79	16.16	155.78	508.69	161.15	360.07	331.12	28.95			
3,600.00	3,468.31	3,586.03	3,527.74	20.46	16.67	155.84	527.96	166.67	373.13	343.29	29.84			
3,700.00	3,563.28	3,685.17	3,624.84	21.14	17.18	155.89	547.23	172.19	386.19	355.45	30.74			
3,800.00	3,658.25	3,784.32	3,721.93	21.82	17.69	155.94	566.50	177.71	399.25	367.62	31.63			
3,900.00	3,753.22	3,883.46	3,819.03	22.50	18.20	155.99	585.78	183.22	412.31	379.78	32.53			
4,000.00	3,848.19	3,982.60	3,916.12	23.18	18.71	156.04	605.05	188.74	425.37	391.95	33.42			
4,100.00	3,943.16	4,081.75	4,013.22	23.86	19.22	156.08	624.32	194.26	438.43	404.11	34.32			
4,200.00	4,038.13	4,180.89	4,110.31	24.54	19.74	156.12	643.59	199.78	451.49	416.28	35.21			
4,300.00	4,133.50	4,280.23	4,207.60	25.20	20.25	143.24	662.90	205.31	462.55	426.46	36.09			
4,400.00	4,230.50	4,379.88	4,305.19	25.71	20.76	109.50	682.26	210.85	460.95	424.11	36.84			
4,500.00	4,327.14	4,477.62	4,400.91	26.06	21.27	80.61	701.26	216.29	445.46	408.07	37.39			
4,600.00	4,421.05	4,571.04	4,492.41	26.25	21.75	67.51	719.42	221.49	417.11	379.41	37.71			
4,700.00	4,509.90	4,657.86	4,577.43	26.30	22.20	65.06	736.30	226.32	377.84	340.11	37.73			
4,800.00	4,591.51	4,743.04	4,660.83	26.23	22.64	70.55	753.02	230.90	330.82	293.31	37.51			
4,900.00	4,663.88	4,834.05	4,748.54	26.07	23.16	86.14	776.99	229.66	277.76	240.72	37.04			
5,000.00	4,725.22	4,880.45	4,792.04	25.83	23.45	98.63	792.58	225.54	234.99	197.01	37.98			
5,075.35	4,763.22	4,895.94	4,806.31	25.61	23.55	102.51	798.27	223.65	223.27	182.58	40.69			
5,100.00	4,774.02	4,898.36	4,808.54	25.54	23.57	102.73	799.19	223.33	224.59	182.84	41.75			5.379 SF
5,200.00	4,809.07	4,900.00	4,810.04	25.23	23.58	99.37	799.81	223.11	255.11	209.85	45.26			
5,300.00	4,829.53	4,886.50	4,797.63	24.91	23.49	88.96	794.78	224.83	314.43	267.93	46.51			
5,400.00	4,834.91	4,866.87	4,779.41	24.62	23.37	76.34	787.79	226.99	387.38	340.66	46.72			
5,500.00	4,833.79	4,850.00	4,763.60	24.50	23.26	73.07	782.10	228.51	467.72	421.04	46.68			
5,600.00	4,832.67	4,830.30	4,744.98	24.95	23.14	69.45	775.83	229.89	553.49	507.05	46.43			
5,700.00	4,831.55	4,816.29	4,731.64	26.13	23.06	67.01	771.62	230.62	642.75	596.51	46.24			
5,800.00	4,830.43	4,800.00	4,716.03	27.62	22.96	64.32	766.98	231.19	734.36	688.36	46.00			
5,900.00	4,829.30	4,800.00	4,716.03	29.26	22.96	64.32	766.98	231.19	827.61	781.66	45.95			
6,000.00	4,828.18	4,784.98	4,701.56	31.01	22.87	61.98	762.96	231.46	921.98	876.24	45.74			
6,100.00	4,827.06	4,777.05	4,693.90	32.85	22.83	60.80	760.93	231.50	1,017.30	971.69	45.61			
6,200.00	4,825.94	4,770.03	4,687.10	34.75	22.79	59.78	759.20	231.48	1,113.31	1,067.81	45.49			

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



Scientific Drilling, Intl

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 314H - Slot 5
Project:	Nageezi Unit	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Reference Site:	M35 2409	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	314H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M35 2409 - 315H - Original Drilling - APD														Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)							
6,300.00	4,824.82	4,750.00	4,667.62	36.73	22.68	57.03	754.54	231.12	1,210.09	1,164.80	45.30	26.715			
6,400.00	4,823.69	4,750.00	4,667.62	38.75	22.68	57.03	754.54	231.12	1,306.95	1,261.70	45.25	28.884			
6,500.00	4,822.57	4,750.00	4,667.62	40.82	22.68	57.03	754.54	231.12	1,404.24	1,359.04	45.20	31.068			
6,600.00	4,821.45	4,750.00	4,667.62	42.93	22.68	57.03	754.54	231.12	1,501.89	1,456.74	45.15	33.263			
6,700.00	4,820.33	4,750.00	4,667.62	45.08	22.68	57.03	754.54	231.12	1,599.83	1,554.72	45.11	35.466			
6,800.00	4,819.20	4,740.49	4,658.33	47.26	22.63	55.80	752.48	230.80	1,697.92	1,652.89	45.02	37.713			
6,900.00	4,818.08	4,736.97	4,654.90	49.46	22.61	55.35	751.75	230.65	1,796.22	1,751.25	44.97	39.943			
7,000.00	4,816.96	4,725.49	4,643.67	51.69	22.55	53.95	749.44	230.09	1,894.74	1,849.86	44.88	42.213			
7,100.00	4,815.84	4,725.49	4,643.67	53.93	22.55	53.95	749.44	230.09	1,993.29	1,948.43	44.86	44.436			
7,200.00	4,814.72	4,725.49	4,643.67	56.20	22.55	53.95	749.44	230.09	2,091.97	2,047.14	44.83	46.661			
7,300.00	4,813.59	4,725.13	4,643.32	58.48	22.55	53.91	749.37	230.07	2,190.78	2,145.97	44.81	48.890			
7,400.00	4,812.47	4,714.17	4,632.58	60.78	22.49	52.63	747.24	229.46	2,289.66	2,244.91	44.75	51.170			
7,500.00	4,811.35	4,703.20	4,621.84	63.09	22.43	51.42	745.11	228.85	2,388.58	2,343.89	44.69	53.453			
7,600.00	4,810.23	4,692.24	4,611.11	65.42	22.38	50.26	742.98	228.24	2,487.54	2,442.91	44.63	55.738			
7,700.00	4,809.11	4,681.28	4,600.37	67.75	22.32	49.15	740.85	227.63	2,586.53	2,541.96	44.58	58.026			
7,800.00	4,807.98	4,670.31	4,589.63	70.10	22.26	48.10	738.72	227.02	2,685.56	2,641.03	44.52	60.316			
7,900.00	4,806.86	4,659.35	4,578.89	72.45	22.21	47.09	736.58	226.41	2,784.61	2,740.13	44.48	62.608			
8,000.00	4,805.74	4,648.38	4,568.15	74.81	22.15	46.13	734.45	225.80	2,883.68	2,839.25	44.43	64.900			
8,100.00	4,804.62	4,637.42	4,557.42	77.18	22.09	45.21	732.32	225.19	2,982.78	2,938.39	44.39	67.195			
8,200.00	4,803.49	4,626.46	4,546.68	79.56	22.04	44.33	730.19	224.58	3,081.90	3,037.54	44.35	69.490			
8,300.00	4,802.37	4,615.49	4,535.94	81.94	21.98	43.49	728.06	223.97	3,181.03	3,136.72	44.31	71.786			
8,400.00	4,801.25	4,604.53	4,525.20	84.32	21.92	42.68	725.93	223.35	3,280.18	3,235.90	44.28	74.082			
8,500.00	4,800.13	4,593.56	4,514.47	86.72	21.87	41.91	723.80	222.74	3,379.34	3,335.10	44.24	76.379			
8,600.00	4,799.01	4,582.60	4,503.73	89.12	21.81	41.17	721.67	222.13	3,478.52	3,434.30	44.21	78.676			
8,700.00	4,797.88	4,571.64	4,492.99	91.52	21.75	40.46	719.54	221.52	3,577.71	3,533.52	44.18	80.972			
8,800.00	4,796.76	4,560.67	4,482.25	93.92	21.70	39.78	717.40	220.91	3,676.91	3,632.75	44.16	83.269			
8,900.00	4,795.64	4,549.71	4,471.52	96.34	21.64	39.13	715.27	220.30	3,776.12	3,731.99	44.13	85.565			
9,000.00	4,794.52	4,538.74	4,460.78	98.75	21.58	38.50	713.14	219.69	3,875.34	3,831.23	44.11	87.860			
9,100.00	4,793.40	4,527.78	4,450.04	101.17	21.53	37.90	711.01	219.08	3,974.57	3,930.48	44.09	90.155			
9,200.00	4,792.27	4,516.81	4,439.30	103.59	21.47	37.32	708.88	218.47	4,073.80	4,029.74	44.07	92.449			
9,300.00	4,791.15	4,505.85	4,428.56	106.01	21.41	36.76	706.75	217.86	4,173.05	4,129.00	44.05	94.741			
9,400.00	4,790.03	4,494.89	4,417.83	108.44	21.36	36.23	704.62	217.25	4,272.30	4,228.27	44.03	97.032			
9,500.00	4,788.91	4,483.92	4,407.09	110.87	21.30	35.71	702.49	216.64	4,371.56	4,327.54	44.01	99.322			
9,600.00	4,787.78	4,472.96	4,396.35	113.30	21.24	35.21	700.36	216.03	4,470.82	4,426.82	44.00	101.610			
9,700.00	4,786.66	4,461.99	4,385.61	115.73	21.19	34.73	698.22	215.42	4,570.09	4,526.11	43.99	103.896			
9,800.00	4,785.54	4,451.03	4,374.88	118.17	21.13	34.27	696.09	214.81	4,669.37	4,625.39	43.98	106.180			
9,900.00	4,784.42	4,440.07	4,364.14	120.60	21.07	33.83	693.96	214.20	4,768.65	4,724.68	43.97	108.462			
10,000.00	4,783.30	4,429.10	4,353.40	123.04	21.02	33.39	691.83	213.59	4,867.94	4,823.98	43.96	110.742			
10,100.00	4,782.17	4,418.14	4,342.66	125.49	20.96	32.98	689.70	212.98	4,967.23	4,923.28	43.95	113.019			
10,200.00	4,781.05	4,407.17	4,331.92	127.93	20.90	32.58	687.57	212.37	5,066.52	5,022.58	43.94	115.293			
10,300.00	4,779.93	4,396.21	4,321.19	130.37	20.85	32.19	685.44	211.76	5,165.82	5,121.88	43.94	117.565			
10,400.00	4,778.81	4,385.24	4,310.45	132.82	20.79	31.81	683.31	211.15	5,265.12	5,221.18	43.94	119.834			
10,500.00	4,777.69	4,374.28	4,299.71	135.27	20.73	31.45	681.18	210.54	5,364.43	5,320.49	43.93	122.100			
10,600.00	4,776.56	4,363.32	4,288.97	137.72	20.68	31.09	679.05	209.93	5,463.74	5,419.80	43.93	124.363			
10,700.00	4,775.44	4,352.35	4,278.24	140.17	20.62	30.75	676.91	209.32	5,563.05	5,519.11	43.93	126.622			
10,800.00	4,774.32	4,341.39	4,267.50	142.62	20.56	30.42	674.78	208.71	5,662.36	5,618.43	43.94	128.878			
10,900.00	4,773.20	4,330.42	4,256.76	145.07	20.51	30.10	672.65	208.10	5,761.68	5,717.74	43.94	131.131			
11,000.00	4,772.07	4,319.46	4,246.02	147.53	20.45	29.79	670.52	207.49	5,861.00	5,817.06	43.94	133.380			
11,100.00	4,770.95	4,308.50	4,235.29	149.98	20.39	29.49	668.39	206.88	5,960.32	5,916.38	43.95	135.625			
11,200.00	4,769.83	4,297.53	4,224.55	152.44	20.34	29.19	666.26	206.27	6,059.65	6,015.70	43.95	137.866			

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

1/8/2020 8:53:51AM

Page 4

COMPASS 5000.15 Build 91D



Scientific Drilling, Intl

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 314H - Slot 5
Project:	Nageezi Unit	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Reference Site:	M35 2409	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	314H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M35 2409 - 315H - Original Drilling - APD													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
11,300.00	4,768.71	4,286.57	4,213.81	154.89	20.28	28.91	664.13	205.66	6,158.98	6,115.02	43.96	140.103		
11,400.00	4,767.59	4,275.60	4,203.07	157.35	20.22	28.63	662.00	205.05	6,258.31	6,214.34	43.97	142.336		
11,500.00	4,766.46	4,264.64	4,192.33	159.81	20.17	28.36	659.87	204.44	6,357.64	6,313.66	43.98	144.564		
11,600.00	4,765.34	4,253.68	4,181.60	162.27	20.11	28.10	657.73	203.83	6,456.97	6,412.98	43.99	146.788		
11,700.00	4,764.22	4,242.71	4,170.86	164.73	20.05	27.85	655.60	203.22	6,556.31	6,512.31	44.00	149.008		
11,800.00	4,763.10	4,231.75	4,160.12	167.19	20.00	27.60	653.47	202.61	6,655.65	6,611.63	44.01	151.223		
11,900.00	4,761.98	4,220.78	4,149.38	169.65	19.94	27.36	651.34	202.00	6,754.99	6,710.96	44.03	153.433		
12,000.00	4,760.85	4,209.82	4,138.65	172.11	19.89	27.12	649.21	201.39	6,854.33	6,810.29	44.04	155.639		
12,100.00	4,759.73	4,198.85	4,127.91	174.58	19.83	26.90	647.08	200.78	6,953.67	6,909.61	44.06	157.839		
12,200.00	4,758.61	4,187.89	4,117.17	177.04	19.77	26.67	644.95	200.17	7,053.01	7,008.94	44.07	160.035		
12,300.00	4,757.49	4,176.93	4,106.43	179.51	19.72	26.46	642.82	199.56	7,152.36	7,108.27	44.09	162.225		
12,400.00	4,756.36	4,165.96	4,095.70	181.97	19.66	26.25	640.69	198.95	7,251.71	7,207.60	44.11	164.411		
12,500.00	4,755.24	4,155.00	4,084.96	184.44	19.60	26.04	638.55	198.34	7,351.06	7,306.93	44.13	166.591		
12,600.00	4,754.12	4,144.03	4,074.22	186.90	19.55	25.84	636.42	197.73	7,450.41	7,406.26	44.15	168.765		
12,700.00	4,753.00	4,133.07	4,063.48	189.37	19.49	25.64	634.29	197.12	7,549.76	7,505.59	44.17	170.934		
12,800.00	4,751.88	4,122.11	4,052.74	191.84	19.43	25.45	632.16	196.51	7,649.11	7,604.92	44.19	173.098		
12,900.00	4,750.75	4,111.14	4,042.01	194.30	19.38	25.27	630.03	195.90	7,748.46	7,704.25	44.21	175.256		
13,000.00	4,749.63	4,100.18	4,031.27	196.77	19.32	25.08	627.90	195.29	7,847.82	7,803.58	44.24	177.408		
13,100.00	4,748.51	4,089.21	4,020.53	199.24	19.26	24.91	625.77	194.67	7,947.17	7,902.91	44.26	179.554		
13,200.00	4,747.39	4,078.25	4,009.79	201.71	19.21	24.73	623.64	194.06	8,046.53	8,002.24	44.29	181.695		
13,300.00	4,746.27	4,067.29	3,999.06	204.18	19.15	24.56	621.51	193.45	8,145.89	8,101.58	44.31	183.830		
13,400.00	4,745.14	4,056.32	3,988.32	206.65	19.09	24.40	619.37	192.84	8,245.25	8,200.91	44.34	185.958		
13,499.97	4,744.02	4,045.36	3,977.58	209.12	19.04	24.23	617.24	192.23	8,344.58	8,300.21	44.37	188.080		
13,501.85	4,744.00	4,045.15	3,977.38	209.17	19.04	24.23	617.20	192.22	8,346.45	8,302.08	44.37	188.120		

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

1/8/2020 8:53:51AM

Page 5

COMPASS 5000.15 Build 91D



Scientific Drilling, Intl

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 314H - Slot 5
Project:	Nageezi Unit	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Reference Site:	M35 2409	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	314H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M35 2409 - 316H - Original Drilling - APD											Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF											Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
0.00	0.00	0.00	0.00	0.00	0.00	174.11	-20.02	2.07	20.13			
100.00	100.00	100.00	100.00	0.15	0.15	174.11	-20.02	2.07	20.13	19.82	0.31	65.289
200.00	200.00	200.00	200.00	0.51	0.51	174.11	-20.02	2.07	20.13	19.10	1.03	19.632
300.00	300.00	300.00	300.00	0.87	0.87	174.11	-20.02	2.07	20.13	18.39	1.74	11.553 CC
300.01	300.01	300.01	300.01	0.87	0.87	174.11	-20.02	2.07	20.13	18.39	1.74	11.553
400.00	400.00	400.00	400.00	1.23	1.23	172.50	-20.02	2.07	20.24	17.78	2.46	8.229 ES
500.00	499.96	500.68	500.66	1.59	1.59	171.86	-18.30	2.47	21.17	17.99	3.18	6.661
600.00	599.77	601.38	601.22	1.95	1.96	169.46	-13.14	3.70	22.28	18.38	3.90	5.717
700.00	699.30	702.10	701.54	2.32	2.33	165.62	-4.54	5.74	23.64	19.02	4.62	5.119
800.00	798.44	802.82	801.49	2.72	2.71	160.71	7.49	8.59	25.35	20.01	5.35	4.741
900.00	897.07	903.53	900.95	3.13	3.13	155.12	22.93	12.25	27.56	21.46	6.10	4.516
1,000.00	995.05	1,004.24	999.77	3.59	3.57	149.28	41.75	16.72	30.38	23.47	6.91	4.397
1,100.00	1,092.29	1,104.74	1,097.67	4.08	4.06	143.65	63.81	21.95	33.96	26.17	7.79	4.360
1,200.00	1,188.64	1,204.55	1,194.67	4.61	4.56	141.21	86.72	27.39	39.82	31.11	8.71	4.570
1,300.00	1,284.02	1,304.17	1,291.48	5.20	5.07	142.02	109.58	32.81	48.41	38.78	9.63	5.028
1,400.00	1,378.99	1,403.70	1,388.20	5.81	5.60	143.46	132.42	38.23	58.07	47.54	10.54	5.512
1,500.00	1,473.96	1,503.22	1,484.91	6.44	6.13	144.49	155.26	43.65	67.76	56.31	11.45	5.916
1,600.00	1,568.93	1,602.74	1,581.63	7.08	6.66	145.26	178.11	49.07	77.47	65.09	12.38	6.258
1,700.00	1,663.90	1,702.27	1,678.34	7.72	7.20	145.86	200.95	54.49	87.18	73.87	13.31	6.550
1,800.00	1,758.87	1,801.79	1,775.06	8.37	7.75	146.34	223.79	59.90	96.90	82.66	14.25	6.802
1,900.00	1,853.84	1,901.31	1,871.77	9.03	8.29	146.74	246.63	65.32	106.63	91.45	15.19	7.021
2,000.00	1,948.80	2,000.84	1,968.49	9.69	8.84	147.06	269.47	70.74	116.37	100.23	16.13	7.214
2,100.00	2,043.77	2,100.36	2,065.20	10.35	9.39	147.34	292.31	76.16	126.10	109.02	17.08	7.384
2,200.00	2,138.74	2,199.88	2,161.92	11.02	9.94	147.57	315.15	81.58	135.84	117.81	18.03	7.536
2,300.00	2,233.71	2,299.41	2,258.63	11.69	10.49	147.78	337.99	87.00	145.58	126.60	18.98	7.671
2,400.00	2,328.68	2,398.93	2,355.35	12.36	11.05	147.96	360.83	92.42	155.32	135.39	19.93	7.794
2,500.00	2,423.65	2,498.45	2,452.06	13.03	11.60	148.12	383.67	97.83	165.06	144.18	20.88	7.904
2,600.00	2,518.62	2,597.98	2,548.78	13.70	12.15	148.26	406.51	103.25	174.81	152.97	21.84	8.005
2,700.00	2,613.59	2,697.50	2,645.49	14.37	12.71	148.38	429.35	108.67	184.55	161.76	22.79	8.097
2,800.00	2,708.56	2,797.02	2,742.21	15.05	13.27	148.49	452.19	114.09	194.30	170.55	23.75	8.181
2,900.00	2,803.53	2,896.55	2,838.92	15.72	13.82	148.60	475.04	119.51	204.04	179.34	24.71	8.258
3,000.00	2,898.50	2,996.07	2,935.64	16.40	14.38	148.69	497.88	124.93	213.79	188.12	25.67	8.330
3,100.00	2,993.47	3,095.59	3,032.35	17.08	14.94	148.77	520.72	130.35	223.54	196.91	26.63	8.396
3,200.00	3,088.44	3,195.12	3,129.07	17.75	15.49	148.85	543.56	135.76	233.28	205.70	27.59	8.457
3,300.00	3,183.41	3,294.64	3,225.78	18.43	16.05	148.92	566.40	141.18	243.03	214.49	28.55	8.514
3,400.00	3,278.38	3,394.16	3,322.50	19.11	16.61	148.99	589.24	146.60	252.78	223.28	29.51	8.567
3,500.00	3,373.34	3,493.69	3,419.22	19.79	17.17	149.05	612.08	152.02	262.53	232.06	30.47	8.617
3,600.00	3,468.31	3,593.21	3,515.93	20.46	17.73	149.11	634.92	157.44	272.28	240.85	31.43	8.663
3,700.00	3,563.28	3,692.73	3,612.65	21.14	18.29	149.16	657.76	162.86	282.03	249.64	32.39	8.707
3,800.00	3,658.25	3,792.26	3,709.36	21.82	18.85	149.21	680.60	168.28	291.78	258.42	33.35	8.748
3,900.00	3,753.22	3,891.78	3,806.08	22.50	19.41	149.25	703.44	173.69	301.53	267.21	34.32	8.787
4,000.00	3,848.19	3,991.30	3,902.79	23.18	19.97	149.30	726.28	179.11	311.28	276.00	35.28	8.823
4,100.00	3,943.16	4,090.83	3,999.51	23.86	20.53	149.34	749.12	184.53	321.03	284.79	36.24	8.858
4,200.00	4,038.13	4,190.35	4,096.22	24.54	21.09	149.38	771.97	189.95	330.78	293.57	37.21	8.890
4,300.00	4,133.50	4,290.02	4,193.08	25.20	21.65	149.39	794.84	195.38	338.43	300.29	38.15	8.922
4,400.00	4,230.50	4,389.62	4,289.87	25.71	22.21	149.39	817.70	200.80	346.22	309.00	39.12	8.952
4,500.00	4,327.14	4,486.93	4,384.43	26.06	22.76	149.39	840.03	206.10	353.97	317.71	40.09	8.980
4,600.00	4,421.05	4,579.53	4,474.42	26.25	23.28	149.39	861.28	211.14	361.71	326.41	41.06	9.008
4,700.00	4,509.90	4,650.00	4,543.06	26.30	23.66	149.39	876.36	216.11	369.45	335.15	42.03	9.035
4,800.00	4,591.51	4,715.78	4,607.45	26.23	23.97	149.39	885.85	225.42	377.19	343.89	43.00	9.062
4,900.00	4,663.88	4,783.51	4,673.40	26.07	24.24	149.39	890.56	239.97	384.92	352.63	44.00	9.089

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



Scientific Drilling, Intl

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 314H - Slot 5
Project:	Nageezi Unit	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Reference Site:	M35 2409	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	314H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M35 2409 - 316H - Original Drilling - APD														Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
5,000.00	4,725.22	4,854.47	4,741.31	25.83	24.46	93.42	889.91	260.41	123.99	85.41	38.58	3.214			
5,043.82	4,748.23	4,886.88	4,771.69	25.70	24.54	102.94	887.72	271.46	120.72	79.84	40.88	2.953			
5,100.00	4,774.02	4,929.90	4,811.23	25.54	24.63	115.10	882.99	287.72	126.28	82.68	43.60	2.896			
5,200.00	4,809.07	5,011.74	4,883.35	25.23	24.76	133.54	868.32	323.40	159.98	115.59	44.39	3.604			
5,300.00	4,829.53	5,103.08	4,957.80	24.91	24.83	146.77	843.44	369.94	212.14	170.90	41.24	5.144			
5,400.00	4,834.91	5,209.21	5,034.38	24.62	24.85	156.62	803.94	431.69	272.30	236.00	36.30	7.501			
5,500.00	4,833.79	5,349.09	5,115.62	24.50	24.82	166.27	736.31	522.87	327.55	297.62	29.93	10.943			
5,600.00	4,832.67	5,537.23	5,183.49	24.95	24.85	171.22	622.92	655.82	363.45	339.32	24.13	15.061			
5,700.00	4,831.55	5,720.84	5,199.67	26.13	25.45	172.22	496.23	786.96	371.56	346.74	24.82	14.968			
5,800.00	4,830.43	5,820.84	5,198.52	27.62	26.23	172.22	425.28	857.42	371.54	345.53	26.01	14.285			
5,900.00	4,829.30	5,920.84	5,197.38	29.26	27.36	172.21	354.33	927.88	371.52	344.28	27.24	13.637			
6,000.00	4,828.18	6,020.84	5,196.23	31.01	28.72	172.21	283.38	998.35	371.50	342.97	28.53	13.020			
6,100.00	4,827.06	6,120.84	5,195.09	32.85	30.26	172.20	212.44	1,068.81	371.48	341.62	29.86	12.439			
6,200.00	4,825.94	6,220.84	5,193.94	34.75	31.93	172.20	141.49	1,139.27	371.46	340.23	31.23	11.894			
6,300.00	4,824.82	6,320.84	5,192.80	36.73	33.72	172.20	70.54	1,209.74	371.44	338.82	32.63	11.384			
6,400.00	4,823.69	6,420.84	5,191.65	38.75	35.59	172.19	-0.41	1,280.20	371.42	337.37	34.05	10.907			
6,500.00	4,822.57	6,520.84	5,190.51	40.82	37.54	172.19	-71.36	1,350.66	371.40	335.90	35.51	10.460			
6,600.00	4,821.45	6,620.84	5,189.36	42.93	39.55	172.19	-142.31	1,421.12	371.38	334.40	36.98	10.043			
6,700.00	4,820.33	6,720.84	5,188.22	45.08	41.61	172.18	-213.25	1,491.59	371.36	332.89	38.47	9.653			
6,800.00	4,819.20	6,820.84	5,187.07	47.26	43.71	172.18	-284.20	1,562.05	371.34	331.36	39.98	9.288			
6,900.00	4,818.08	6,920.84	5,185.93	49.46	45.85	172.18	-355.15	1,632.51	371.32	329.82	41.51	8.946			
7,000.00	4,816.96	7,020.84	5,184.78	51.69	48.03	172.17	-426.10	1,702.98	371.30	328.26	43.04	8.626			
7,100.00	4,815.84	7,120.84	5,183.64	53.93	50.23	172.17	-497.05	1,773.44	371.28	326.69	44.59	8.326			
7,200.00	4,814.72	7,220.84	5,182.49	56.20	52.46	172.17	-567.99	1,843.90	371.26	325.11	46.16	8.044			
7,300.00	4,813.59	7,320.84	5,181.35	58.48	54.71	172.16	-638.94	1,914.36	371.24	323.52	47.73	7.779			
7,400.00	4,812.47	7,420.84	5,180.20	60.78	56.98	172.16	-709.89	1,984.83	371.22	321.92	49.31	7.529			
7,500.00	4,811.35	7,520.84	5,179.06	63.09	59.27	172.16	-780.84	2,055.29	371.20	320.31	50.90	7.294			
7,600.00	4,810.23	7,620.84	5,177.91	65.42	61.57	172.15	-851.79	2,125.75	371.18	318.69	52.49	7.071			
7,700.00	4,809.11	7,720.84	5,176.77	67.75	63.89	172.15	-922.74	2,196.22	371.16	317.07	54.09	6.861			
7,800.00	4,807.98	7,820.84	5,175.62	70.10	66.22	172.14	-993.68	2,266.68	371.14	315.44	55.70	6.663			
7,900.00	4,806.86	7,920.84	5,174.48	72.45	68.56	172.14	-1,064.63	2,337.14	371.12	313.81	57.32	6.475			
8,000.00	4,805.74	8,020.84	5,173.33	74.81	70.91	172.14	-1,135.58	2,407.61	371.10	312.17	58.94	6.297			
8,100.00	4,804.62	8,120.84	5,172.19	77.18	73.27	172.13	-1,206.53	2,478.07	371.08	310.52	60.56	6.127			
8,200.00	4,803.49	8,220.84	5,171.04	79.56	75.64	172.13	-1,277.48	2,548.53	371.06	308.87	62.19	5.966			
8,300.00	4,802.37	8,320.84	5,169.90	81.94	78.02	172.13	-1,348.43	2,618.99	371.04	307.22	63.82	5.813			
8,400.00	4,801.25	8,420.84	5,168.75	84.32	80.40	172.12	-1,419.37	2,689.46	371.02	305.56	65.46	5.668			
8,500.00	4,800.13	8,520.84	5,167.61	86.72	82.79	172.12	-1,490.32	2,759.92	371.00	303.90	67.10	5.529			
8,600.00	4,799.01	8,620.84	5,166.46	89.12	85.19	172.12	-1,561.27	2,830.38	370.99	302.24	68.75	5.396			
8,700.00	4,797.88	8,720.84	5,165.32	91.52	87.59	172.11	-1,632.22	2,900.85	370.97	300.57	70.39	5.270			
8,800.00	4,796.76	8,820.84	5,164.17	93.92	89.99	172.11	-1,703.17	2,971.31	370.95	298.90	72.05	5.149			
8,900.00	4,795.64	8,920.84	5,163.03	96.34	92.40	172.11	-1,774.12	3,041.77	370.93	297.23	73.70	5.033			
9,000.00	4,794.52	9,020.84	5,161.88	98.75	94.82	172.10	-1,845.06	3,112.23	370.91	295.55	75.35	4.922			
9,100.00	4,793.40	9,120.84	5,160.74	101.17	97.23	172.10	-1,916.01	3,182.70	370.89	293.87	77.01	4.816			
9,200.00	4,792.27	9,220.84	5,159.59	103.59	99.66	172.10	-1,986.96	3,253.16	370.87	292.19	78.67	4.714			
9,300.00	4,791.15	9,320.84	5,158.45	106.01	102.08	172.09	-2,057.91	3,323.62	370.85	290.51	80.33	4.616			
9,400.00	4,790.03	9,420.84	5,157.30	108.44	104.51	172.09	-2,128.86	3,394.09	370.83	288.83	82.00	4.522			
9,500.00	4,788.91	9,520.84	5,156.16	110.87	106.94	172.08	-2,199.81	3,464.55	370.81	287.14	83.67	4.432			
9,600.00	4,787.78	9,620.84	5,155.01	113.30	109.37	172.08	-2,270.75	3,535.01	370.79	285.45	85.33	4.345			
9,700.00	4,786.66	9,720.84	5,153.87	115.73	111.81	172.08	-2,341.70	3,605.48	370.77	283.76	87.00	4.261			
9,800.00	4,785.54	9,820.84	5,152.72	118.17	114.25	172.07	-2,412.65	3,675.94	370.75	282.07	88.68	4.181			

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



Scientific Drilling, Intl

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 314H - Slot 5
Project:	Nageezi Unit	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Reference Site:	M35 2409	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	314H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M35 2409 - 316H - Original Drilling - APD													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum		Separation		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,900.00	4,784.42	9,920.84	5,151.58	120.60	116.69	172.07	-2,483.60	3,746.40	370.73	280.38	90.35	4.103		
10,000.00	4,783.30	10,020.84	5,150.43	123.04	119.13	172.07	-2,554.55	3,816.86	370.71	278.68	92.02	4.028		
10,100.00	4,782.17	10,120.84	5,149.29	125.49	121.58	172.06	-2,625.50	3,887.33	370.69	276.99	93.70	3.956		
10,200.00	4,781.05	10,220.84	5,148.14	127.93	124.03	172.06	-2,696.44	3,957.79	370.67	275.29	95.38	3.886		
10,300.00	4,779.93	10,320.84	5,147.00	130.37	126.47	172.06	-2,767.39	4,028.25	370.65	273.59	97.06	3.819		
10,400.00	4,778.81	10,420.84	5,145.85	132.82	128.92	172.05	-2,838.34	4,098.72	370.63	271.89	98.74	3.754		
10,500.00	4,777.69	10,520.84	5,144.71	135.27	131.38	172.05	-2,909.29	4,169.18	370.61	270.19	100.42	3.691		
10,600.00	4,776.56	10,620.84	5,143.56	137.72	133.83	172.05	-2,980.24	4,239.64	370.59	268.49	102.10	3.630		
10,700.00	4,775.44	10,720.84	5,142.42	140.17	136.28	172.04	-3,051.19	4,310.10	370.57	266.78	103.78	3.571		
10,800.00	4,774.32	10,820.84	5,141.27	142.62	138.74	172.04	-3,122.13	4,380.57	370.55	265.08	105.47	3.513		
10,900.00	4,773.20	10,920.84	5,140.13	145.07	141.20	172.04	-3,193.08	4,451.03	370.53	263.37	107.16	3.458		
11,000.00	4,772.07	11,020.84	5,138.98	147.53	143.66	172.03	-3,264.03	4,521.49	370.51	261.67	108.84	3.404		
11,100.00	4,770.95	11,120.84	5,137.84	149.98	146.12	172.03	-3,334.98	4,591.96	370.49	259.96	110.53	3.352		
11,200.00	4,769.83	11,220.84	5,136.69	152.44	148.58	172.02	-3,405.93	4,662.42	370.47	258.25	112.22	3.301		
11,300.00	4,768.71	11,320.84	5,135.55	154.89	151.04	172.02	-3,476.88	4,732.88	370.45	256.54	113.91	3.252		
11,400.00	4,767.59	11,420.84	5,134.40	157.35	153.50	172.02	-3,547.82	4,803.35	370.43	254.83	115.60	3.204		
11,500.00	4,766.46	11,520.84	5,133.26	159.81	155.97	172.01	-3,618.77	4,873.81	370.41	253.12	117.29	3.158		
11,600.00	4,765.34	11,620.84	5,132.11	162.27	158.43	172.01	-3,689.72	4,944.27	370.39	251.41	118.98	3.113		
11,700.00	4,764.22	11,720.84	5,130.97	164.73	160.90	172.01	-3,760.67	5,014.73	370.37	249.69	120.67	3.069		
11,800.00	4,763.10	11,820.84	5,129.82	167.19	163.36	172.00	-3,831.62	5,085.20	370.35	247.98	122.37	3.027		
11,900.00	4,761.98	11,920.84	5,128.68	169.65	165.83	172.00	-3,902.57	5,155.66	370.33	246.27	124.06	2.985		
12,000.00	4,760.85	12,020.84	5,127.53	172.11	168.30	172.00	-3,973.51	5,226.12	370.31	244.55	125.76	2.945		
12,100.00	4,759.73	12,120.84	5,126.39	174.58	170.77	171.99	-4,044.46	5,296.59	370.29	242.84	127.45	2.905		
12,200.00	4,758.61	12,220.84	5,125.24	177.04	173.24	171.99	-4,115.41	5,367.05	370.27	241.12	129.15	2.867		
12,300.00	4,757.49	12,320.84	5,124.10	179.51	175.71	171.99	-4,186.36	5,437.51	370.25	239.40	130.85	2.830		
12,400.00	4,756.36	12,420.84	5,122.95	181.97	178.18	171.98	-4,257.31	5,507.97	370.23	237.68	132.54	2.793		
12,500.00	4,755.24	12,520.84	5,121.81	184.44	180.65	171.98	-4,328.26	5,578.44	370.21	235.97	134.24	2.758		
12,600.00	4,754.12	12,620.84	5,120.66	186.90	183.12	171.98	-4,399.20	5,648.90	370.19	234.25	135.94	2.723		
12,700.00	4,753.00	12,720.84	5,119.52	189.37	185.59	171.97	-4,470.15	5,719.36	370.17	232.53	137.64	2.689		
12,800.00	4,751.88	12,820.84	5,118.37	191.84	188.06	171.97	-4,541.10	5,789.83	370.15	230.81	139.34	2.656		
12,900.00	4,750.75	12,920.84	5,117.23	194.30	190.54	171.96	-4,612.05	5,860.29	370.13	229.09	141.04	2.624		
13,000.00	4,749.63	13,020.84	5,116.08	196.77	193.01	171.96	-4,683.00	5,930.75	370.11	227.37	142.74	2.593		
13,100.00	4,748.51	13,120.84	5,114.94	199.24	195.49	171.96	-4,753.94	6,001.22	370.09	225.64	144.45	2.562		
13,200.00	4,747.39	13,220.84	5,113.79	201.71	197.96	171.95	-4,824.89	6,071.68	370.07	223.92	146.15	2.532		
13,300.00	4,746.27	13,320.84	5,112.65	204.18	200.44	171.95	-4,895.84	6,142.14	370.05	222.20	147.85	2.503		
13,400.00	4,745.14	13,420.84	5,111.50	206.65	202.91	171.95	-4,966.79	6,212.60	370.03	220.48	149.56	2.474		
13,443.78	4,744.65	13,464.56	5,111.00	207.73	203.99	171.95	-4,997.80	6,243.41	370.02	219.72	150.30	2.462 SF		
13,499.97	4,744.02	13,464.56	5,111.00	209.12	203.99	171.95	-4,997.80	6,243.41	374.26	227.33	146.94	2.547		
13,501.85	4,744.00	13,464.56	5,111.00	209.17	203.99	171.95	-4,997.80	6,243.41	374.55	227.77	146.78	2.552		

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

1/8/2020 8:53:51AM

Page 8

COMPASS 5000.15 Build 91D



Scientific Drilling, Intl

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 314H - Slot 5
Project:	Nageezi Unit	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Reference Site:	M35 2409	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	314H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M35 2409 - 318H - Original Drilling - APD														Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF														Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	174.08		-59.70	6.19	60.02					
100.00	100.00	100.00	100.00	0.15	0.15	174.08		-59.70	6.19	60.02	59.72	0.31	194.703		
200.00	200.00	200.00	200.00	0.51	0.51	174.08		-59.70	6.19	60.02	59.00	1.03	58.547		
300.00	300.00	300.00	300.00	0.87	0.87	174.08		-59.70	6.19	60.02	58.28	1.74	34.454 CC		
300.01	300.01	300.01	300.01	0.87	0.87	174.08		-59.70	6.19	60.02	58.28	1.74	34.453		
400.00	400.00	400.00	400.00	1.23	1.23	172.45		-59.70	6.19	60.13	57.67	2.46	24.452 ES		
500.00	499.96	500.37	500.35	1.59	1.58	174.25		-59.44	4.54	62.32	59.15	3.17	19.653		
600.00	599.77	600.16	600.11	1.95	1.93	176.99		-59.00	1.85	67.85	63.97	3.88	17.466		
700.00	699.30	699.69	699.60	2.32	2.29	179.36		-58.57	-0.82	76.99	72.39	4.60	16.728		
800.00	798.44	798.84	798.71	2.72	2.64	-178.82		-58.14	-3.49	89.70	84.38	5.32	16.852		
900.00	897.07	897.49	897.32	3.13	2.99	-177.53		-57.71	-6.15	105.93	99.89	6.04	17.525		
1,000.00	995.05	995.51	995.31	3.59	3.34	-176.67		-57.29	-8.78	125.63	118.86	6.77	18.563		
1,100.00	1,092.29	1,092.79	1,092.55	4.08	3.69	-176.11		-56.86	-11.40	148.74	141.25	7.49	19.854		
1,200.00	1,188.64	1,189.21	1,188.93	4.61	4.04	-175.78		-56.45	-14.00	175.23	167.02	8.22	21.328		
1,300.00	1,284.02	1,284.65	1,284.35	5.20	4.38	-175.60		-56.03	-16.56	205.05	196.10	8.95	22.921		
1,400.00	1,378.99	1,379.70	1,379.36	5.81	4.73	-175.52		-55.62	-19.12	236.13	226.47	9.66	24.439		
1,500.00	1,473.96	1,474.75	1,474.37	6.44	5.07	-175.46		-55.20	-21.68	267.21	256.83	10.38	25.736		
1,600.00	1,568.93	1,569.79	1,569.38	7.08	5.41	-175.42		-54.79	-24.23	298.30	287.19	11.11	26.855		
1,700.00	1,663.90	1,664.84	1,664.39	7.72	5.76	-175.38		-54.38	-26.79	329.38	317.55	11.84	27.829		
1,800.00	1,758.87	1,759.88	1,759.40	8.37	6.10	-175.35		-53.97	-29.35	360.47	347.90	12.57	28.685		
1,900.00	1,853.84	1,854.93	1,854.41	9.03	6.44	-175.32		-53.55	-31.91	391.55	378.25	13.30	29.441		
2,000.00	1,948.80	1,949.98	1,949.42	9.69	6.79	-175.30		-53.14	-34.46	422.64	408.60	14.03	30.115		
2,100.00	2,043.77	2,045.02	2,044.43	10.35	7.13	-175.28		-52.73	-37.02	453.72	438.95	14.77	30.718		
2,200.00	2,138.74	2,140.07	2,139.44	11.02	7.47	-175.26		-52.31	-39.58	484.81	469.30	15.51	31.262		
2,300.00	2,233.71	2,235.11	2,234.45	11.69	7.82	-175.25		-51.90	-42.14	515.89	499.64	16.25	31.753		
2,400.00	2,328.68	2,330.16	2,329.46	12.36	8.16	-175.23		-51.49	-44.69	546.98	529.99	16.99	32.200		
2,500.00	2,423.65	2,425.21	2,424.47	13.03	8.50	-175.22		-51.08	-47.25	578.06	560.33	17.73	32.609		
2,600.00	2,518.62	2,520.25	2,519.48	13.70	8.85	-175.21		-50.66	-49.81	609.15	590.68	18.47	32.983		
2,700.00	2,613.59	2,615.30	2,614.49	14.37	9.19	-175.20		-50.25	-52.37	640.23	621.02	19.21	33.326		
2,800.00	2,708.56	2,710.34	2,709.50	15.05	9.54	-175.19		-49.84	-54.92	671.32	651.36	19.95	33.644		
2,900.00	2,803.53	2,805.39	2,804.51	15.72	9.88	-175.19		-49.42	-57.48	702.40	681.70	20.70	33.937		
3,000.00	2,898.50	2,900.43	2,899.52	16.40	10.22	-175.18		-49.01	-60.04	733.49	712.05	21.44	34.210		
3,100.00	2,993.47	2,995.48	2,994.54	17.08	10.57	-175.17		-48.60	-62.59	764.57	742.39	22.19	34.463		
3,200.00	3,088.44	3,090.53	3,089.55	17.75	10.91	-175.17		-48.19	-65.15	795.66	772.73	22.93	34.700		
3,300.00	3,183.41	3,185.57	3,184.56	18.43	11.26	-175.16		-47.77	-67.71	826.74	803.07	23.67	34.921		
3,400.00	3,278.38	3,280.62	3,279.57	19.11	11.60	-175.15		-47.36	-70.27	857.83	833.41	24.42	35.128		
3,500.00	3,373.34	3,375.66	3,374.58	19.79	11.94	-175.15		-46.95	-72.82	888.91	863.74	25.17	35.322		
3,600.00	3,468.31	3,470.71	3,469.59	20.46	12.29	-175.14		-46.53	-75.38	920.00	894.08	25.91	35.504		
3,700.00	3,563.28	3,565.76	3,564.60	21.14	12.63	-175.14		-46.12	-77.94	951.08	924.42	26.66	35.676		
3,800.00	3,658.25	3,660.80	3,659.61	21.82	12.98	-175.14		-45.71	-80.50	982.17	954.76	27.41	35.839		
3,900.00	3,753.22	3,755.85	3,754.62	22.50	13.32	-175.13		-45.30	-83.05	1,013.25	985.10	28.15	35.992		
4,000.00	3,848.19	3,850.89	3,849.63	23.18	13.66	-175.13		-44.88	-85.61	1,044.34	1,015.44	28.90	36.137		
4,100.00	3,943.16	3,945.94	3,944.64	23.86	14.01	-175.13		-44.47	-88.17	1,075.42	1,045.77	29.65	36.275		
4,200.00	4,038.13	4,040.98	4,039.65	24.54	14.35	-175.12		-44.06	-90.72	1,106.51	1,076.11	30.39	36.405		
4,300.00	4,133.50	4,136.38	4,135.02	25.20	14.70	-175.11		-43.64	-93.29	1,136.31	1,105.17	31.14	36.493		
4,400.00	4,230.50	4,233.10	4,231.69	25.71	15.05	-175.11		-43.22	-95.89	1,157.84	1,125.98	31.86	36.544		
4,500.00	4,327.14	4,329.11	4,327.67	26.06	15.40	-175.11		-42.80	-98.48	1,169.98	1,137.44	32.54	36.591		
4,600.00	4,421.05	4,422.05	4,420.58	26.25	15.73	-175.11		-42.40	-100.98	1,173.20	1,140.01	33.19	36.639		
4,700.00	4,509.90	4,509.64	4,508.13	26.30	16.05	-175.11		-42.02	-103.33	1,168.47	1,134.67	33.80	36.687		
4,800.00	4,591.51	4,550.00	4,548.48	26.23	16.19	-175.11		-42.53	-103.74	1,158.44	1,124.36	34.08	36.735		
4,900.00	4,663.88	4,600.00	4,598.33	26.07	16.35	-175.11		-42.65	-101.77	1,145.62	1,111.15	34.47	36.783		

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



Scientific Drilling, Intl

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 314H - Slot 5
Project:	Nageezi Unit	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Reference Site:	M35 2409	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	314H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M35 2409 - 318H - Original Drilling - APD													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance		Minimum Separation		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.00	4,725.22	4,635.55	4,633.52	25.83	16.46	78.33	-49.55	-98.69	1,130.82	1,095.95	34.86	32.434		
5,100.00	4,774.02	4,674.75	4,671.95	25.54	16.57	79.79	-55.47	-93.69	1,115.02	1,079.56	35.46	31.444		
5,200.00	4,809.07	4,712.48	4,708.41	25.23	16.68	81.86	-62.72	-87.31	1,099.27	1,063.02	36.25	30.322		
5,300.00	4,829.53	4,750.00	4,744.05	24.91	16.79	84.37	-71.44	-79.46	1,084.75	1,047.50	37.25	29.120		
5,400.00	4,834.91	4,780.85	4,772.79	24.62	16.87	86.73	-79.71	-71.90	1,072.70	1,034.35	38.35	27.970		
5,500.00	4,833.79	4,816.93	4,805.67	24.50	16.97	88.50	-90.61	-61.82	1,066.64	1,027.07	39.57	26.957		
5,527.72	4,833.48	4,828.76	4,816.26	24.51	17.00	89.07	-94.47	-58.23	1,066.35	1,026.38	39.97	26.678		
5,600.00	4,832.67	4,864.40	4,847.55	24.95	17.09	90.77	-106.92	-46.57	1,068.26	1,027.39	40.87	26.137		
5,700.00	4,831.55	4,928.77	4,901.45	26.13	17.25	93.67	-132.45	-22.45	1,076.62	1,034.37	42.25	25.481		
5,800.00	4,830.43	5,018.65	4,970.21	27.62	17.60	97.36	-174.22	17.46	1,090.01	1,046.24	43.77	24.901		
5,900.00	4,829.30	5,146.24	5,052.40	29.26	18.30	101.68	-244.20	85.08	1,105.51	1,059.82	45.68	24.199		
6,000.00	4,828.18	5,322.57	5,130.86	31.01	19.81	105.71	-356.70	195.00	1,118.56	1,069.92	48.63	23.000		
6,100.00	4,827.06	5,539.51	5,163.95	32.85	22.58	107.45	-508.48	344.92	1,123.72	1,070.36	53.36	21.059		
6,101.84	4,827.04	5,529.43	5,163.88	32.88	22.43	107.44	-501.33	337.82	1,123.71	1,070.51	53.19	21.125		
6,200.00	4,825.94	5,637.65	5,162.86	34.75	24.11	107.45	-578.11	414.07	1,123.74	1,067.11	56.63	19.844		
6,300.00	4,824.82	5,737.65	5,161.74	36.73	25.81	107.45	-649.06	484.53	1,123.76	1,063.63	60.13	18.688		
6,400.00	4,823.69	5,837.65	5,160.61	38.75	27.63	107.45	-720.01	555.00	1,123.78	1,059.97	63.81	17.611		
6,500.00	4,822.57	5,937.65	5,159.49	40.82	29.55	107.45	-790.96	625.46	1,123.81	1,056.17	67.63	16.616		
6,600.00	4,821.45	6,037.65	5,158.37	42.93	31.55	107.45	-861.91	695.92	1,123.83	1,052.25	71.58	15.701		
6,700.00	4,820.33	6,137.65	5,157.24	45.08	33.61	107.45	-932.86	766.38	1,123.85	1,048.23	75.62	14.862		
6,800.00	4,819.20	6,237.65	5,156.12	47.26	35.73	107.45	-1,003.81	836.84	1,123.87	1,044.12	79.74	14.093		
6,900.00	4,818.08	6,337.65	5,155.00	49.46	37.89	107.45	-1,074.76	907.30	1,123.89	1,039.95	83.94	13.389		
7,000.00	4,816.96	6,437.65	5,153.87	51.69	40.10	107.44	-1,145.71	977.77	1,123.91	1,035.71	88.20	12.742		
7,100.00	4,815.84	6,537.65	5,152.75	53.93	42.33	107.44	-1,216.66	1,048.23	1,123.93	1,031.42	92.51	12.149		
7,200.00	4,814.72	6,637.65	5,151.63	56.20	44.59	107.44	-1,287.61	1,118.69	1,123.95	1,027.08	96.87	11.603		
7,300.00	4,813.59	6,737.65	5,150.50	58.48	46.88	107.44	-1,358.56	1,189.15	1,123.97	1,022.71	101.26	11.100		
7,400.00	4,812.47	6,837.65	5,149.38	60.78	49.19	107.44	-1,429.51	1,259.61	1,123.99	1,018.30	105.69	10.635		
7,500.00	4,811.35	6,937.65	5,148.26	63.09	51.51	107.44	-1,500.46	1,330.07	1,124.01	1,013.87	110.15	10.205		
7,600.00	4,810.23	7,037.65	5,147.14	65.42	53.85	107.44	-1,571.41	1,400.53	1,124.03	1,009.41	114.63	9.806		
7,700.00	4,809.11	7,137.65	5,146.01	67.75	56.20	107.44	-1,642.36	1,471.00	1,124.06	1,004.92	119.14	9.435		
7,800.00	4,807.98	7,237.65	5,144.89	70.10	58.56	107.44	-1,713.31	1,541.46	1,124.08	1,000.41	123.66	9.090		
7,900.00	4,806.86	7,337.65	5,143.77	72.45	60.94	107.44	-1,784.26	1,611.92	1,124.10	995.89	128.21	8.768		
8,000.00	4,805.74	7,437.65	5,142.64	74.81	63.32	107.44	-1,855.21	1,682.38	1,124.12	991.35	132.77	8.467		
8,100.00	4,804.62	7,537.65	5,141.52	77.18	65.71	107.44	-1,926.16	1,752.84	1,124.14	986.79	137.35	8.185		
8,200.00	4,803.49	7,637.65	5,140.40	79.56	68.11	107.44	-1,997.11	1,823.30	1,124.16	982.22	141.93	7.920		
8,300.00	4,802.37	7,737.65	5,139.27	81.94	70.51	107.44	-2,068.06	1,893.76	1,124.18	977.64	146.54	7.672		
8,400.00	4,801.25	7,837.65	5,138.15	84.32	72.92	107.44	-2,139.01	1,964.23	1,124.20	973.05	151.15	7.438		
8,500.00	4,800.13	7,937.65	5,137.03	86.72	75.34	107.44	-2,209.96	2,034.69	1,124.22	968.45	155.77	7.217		
8,600.00	4,799.01	8,037.65	5,135.90	89.12	77.76	107.44	-2,280.91	2,105.15	1,124.24	963.84	160.40	7.009		
8,700.00	4,797.88	8,137.65	5,134.78	91.52	80.19	107.44	-2,351.86	2,175.61	1,124.26	959.22	165.04	6.812		
8,800.00	4,796.76	8,237.65	5,133.66	93.92	82.62	107.44	-2,422.81	2,246.07	1,124.28	954.60	169.69	6.626		
8,900.00	4,795.64	8,337.65	5,132.53	96.34	85.05	107.44	-2,493.76	2,316.53	1,124.31	949.96	174.34	6.449		
9,000.00	4,794.52	8,437.65	5,131.41	98.75	87.48	107.44	-2,564.71	2,386.99	1,124.33	945.32	179.01	6.281		
9,100.00	4,793.40	8,537.65	5,130.29	101.17	89.92	107.44	-2,635.66	2,457.46	1,124.35	940.68	183.67	6.121		
9,200.00	4,792.27	8,637.65	5,129.16	103.59	92.37	107.44	-2,706.61	2,527.92	1,124.37	936.02	188.34	5.970		
9,300.00	4,791.15	8,737.65	5,128.04	106.01	94.81	107.44	-2,777.56	2,598.38	1,124.39	931.37	193.02	5.825		
9,400.00	4,790.03	8,837.65	5,126.92	108.44	97.26	107.44	-2,848.51	2,668.84	1,124.41	926.71	197.70	5.687		
9,500.00	4,788.91	8,937.65	5,125.79	110.87	99.71	107.43	-2,919.46	2,739.30	1,124.43	922.04	202.39	5.556		
9,600.00	4,787.78	9,037.65	5,124.67	113.30	102.16	107.43	-2,990.41	2,809.76	1,124.45	917.37	207.08	5.430		
9,700.00	4,786.66	9,137.65	5,123.55	115.73	104.61	107.43	-3,061.36	2,880.22	1,124.47	912.70	211.78	5.310		

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

1/8/2020 8:53:51AM

Page 10

COMPASS 5000.15 Build 91D



Scientific Drilling, Intl

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 314H - Slot 5
Project:	Nageezi Unit	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Reference Site:	M35 2409	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	314H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M35 2409 - 318H - Original Drilling - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance					Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		Separation Factor
9,800.00	4,785.54	9,237.65	5,122.42	118.17	107.07	107.43	-3,132.31	2,950.69	1,124.49	908.02	216.47	5.195	
9,900.00	4,784.42	9,337.65	5,121.30	120.60	109.53	107.43	-3,203.26	3,021.15	1,124.51	903.34	221.18	5.084	
10,000.00	4,783.30	9,437.65	5,120.18	123.04	111.99	107.43	-3,274.21	3,091.61	1,124.54	898.65	225.88	4.978	
10,100.00	4,782.17	9,537.65	5,119.05	125.49	114.45	107.43	-3,345.16	3,162.07	1,124.56	893.97	230.59	4.877	
10,200.00	4,781.05	9,637.65	5,117.93	127.93	116.91	107.43	-3,416.11	3,232.53	1,124.58	889.28	235.30	4.779	
10,300.00	4,779.93	9,737.65	5,116.81	130.37	119.37	107.43	-3,487.06	3,302.99	1,124.60	884.59	240.01	4.686	
10,400.00	4,778.81	9,837.65	5,115.68	132.82	121.83	107.43	-3,558.01	3,373.46	1,124.62	879.89	244.73	4.595	
10,500.00	4,777.69	9,937.65	5,114.56	135.27	124.30	107.43	-3,628.96	3,443.92	1,124.64	875.19	249.45	4.509	
10,600.00	4,776.56	10,037.65	5,113.44	137.72	126.77	107.43	-3,699.91	3,514.38	1,124.66	870.49	254.17	4.425	
10,700.00	4,775.44	10,137.65	5,112.32	140.17	129.23	107.43	-3,770.86	3,584.84	1,124.68	865.79	258.89	4.344	
10,800.00	4,774.32	10,237.65	5,111.19	142.62	131.70	107.43	-3,841.82	3,655.30	1,124.70	861.09	263.61	4.266	
10,900.00	4,773.20	10,337.65	5,110.07	145.07	134.17	107.43	-3,912.77	3,725.76	1,124.72	856.38	268.34	4.191	
11,000.00	4,772.07	10,437.65	5,108.95	147.53	136.64	107.43	-3,983.72	3,796.22	1,124.74	851.68	273.07	4.119	
11,100.00	4,770.95	10,537.65	5,107.82	149.98	139.11	107.43	-4,054.67	3,866.69	1,124.76	846.97	277.80	4.049	
11,200.00	4,769.83	10,637.65	5,106.70	152.44	141.58	107.43	-4,125.62	3,937.15	1,124.79	842.26	282.53	3.981	
11,300.00	4,768.71	10,737.65	5,105.58	154.89	144.06	107.43	-4,196.57	4,007.61	1,124.81	837.54	287.26	3.916	
11,400.00	4,767.59	10,837.65	5,104.45	157.35	146.53	107.43	-4,267.52	4,078.07	1,124.83	832.83	292.00	3.852	
11,500.00	4,766.46	10,937.65	5,103.33	159.81	149.00	107.43	-4,338.47	4,148.53	1,124.85	828.12	296.73	3.791	
11,600.00	4,765.34	11,037.65	5,102.21	162.27	151.48	107.43	-4,409.42	4,218.99	1,124.87	823.40	301.47	3.731	
11,700.00	4,764.22	11,137.65	5,101.08	164.73	153.95	107.43	-4,480.37	4,289.45	1,124.89	818.68	306.21	3.674	
11,800.00	4,763.10	11,237.65	5,099.96	167.19	156.43	107.43	-4,551.32	4,359.92	1,124.91	813.96	310.95	3.618	
11,900.00	4,761.98	11,337.65	5,098.84	169.65	158.90	107.43	-4,622.27	4,430.38	1,124.93	809.24	315.69	3.563	
12,000.00	4,760.85	11,437.65	5,097.71	172.11	161.38	107.43	-4,693.22	4,500.84	1,124.95	804.52	320.43	3.511	
12,100.00	4,759.73	11,537.65	5,096.59	174.58	163.86	107.42	-4,764.17	4,571.30	1,124.97	799.80	325.17	3.460	
12,200.00	4,758.61	11,637.65	5,095.47	177.04	166.33	107.42	-4,835.12	4,641.76	1,124.99	795.08	329.92	3.410	
12,300.00	4,757.49	11,737.65	5,094.34	179.51	168.81	107.42	-4,906.07	4,712.22	1,125.02	790.35	334.66	3.362	
12,400.00	4,756.36	11,837.65	5,093.22	181.97	171.29	107.42	-4,977.02	4,782.68	1,125.04	785.63	339.41	3.315	
12,500.00	4,755.24	11,937.65	5,092.10	184.44	173.77	107.42	-5,047.97	4,853.15	1,125.06	780.90	344.15	3.269 SF	
12,600.00	4,754.12	11,946.29	5,092.00	186.90	173.98	107.42	-5,054.09	4,859.23	1,128.78	784.07	344.71	3.275	
12,700.00	4,753.00	11,946.29	5,092.00	189.37	173.98	107.42	-5,054.09	4,859.23	1,141.26	798.88	342.38	3.333	
12,800.00	4,751.88	11,946.29	5,092.00	191.84	173.98	107.42	-5,054.09	4,859.23	1,162.23	824.59	337.64	3.442	
12,900.00	4,750.75	11,946.29	5,092.00	194.30	173.98	107.42	-5,054.09	4,859.23	1,191.26	860.40	330.86	3.600	
13,000.00	4,749.63	11,946.29	5,092.00	196.77	173.98	107.42	-5,054.09	4,859.23	1,227.77	905.30	322.47	3.807	
13,100.00	4,748.51	11,946.29	5,092.00	199.24	173.98	107.42	-5,054.09	4,859.23	1,271.12	958.21	312.91	4.062	
13,200.00	4,747.39	11,946.29	5,092.00	201.71	173.98	107.42	-5,054.09	4,859.23	1,320.63	1,018.04	302.59	4.364	
13,300.00	4,746.27	11,946.29	5,092.00	204.18	173.98	107.42	-5,054.09	4,859.23	1,375.64	1,083.76	291.88	4.713	
13,400.00	4,745.14	11,946.29	5,092.00	206.65	173.98	107.42	-5,054.09	4,859.23	1,435.52	1,154.45	281.07	5.107	
13,499.97	4,744.02	11,946.29	5,092.00	209.12	173.98	107.42	-5,054.09	4,859.23	1,499.66	1,229.28	270.38	5.546	
13,501.85	4,744.00	11,946.29	5,092.00	209.17	173.98	107.42	-5,054.09	4,859.23	1,500.90	1,230.72	270.18	5.555	

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



Scientific Drilling, Intl Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 314H - Slot 5
Project:	Nageezi Unit	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Reference Site:	M35 2409	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	314H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M35 2409 - 319H - Original Drilling - APD													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance		Warning						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	174.09	-79.73	8.25	80.15					
100.00	100.00	100.00	100.00	0.15	0.15	174.09	-79.73	8.25	80.15	79.84	0.31	259.992		
200.00	200.00	200.00	200.00	0.51	0.51	174.09	-79.73	8.25	80.15	79.13	1.03	78.180		
300.00	300.00	300.00	300.00	0.87	0.87	174.09	-79.73	8.25	80.15	78.41	1.74	46.007 CC		
300.01	300.01	300.01	300.01	0.87	0.87	174.09	-79.73	8.25	80.15	78.41	1.74	46.006		
400.00	400.00	399.33	399.33	1.23	1.22	172.44	-79.82	8.29	80.36	77.91	2.45	32.763 ES		
500.00	499.96	496.45	496.42	1.59	1.55	172.30	-82.18	9.04	85.45	82.31	3.14	27.208		
600.00	599.77	592.74	592.53	1.95	1.88	172.05	-87.60	10.79	97.27	93.43	3.84	25.329 SF		
700.00	699.30	687.57	686.95	2.32	2.23	171.74	-95.94	13.48	115.74	111.20	4.54	25.504		
800.00	798.44	780.32	778.97	2.72	2.59	171.44	-106.97	17.04	140.72	135.49	5.23	26.919		
900.00	897.07	873.43	871.00	3.13	2.97	171.19	-120.43	21.37	171.55	165.63	5.92	28.984		
1,000.00	995.05	967.33	963.77	3.59	3.37	171.11	-134.26	25.83	205.93	199.31	6.62	31.108		
1,100.00	1,092.29	1,059.98	1,055.30	4.08	3.77	171.15	-147.91	30.23	243.53	236.21	7.32	33.276		
1,200.00	1,188.84	1,151.28	1,145.50	4.61	4.18	171.25	-161.36	34.57	284.31	276.29	8.02	35.465		
1,300.00	1,284.02	1,241.13	1,234.26	5.20	4.58	171.40	-174.59	38.83	328.19	319.47	8.72	37.639		
1,400.00	1,378.99	1,330.38	1,322.44	5.81	4.98	171.64	-187.74	43.07	373.26	363.86	9.40	39.702		
1,500.00	1,473.96	1,419.64	1,410.63	6.44	5.38	171.83	-200.89	47.31	418.34	408.25	10.09	41.463		
1,600.00	1,568.93	1,508.89	1,498.81	7.08	5.79	171.99	-214.04	51.54	463.42	452.64	10.78	42.981		
1,700.00	1,663.90	1,598.15	1,586.99	7.72	6.20	172.11	-227.18	55.78	508.50	497.02	11.48	44.300		
1,800.00	1,758.87	1,687.41	1,675.17	8.37	6.60	172.22	-240.33	60.02	553.59	541.41	12.18	45.457		
1,900.00	1,853.84	1,776.66	1,763.35	9.03	7.01	172.31	-253.48	64.26	598.67	585.79	12.88	46.479		
2,000.00	1,948.80	1,865.92	1,851.53	9.69	7.42	172.39	-266.63	68.50	643.76	630.17	13.59	47.387		
2,100.00	2,043.77	1,955.17	1,939.71	10.35	7.83	172.45	-279.78	72.73	688.84	674.55	14.29	48.199		
2,200.00	2,138.74	2,044.43	2,027.89	11.02	8.25	172.51	-292.93	76.97	733.93	718.93	15.00	48.928		
2,300.00	2,233.71	2,133.69	2,116.07	11.69	8.66	172.57	-306.07	81.21	779.02	763.31	15.71	49.588		
2,400.00	2,328.68	2,222.94	2,204.25	12.36	9.07	172.61	-319.22	85.45	824.11	807.69	16.42	50.186		
2,500.00	2,423.65	2,312.20	2,292.43	13.03	9.48	172.65	-332.37	89.68	869.20	852.07	17.13	50.732		
2,600.00	2,518.62	2,401.46	2,380.61	13.70	9.90	172.69	-345.52	93.92	914.29	896.44	17.85	51.231		
2,700.00	2,613.59	2,490.71	2,468.79	14.37	10.31	172.73	-358.67	98.16	959.38	940.82	18.56	51.689		
2,800.00	2,708.56	2,579.97	2,556.97	15.05	10.72	172.76	-371.82	102.40	1,004.47	985.19	19.28	52.111		
2,900.00	2,803.53	2,669.22	2,645.15	15.72	11.14	172.79	-384.96	106.64	1,049.56	1,029.57	19.99	52.501		
3,000.00	2,898.50	2,758.48	2,733.33	16.40	11.55	172.81	-398.11	110.87	1,094.65	1,073.94	20.71	52.862		
3,100.00	2,993.47	2,847.74	2,821.51	17.08	11.97	172.84	-411.26	115.11	1,139.74	1,118.31	21.42	53.197		
3,200.00	3,088.44	2,936.99	2,909.70	17.75	12.38	172.86	-424.41	119.35	1,184.83	1,162.69	22.14	53.510		
3,300.00	3,183.41	3,026.25	2,997.88	18.43	12.80	172.88	-437.56	123.59	1,229.92	1,207.06	22.86	53.801		
3,400.00	3,278.38	3,115.50	3,086.06	19.11	13.21	172.90	-450.71	127.82	1,275.01	1,251.43	23.58	54.073		
3,500.00	3,373.34	3,204.76	3,174.24	19.79	13.63	172.91	-463.85	132.06	1,320.10	1,295.80	24.30	54.329		
3,600.00	3,468.31	3,294.02	3,262.42	20.46	14.04	172.93	-477.00	136.30	1,365.19	1,340.18	25.02	54.568		
3,700.00	3,563.28	3,383.27	3,350.60	21.14	14.46	172.95	-490.15	140.54	1,410.29	1,384.55	25.74	54.794		
3,800.00	3,658.25	3,472.53	3,438.78	21.82	14.87	172.96	-503.30	144.78	1,455.38	1,428.92	26.46	55.006		
3,900.00	3,753.22	3,561.79	3,526.96	22.50	15.29	172.98	-516.45	149.01	1,500.47	1,473.29	27.18	55.206		
4,000.00	3,848.19	3,651.04	3,615.14	23.18	15.70	172.99	-529.60	153.25	1,545.56	1,517.66	27.90	55.396		
4,100.00	3,943.16	3,740.38	3,703.76	23.86	16.11	173.00	-542.75	157.49	1,590.65	1,561.55	28.62	55.586		
4,200.00	4,038.13	3,829.71	3,792.43	24.54	16.52	173.01	-555.90	161.73	1,635.74	1,605.44	29.34	55.776		
4,300.00	4,133.10	3,919.04	3,881.16	25.22	16.93	173.02	-569.05	165.97	1,680.83	1,649.53	30.06	55.966		
4,400.00	4,228.07	4,008.37	3,969.07	25.90	17.34	173.03	-582.20	170.21	1,725.92	1,693.62	30.78	56.156		
4,500.00	4,323.04	4,097.70	4,056.70	26.58	17.75	173.04	-595.35	174.45	1,771.01	1,738.71	31.50	56.346		
4,600.00	4,418.01	4,187.03	4,144.03	27.26	18.16	173.05	-608.50	178.69	1,816.10	1,782.80	32.22	56.536		
4,700.00	4,512.98	4,276.36	4,232.36	27.94	18.57	173.06	-621.65	182.93	1,861.19	1,826.89	32.94	56.726		
4,800.00	4,607.95	4,365.69	4,320.69	28.62	18.98	173.07	-634.80	187.17	1,906.28	1,870.98	33.66	56.916		
4,900.00	4,702.92	4,455.02	4,409.02	29.30	19.39	173.08	-647.95	191.41	1,951.37	1,914.07	34.38	57.106		

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



Scientific Drilling, Intl

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 314H - Slot 5
Project:	Nageezi Unit	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Reference Site:	M35 2409	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	314H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M35 2409 - 319H - Original Drilling - APD													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance		Warning						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
4,902.91	4,665.83	5,870.39	4,972.68	26.06	28.68	108.29	136.56	-644.26	1,313.71	1,264.81	48.89	26.869		
5,000.00	4,725.22	5,795.51	4,972.12	25.83	27.30	104.09	83.46	-591.47	1,315.16	1,267.38	47.77	27.530		
5,100.00	4,774.02	5,709.52	4,971.49	25.54	25.81	100.53	22.48	-530.84	1,318.54	1,272.04	46.50	28.358		
5,200.00	4,809.07	5,616.63	4,970.80	25.23	24.31	97.88	-43.38	-465.35	1,322.21	1,276.92	45.28	29.198		
5,300.00	4,829.53	5,519.14	4,970.08	24.91	22.87	96.28	-112.51	-396.61	1,324.88	1,280.58	44.30	29.905		
5,400.00	4,834.91	5,419.44	4,969.34	24.62	21.60	95.82	-183.21	-326.31	1,325.76	1,282.09	43.67	30.360		
5,500.00	4,833.79	5,289.85	4,962.93	24.50	20.29	95.61	-274.62	-234.86	1,325.15	1,281.95	43.20	30.676		
5,600.00	4,832.67	5,143.89	4,926.53	24.95	19.45	94.11	-372.83	-133.67	1,321.22	1,277.94	43.27	30.531		
5,700.00	4,831.55	5,018.96	4,870.62	26.13	19.25	91.75	-449.10	-52.32	1,315.18	1,271.12	44.07	29.846		
5,800.00	4,830.43	4,918.18	4,810.39	27.62	19.27	89.15	-503.23	7.48	1,309.41	1,264.17	45.24	28.943		
5,900.00	4,829.30	4,838.89	4,754.54	29.26	19.32	86.73	-540.22	49.80	1,306.03	1,259.47	46.56	28.048		
5,936.94	4,828.89	4,814.16	4,735.74	29.90	19.34	85.91	-550.64	62.04	1,305.74	1,258.67	47.06	27.743		
6,000.00	4,828.18	4,776.68	4,706.11	31.01	19.36	84.62	-565.36	79.63	1,306.68	1,258.76	47.92	27.270		
6,100.00	4,827.06	4,727.43	4,665.23	32.85	19.39	82.83	-582.68	100.92	1,312.42	1,263.19	49.23	26.659		
6,200.00	4,825.94	4,687.92	4,630.99	34.75	19.40	81.35	-594.84	116.42	1,323.92	1,273.45	50.47	26.233		
6,300.00	4,824.82	4,650.00	4,597.05	36.73	19.40	79.87	-605.01	129.92	1,341.53	1,289.96	51.57	26.013		
6,400.00	4,823.69	4,629.18	4,578.00	38.75	19.40	79.05	-609.95	136.73	1,365.29	1,312.70	52.59	25.959		
6,500.00	4,822.57	4,600.00	4,550.89	40.82	19.39	77.88	-616.11	145.56	1,395.18	1,341.77	53.42	26.118		
6,600.00	4,821.45	4,600.00	4,550.89	42.93	19.39	77.88	-616.11	145.56	1,430.97	1,376.74	54.23	26.389		
6,700.00	4,820.33	4,571.90	4,524.34	45.08	19.37	76.75	-621.17	153.25	1,472.13	1,417.39	54.74	26.893		
6,800.00	4,819.20	4,550.00	4,503.39	47.26	19.36	75.85	-624.53	158.68	1,518.60	1,463.45	55.14	27.539		
6,900.00	4,818.08	4,550.00	4,503.39	49.46	19.36	75.85	-624.53	158.68	1,569.75	1,514.21	55.54	28.264		
7,000.00	4,816.96	4,550.00	4,503.39	51.69	19.36	75.85	-624.53	158.68	1,625.45	1,569.64	55.82	29.121		
7,100.00	4,815.84	4,525.42	4,479.64	53.93	19.33	74.85	-627.67	164.17	1,684.77	1,628.90	55.88	30.151		
7,200.00	4,814.72	4,516.92	4,471.38	56.20	19.32	74.50	-628.60	165.92	1,747.85	1,691.90	55.94	31.242		
7,300.00	4,813.59	4,500.00	4,454.85	58.48	19.30	73.80	-630.21	169.18	1,814.21	1,758.31	55.90	32.452		
7,400.00	4,812.47	4,500.00	4,454.85	60.78	19.30	73.80	-630.21	169.18	1,883.33	1,827.43	55.90	33.690		
7,500.00	4,811.35	4,500.00	4,454.85	63.09	19.30	73.80	-630.21	169.18	1,955.13	1,899.28	55.86	35.004		
7,600.00	4,810.23	4,500.00	4,454.85	65.42	19.30	73.80	-630.21	169.18	2,029.32	1,973.54	55.77	36.384		
7,700.00	4,809.11	4,500.00	4,454.85	67.75	19.30	73.80	-630.21	169.18	2,105.64	2,049.97	55.67	37.825		
7,800.00	4,807.98	4,480.55	4,435.75	70.10	19.26	73.00	-631.67	172.54	2,183.55	2,128.09	55.45	39.377		
7,900.00	4,806.86	4,476.16	4,431.43	72.45	19.25	72.82	-631.95	173.25	2,263.33	2,208.03	55.30	40.932		
8,000.00	4,805.74	4,472.11	4,427.43	74.81	19.25	72.66	-632.18	173.88	2,344.63	2,289.50	55.13	42.528		
8,100.00	4,804.62	4,450.00	4,405.57	77.18	19.21	71.75	-633.12	177.00	2,427.60	2,372.73	54.88	44.238		
8,200.00	4,803.49	4,450.00	4,405.57	79.56	19.21	71.75	-633.12	177.00	2,511.42	2,456.69	54.72	45.892		
8,300.00	4,802.37	4,450.00	4,405.57	81.94	19.21	71.75	-633.12	177.00	2,596.38	2,541.80	54.57	47.578		
8,400.00	4,801.25	4,450.00	4,405.57	84.32	19.21	71.75	-633.12	177.00	2,682.37	2,627.96	54.42	49.294		
8,500.00	4,800.13	4,450.00	4,405.57	86.72	19.21	71.75	-633.12	177.00	2,769.31	2,715.05	54.26	51.035		
8,600.00	4,799.01	4,450.00	4,405.57	89.12	19.21	71.75	-633.12	177.00	2,857.10	2,802.99	54.11	52.801		
8,700.00	4,797.88	4,450.00	4,405.57	91.52	19.21	71.75	-633.12	177.00	2,945.67	2,891.71	53.96	54.588		
8,800.00	4,796.76	4,450.00	4,405.57	93.92	19.21	71.75	-633.12	177.00	3,034.96	2,981.14	53.82	56.394		
8,900.00	4,795.64	4,450.00	4,405.57	96.34	19.21	71.75	-633.12	177.00	3,124.89	3,071.21	53.68	58.218		
9,000.00	4,794.52	4,450.00	4,405.57	98.75	19.21	71.75	-633.12	177.00	3,215.41	3,161.87	53.54	60.058		
9,100.00	4,793.40	4,450.00	4,405.57	101.17	19.21	71.75	-633.12	177.00	3,306.48	3,253.08	53.41	61.912		
9,200.00	4,792.27	4,450.00	4,405.57	103.59	19.21	71.75	-633.12	177.00	3,398.06	3,344.78	53.28	63.780		
9,300.00	4,791.15	4,450.00	4,405.57	106.01	19.21	71.75	-633.12	177.00	3,490.09	3,436.94	53.15	65.659		
9,400.00	4,790.03	4,450.00	4,405.57	108.44	19.21	71.75	-633.12	177.00	3,582.56	3,529.52	53.04	67.549		
9,500.00	4,788.91	4,450.00	4,405.57	110.87	19.21	71.75	-633.12	177.00	3,675.41	3,622.49	52.92	69.449		
9,600.00	4,787.78	4,450.00	4,405.57	113.30	19.21	71.75	-633.12	177.00	3,768.64	3,715.82	52.81	71.358		
9,700.00	4,786.66	4,450.00	4,405.57	115.73	19.21	71.75	-633.12	177.00	3,862.20	3,809.49	52.71	73.275		

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

1/8/2020 8:53:51AM

Page 13

COMPASS 5000.15 Build 91D



Scientific Drilling, Intl

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 314H - Slot 5
Project:	Nageezi Unit	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Reference Site:	M35 2409	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	314H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M35 2409 - 319H - Original Drilling - APD														Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF														Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
9,800.00	4,785.54	4,450.00	4,405.57	118.17	19.21	71.75	-633.12	177.00	3,956.08	3,903.47	52.61	75.199			
9,900.00	4,784.42	4,450.00	4,405.57	120.60	19.21	71.75	-633.12	177.00	4,050.25	3,997.73	52.51	77.129			
10,000.00	4,783.30	4,428.00	4,383.73	123.04	19.16	70.85	-633.52	179.58	4,144.27	4,091.93	52.34	79.173			
10,100.00	4,782.17	4,426.78	4,382.51	125.49	19.15	70.80	-633.53	179.71	4,238.92	4,186.67	52.25	81.121			
10,200.00	4,781.05	4,425.62	4,381.35	127.93	19.15	70.75	-633.53	179.83	4,333.81	4,281.64	52.17	83.074			
10,300.00	4,779.93	4,424.49	4,380.24	130.37	19.15	70.71	-633.53	179.95	4,428.92	4,376.84	52.09	85.031			
10,400.00	4,778.81	4,423.42	4,379.17	132.82	19.14	70.67	-633.54	180.05	4,524.24	4,472.24	52.01	86.991			
10,500.00	4,777.69	4,422.39	4,378.14	135.27	19.14	70.62	-633.54	180.16	4,619.76	4,567.83	51.93	88.955			
10,600.00	4,776.56	4,400.00	4,355.84	137.72	19.09	69.72	-633.25	182.10	4,715.86	4,664.07	51.79	91.059			
10,700.00	4,775.44	4,400.00	4,355.84	140.17	19.09	69.72	-633.25	182.10	4,811.69	4,759.97	51.73	93.022			
10,800.00	4,774.32	4,400.00	4,355.84	142.62	19.09	69.72	-633.25	182.10	4,907.70	4,856.03	51.67	94.987			
10,900.00	4,773.20	4,400.00	4,355.84	145.07	19.09	69.72	-633.25	182.10	5,003.86	4,952.25	51.61	96.954			
11,000.00	4,772.07	4,400.00	4,355.84	147.53	19.09	69.72	-633.25	182.10	5,100.17	5,048.61	51.56	98.922			
11,100.00	4,770.95	4,400.00	4,355.84	149.98	19.09	69.72	-633.25	182.10	5,196.62	5,145.11	51.51	100.891			
11,200.00	4,769.83	4,400.00	4,355.84	152.44	19.09	69.72	-633.25	182.10	5,293.20	5,241.74	51.46	102.860			
11,300.00	4,768.71	4,400.00	4,355.84	154.89	19.09	69.72	-633.25	182.10	5,389.90	5,338.49	51.42	104.829			
11,400.00	4,767.59	4,400.00	4,355.84	157.35	19.09	69.72	-633.25	182.10	5,486.73	5,435.35	51.37	106.799			
11,500.00	4,766.46	4,400.00	4,355.84	159.81	19.09	69.72	-633.25	182.10	5,583.66	5,532.33	51.34	108.768			
11,600.00	4,765.34	4,400.00	4,355.84	162.27	19.09	69.72	-633.25	182.10	5,680.70	5,629.41	51.30	110.737			
11,700.00	4,764.22	4,400.00	4,355.84	164.73	19.09	69.72	-633.25	182.10	5,777.85	5,726.58	51.26	112.706			
11,800.00	4,763.10	4,400.00	4,355.84	167.19	19.09	69.72	-633.25	182.10	5,875.09	5,823.85	51.23	114.673			
11,900.00	4,761.98	4,400.00	4,355.84	169.65	19.09	69.72	-633.25	182.10	5,972.41	5,921.21	51.20	116.639			
12,000.00	4,760.85	4,400.00	4,355.84	172.11	19.09	69.72	-633.25	182.10	6,069.83	6,018.65	51.18	118.604			
12,100.00	4,759.73	4,400.00	4,355.84	174.58	19.09	69.72	-633.25	182.10	6,167.33	6,116.18	51.15	120.567			
12,200.00	4,758.61	4,400.00	4,355.84	177.04	19.09	69.72	-633.25	182.10	6,264.91	6,213.78	51.13	122.529			
12,300.00	4,757.49	4,400.00	4,355.84	179.51	19.09	69.72	-633.25	182.10	6,362.56	6,311.45	51.11	124.489			
12,400.00	4,756.36	4,400.00	4,355.84	181.97	19.09	69.72	-633.25	182.10	6,460.29	6,409.19	51.09	126.447			
12,500.00	4,755.24	4,400.00	4,355.84	184.44	19.09	69.72	-633.25	182.10	6,558.08	6,507.00	51.07	128.402			
12,600.00	4,754.12	4,400.00	4,355.84	186.90	19.09	69.72	-633.25	182.10	6,655.94	6,604.88	51.06	130.355			
12,700.00	4,753.00	4,400.00	4,355.84	189.37	19.09	69.72	-633.25	182.10	6,753.86	6,702.81	51.05	132.306			
12,800.00	4,751.88	4,400.00	4,355.84	191.84	19.09	69.72	-633.25	182.10	6,851.84	6,800.81	51.04	134.254			
12,900.00	4,750.75	4,400.00	4,355.84	194.30	19.09	69.72	-633.25	182.10	6,949.88	6,898.85	51.03	136.200			
13,000.00	4,749.63	4,400.00	4,355.84	196.77	19.09	69.72	-633.25	182.10	7,047.98	6,996.96	51.02	138.142			
13,100.00	4,748.51	4,400.00	4,355.84	199.24	19.09	69.72	-633.25	182.10	7,146.12	7,095.11	51.01	140.082			
13,200.00	4,747.39	4,400.00	4,355.84	201.71	19.09	69.72	-633.25	182.10	7,244.32	7,193.31	51.01	142.018			
13,300.00	4,746.27	4,400.00	4,355.84	204.18	19.09	69.72	-633.25	182.10	7,342.57	7,291.56	51.01	143.951			
13,400.00	4,745.14	4,400.00	4,355.84	206.65	19.09	69.72	-633.25	182.10	7,440.86	7,389.85	51.01	145.881			
13,499.97	4,744.02	4,400.00	4,355.84	209.12	19.09	69.72	-633.25	182.10	7,539.17	7,488.17	51.01	147.807			
13,501.85	4,744.00	4,400.00	4,355.84	209.17	19.09	69.72	-633.25	182.10	7,541.02	7,490.01	51.01	147.843			

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

1/8/2020 8:53:51AM

Page 14

COMPASS 5000.15 Build 91D



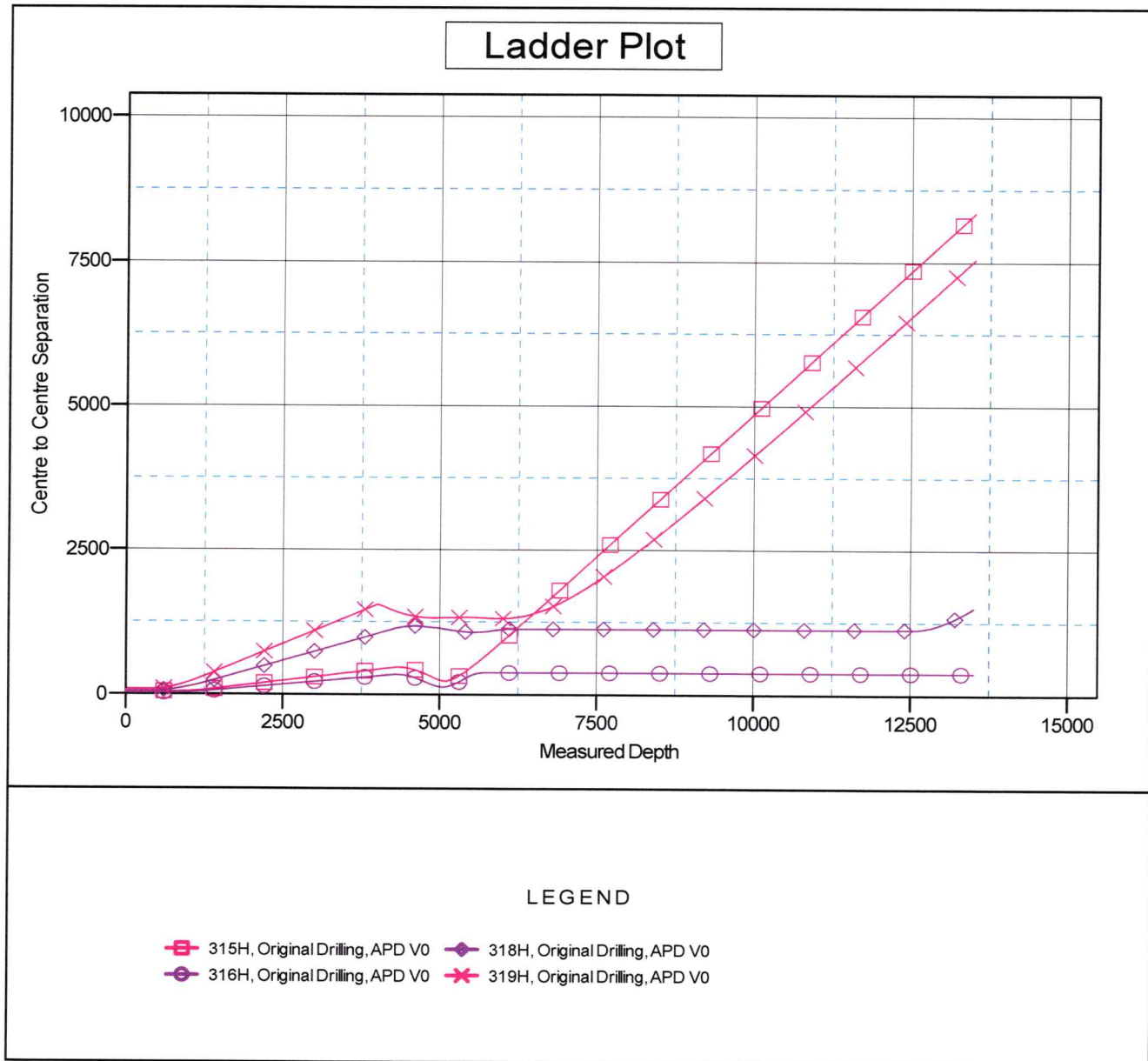
Scientific Drilling, Intl
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 314H - Slot 5
Project:	Nageezi Unit	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Reference Site:	M35 2409	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	314H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 6864' & RKB 14' @ 6878.00usft (A)
Offset Depths are relative to Offset Datum
Central Meridian is -107.8333334

Coordinates are relative to: 314H - Slot 5
Coordinate System is US State Plane 1983, New Mexico Western Zone
Grid Convergence at Surface is: 0.04°



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



Scientific Drilling, Intl
Anticollision Report

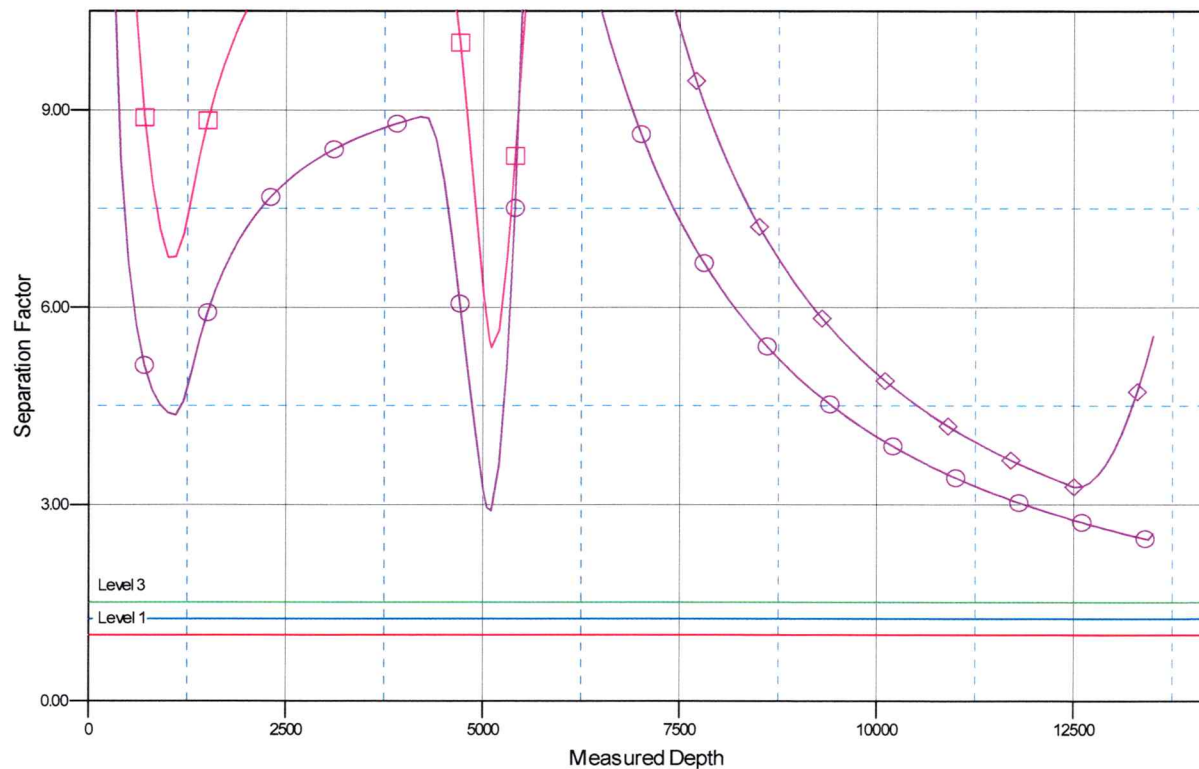


Company:	DJR Operating	Local Co-ordinate Reference:	Well 314H - Slot 5
Project:	Nageezi Unit	TVD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Reference Site:	M35 2409	MD Reference:	GL 6864' & RKB 14' @ 6878.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	314H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 6864' & RKB 14' @ 6878.00usft (A)
Offset Depths are relative to Offset Datum
Central Meridian is -107.8333334

Coordinates are relative to: 314H - Slot 5
Coordinate System is US State Plane 1983, New Mexico Western Zone
Grid Convergence at Surface is: 0.04°

Separation Factor Plot



LEGEND

- 315H, Original Drilling, APD V0
- 316H, Original Drilling, APD V0
- 318H, Original Drilling, APD V0
- 319H, Original Drilling, APD V0

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

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 2/4/2020

☒ Original

Operator & OGRID No.: DJR Operating LLC. ; 371838

☐ Amended - Reason for Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Nageezi Unit 314H	Pending	SWSW, Section 35, T24N, R9W	70' FSL, 269' FWL	835	Flared	
Nageezi Unit 315H	Pending	SWSW, Section 35, T24N, R9W	30' FSL, 273' FEL	690	Flared	
Nageezi Unit 316H	Pending	SWSW, Section 35, T24N, R9W	50' FSL, 271' FWL	700	Flared	
Nageezi Unit 318H	Pending	SWSW, Section 35, T24N, R9W	10' FSL, 275' FWL	660	Flared	
Nageezi Unit 319H	Pending	NWNW, Section 2, T23N, R9W	10' FNL, 277' FWL	640	Flared	

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Enterprise Field Services, LLC (Enterprise) and will be connected to Enterprise's low/high pressure gathering system located in San Juan County, New Mexico. It will require approximately 5,974' of pipeline to connect the facility to DJR Operating LLC. low/high pressure Escrito Trunk in Sec. 3, T23N, R9W which ties into Enterprise's existing pipeline in Section 12, T24N, R10W. DJR Operating LLC. provides (periodically) to Enterprise a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, DJR Operating LLC. and Enterprise have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at the Chaco Processing Plant located in Sec. 16, Twn 26N, Rng 12W, San Juan County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Enterprise system at that time. Based on current information, it is DJR Operating LLC.'s belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

COMMENTS

Action 16849

COMMENTS

Operator:	DJR OPERATING, LLC	1 Road 3263	Aztec, NM87410	OGRID:	371838	Action Number:	16849	Action Type:	FORM 3160-3
Created By	Comment						Comment Date		
ahvermersch	See attached letter for NMOCD COA's						02/03/2021		

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 16849

CONDITIONS OF APPROVAL

Operator:	DJR OPERATING, LLC	1 Road 3263	Aztec, NM87410	OGRID:	371838	Action Number:	16849	Action Type:	FORM 3160-3
OCD Reviewer	Condition								
ahvermersch	Notify OCD 24 hours prior to casing & cement								