

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: 4/15/2020

Operator: DJR **Well Name and Number:** Nageezi Unit 632H

API#: ~~Click or tap here to enter text.~~, **Section:** 35, **Township:** 24N, **Range:** 9 W
30-045-38210

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

11/24/2020
Date

NMOCD REC'D
11-17-20

Form 3160-3
(June 2015)

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

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

1a. Type of work: ☒ DRILL ☐ REENTER 1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☒ Multiple Zone		5. Lease Serial No. NOG14031919 6. If Indian, Allottee or Tribe Name NAVAJO NATION. 7. If Unit or CA Agreement, Name and No. NMNM 132981A 8. Lease Name and Well No. NAGEEZI UNIT 632H
2. Name of Operator DJR OPERATING LLC 3a. Address 1700 LINCOLN STREET, SUITE 2800, DENVER, CO 802		9. API-Well No. 30-045-38210 10. Field and Pool, or Exploratory BASIN MANCOS
3b. Phone No. (include area code) (505) 632-3476 4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWNE / 2318 FNL / 2282 FEL / LAT 36.271456 / LONG -107.757808 At proposed prod. zone SESW / 304 FSL / 1421 FWL / LAT 36.293199 / LONG -107.780934		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* 37 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) 2318 feet	16. No of acres in lease 160	17. Spacing Unit dedicated to this well 760.0
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 20 feet	19. Proposed Depth 5393 feet / 15156 feet	20. BLM/BIA Bond No. in file IND: B010611
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6899 feet	22. Approximate date work will start* 08/15/2020	23. Estimated duration 10 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.
2. A Drilling Plan.
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) | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
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 04/15/2020
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)

DISTRICT I1826 N. French Dr., Hobbs, N.M. 88240
Phone: (505) 393-8181 Fax: (505) 393-0720**DISTRICT II**811 S. First St., Artesia, N.M. 88210
Phone: (505) 743-1288 Fax: (505) 743-9720**DISTRICT III**1000 Elc Brance Rd., Aztec, N.M. 87410
Phone: (505) 334-8178 Fax: (505) 334-8170**DISTRICT IV**1820 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 478-8460 Fax: (505) 478-8462State of New Mexico
Energy, Minerals & Natural Resources DepartmentForm C-102
Revised August 1, 2011Submit one copy to appropriate
District OfficeOIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-38210		² Pool Code 98080	³ Pool Name NAGEEZI UNIT MANCOS OIL POOL
⁴ Property Code 325268	⁵ Property Name NAGEEZI UNIT		⁶ Well Number 632H
⁷ OGED No. 371838	⁸ Operator Name DJR OPERATING, LLC		⁹ Elevation 6899'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	35	24N	9W		2318'	NORTH	2282'	EAST	SAN JUAN

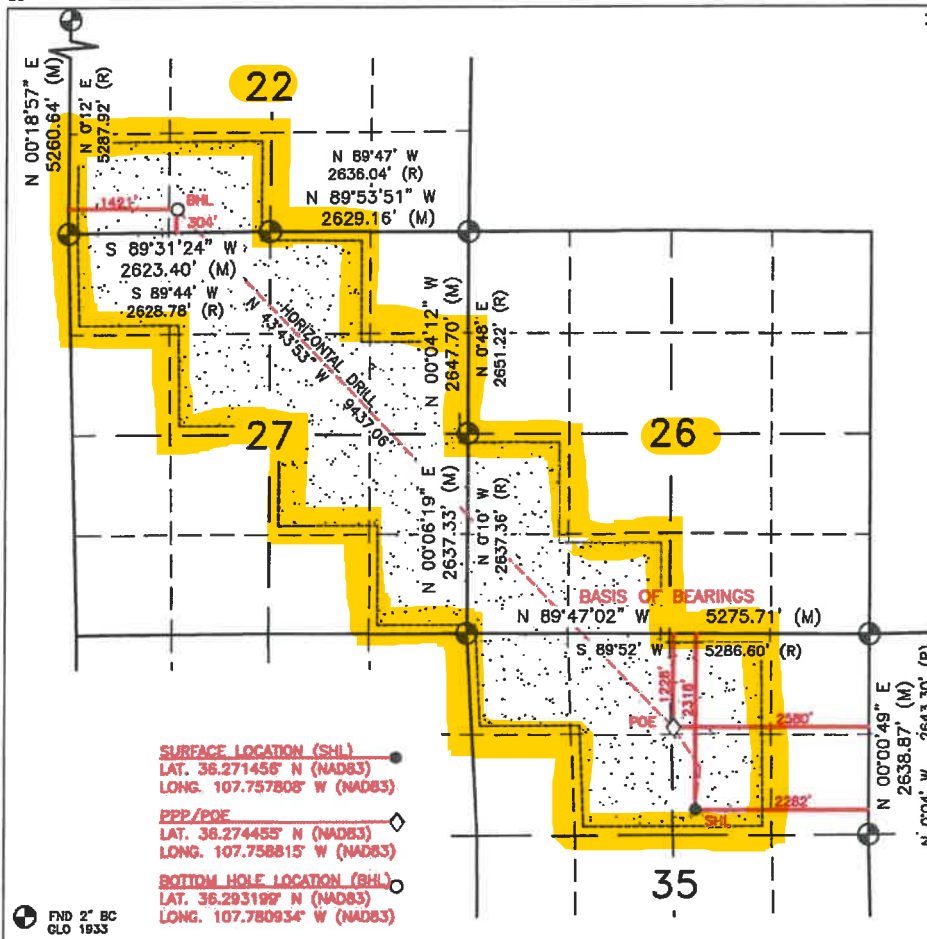
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	22	24N	9W		304'	SOUTH	1421'	WEST	SAN JUAN

¹² Dedicated Acres SEC. 35: NW/NE, SW/NE, SE/NW, NE/NW & NW/NW (200 AC.); SEC. 26: SE/SW, SW/SW & NW/SW (120 AC.); SEC. 27: SE/SE, NE/SE, NW/SE, SE/NE, SW/NE, NW/NE, SE/NW, NE/NW & NW/NW (380 AC.); SEC. 22: SE/SW & SW/SW (80 AC.) = 780 ACRES	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-13856 R-13856A
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16



17 OPERATOR CERTIFICATION

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

Shaw-Marie Ford 6/16/20
Signature Date

Shaw-Marie Ford
Printed Name

sford@dirllc.com
E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.
OCTOBER 7, 2019

Date of Survey
Signature and Seal of Professional Surveyor:



Certificate Number 11393

DISTRICT I

1826 N. French Dr., Hobbs, N.M. 88240
Phone: (505) 393-6161 Fax: (505) 393-0720

DISTRICT II

811 E. First St., Artesia, N.M. 88210
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DISTRICT III

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

DISTRICT IV

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Phone: (505) 476-5460 Fax: (505) 476-3482

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
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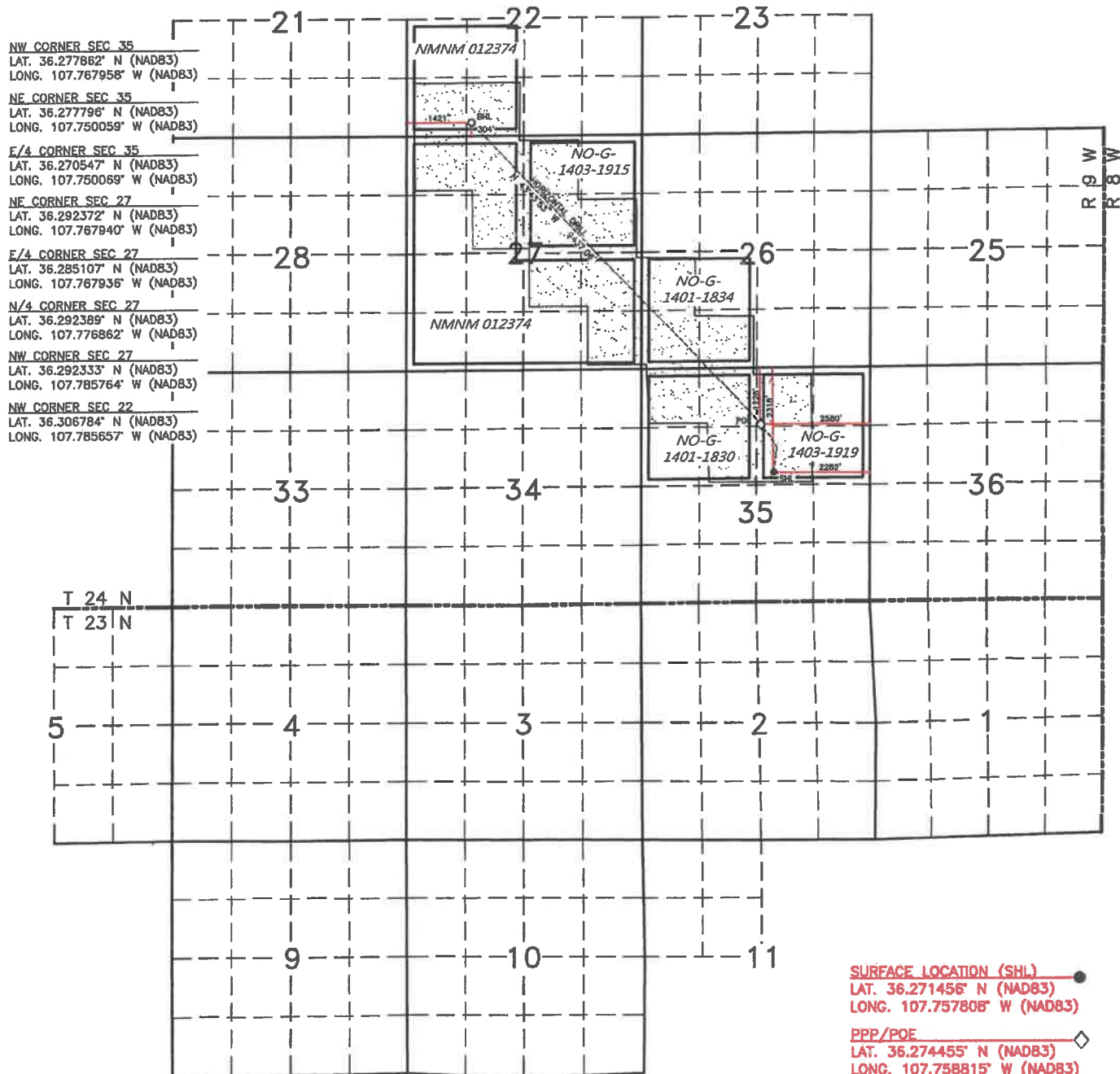
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OIL CONSERVATION DIVISION

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

☐ AMENDED REPORT

DJR OPERATING, LLC
NAGEEZI UNIT #632H

**PENETRATED SPACING UNIT:**

SEC 35: NW/NE, SW/NE, SE/NW, NE/NW & NW/NW (200 AC.); SEC 26: SE/SW, SW/SW & NW/SW (120 AC.); SEC 27: SE/SE, NE/SE, NW/SE, SE/NE, SW/NE, NW/NE, SE/NW, NE/NW & NW/NW (360 AC.); SEC. 22: SE/SW & SW/SW (80 AC.) = 760 ACRES

TOTAL 10,415.12 ACRES: T24N R9W, SEC. 21-25 (5/2), 25-28, 33-36, 1-4, 9-10 (ALL); T23N R9W, SEC. 5 (W/2), 11 (NW/4) - UNDIVIDED UNIT

DISTRICT I1626 N. French Dr., Hobbs, N.M. 88240
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Phone: (505) 748-1283 Fax: (505) 748-9720**DISTRICT III**1000 Rio Grande Rd., Aztec, N.M. 87410
Phone: (505) 334-6170 Fax: (505) 334-6170**DISTRICT IV**1220 S. St. Francis Dr., Santa Fe, NM 87505
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OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, NM 87505☐ AMENDED REPORT

NAGEEZI UNIT #632H

48.40 LINEAR FEET OF WELLBORE WITHIN

NO-G-1403-1919

LOCATED IN THE NW/NE OF SECTION 35,

T24N, R9W, N.M.P.M.,

SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	1228	FNL	2580	FEL	36.274455° N	107.758815° W
TO	1194	FNL	2593	FWL	36.274551° N	107.758928° W

1657.40 LINEAR FEET OF WELLBORE WITHIN

NO-G-1401-1830

LOCATED IN THE NE/NW OF SECTION 35,

T24N, R9W, N.M.P.M.,

SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	1194	FNL	2593	FWL	36.274551° N	107.758928° W
TO	0	FNL	1517	FWL	36.277843° N	107.762812° W

2189.93 LINEAR FEET OF WELLBORE WITHIN

NO-G-1401-1834

LOCATED IN THE SE/SW, SW/SW & NW/SW OF SECTION 26,

T24N, R9W, N.M.P.M.,

SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	0	FSL	1517	FWL	36.277843° N	107.762812° W
TO	1577	FSL	0	FWL	36.282193° N	107.767945° W

1463.88 LINEAR FEET OF WELLBORE WITHIN

NMNM 012374

LOCATED IN THE NE/SE OF SECTION 27,

T24N, R9W, N.M.P.M.,

SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	1577	FSL	0	FEL	36.282193° N	107.767945° W
TO	2634	FSL	1014	FEL	36.285101° N	107.771376° W

2341.89 LINEAR FEET OF WELLBORE WITHIN

NO-G-1403-1915

LOCATED IN THE SE/NE, SW/NE & NW/NE OF SECTION 27,

T24N, R9W, N.M.P.M.,

SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	2634	FSL	1014	FEL	36.285101° N	107.771376° W
TO	960	FNL	2631	FEL	36.289752° N	107.776865° W

DISTRICT I

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☐ AMENDED REPORT

NAGEEZI UNIT #632H

1318.09 LINEAR FEET OF WELLBORE WITHIN
NMNM 012374
LOCATED IN THE NE/NW OF SECTION 27,
T24N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	960	FNL	2631	FEL	36.289752° N	107.776865° W
TO	0	FNL	1712	FWL	36.292370° N	107.779955° W

417.47 LINEAR FEET OF WELLBORE WITHIN
NMNM 012374
LOCATED IN THE SE/SW OF SECTION 22,
T24N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	0	FSL	1712	FWL	36.293199° N	107.780934° W
TO	304	FSL	1421	FWL	36.293199° N	107.780934° W

Rev 0



DRILLING PLAN

Nageezi Unit 632H

San Juan County, New Mexico

Surface Location

2282-ft FEL & 2318-ft FNL
 Sec 35 T24N R09W
 Graded Elevation 6899' MSL
 RKB Elevation 6913' (14' KB)

SHL Geographical Coordinates (NAD-83)

Latitude 36.2714560° N
 Longitude 107.7578080° W

Kick Off Point for Horizontal Build Curve

4779-ft MD
 4741-ft TVD

Local Coordinates (from SHL)

565-ft North
 67-ft East

Heel Location (Pay zone entry)

2580-ft FEL & 1228-ft FNL
 Sec 35 T24N R09W

Heel Geographical Coordinates (NAD-83)

Latitude 36.2744548° N
 Longitude 107.75881470° W

Bottom Hole Location (TD)

1421-ft FWL & 304-ft FSL
 Sec 22 T24N R09W

BHL Geographical Coordinates (NAD-83)

Latitude 36.2931991° N
 Longitude 107.7809342° W

Well objectives

This well is planned as a 9440-ft lateral in the Gallup C R3 sand.

Bottom Hole temperature and pressure

The temperature in the Gallup C R3 horizontal objective is 143°F. Bottom hole pressure in the Gallup C R3 is forecast to be 1985 psi.

Formation Tops (Sd = Sand; Sh = Shale; Siltstone = Sit, 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	861	859	Sd	W	8.3	8.4 – 8.8
Kirtland	946	943	Sh	-	8.3	8.4 – 8.8
Fruitland	1261	1255	C	G	8.3	9.0 - 9.5
Pictured Cliffs	1606	1597	Sd	W	8.3	9.0 - 9.5
Lewis	1702	1692	Sh	-		9.0 - 9.5
Chacra	2397	2381	Sd	-	8.3	9.0 - 9.5
Menefee	3116	3093	Sd, C	G	8.3	9.0 - 9.5
Point Lookout	4099	4067	Sd	-	8.3	9.0 - 9.5
Mancos	4269	4235	Sh	-		9.0 - 9.5
Mancos Silt	4596	4559	Sit	O/G	6.6	9.0 - 9.5
Gallup A	5123	5057	Sit	O/G	6.6	9.0 - 9.5
Gallup B	5176	5099	Sd	O/G	6.6	8.8 - 9.0
Gallup C	5359	5218	Sd	O/G	6.6	8.8 - 9.0
Target	5719	5319	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	5668	surf	5317	surface
4-1/2"	6-1/8"	11.6	P-110	BTC	5388	15156	5233	5393	5388

Note: all casing will be new

Rev 0



Casing Design Load Cases

	Description	Casing String		
		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

Casing string	Casing OD	Design Factors			
		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
Type	BJ Services	BJ Services
Planned top	III	Poz/G
Density (ppg)	Surface	4279-ft
Yield (cf/sx)	12.30	13.50
Mix water (gal/sx)	2.34	1.50
Volume (sx)	13.26	7.20
Volume (bbls)	429	230
Volume (cu.ft.)	179	61
Excess %	1004	343
	50	50

Rev 0

4-1/2" Production Liner

	BJ Services
Type	Poz/G
Planned top	5388-ft
Density (ppg)	13.3
Yield (cf/sx)	1.56
Mix water (gal/sx)	7.71
Volume (sx)	821
Volume (bbls)	229
Volume (cu.ft)	1284
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 – 5668	9.0 – 9.5	38 – 45	8 – 14	<20
Production	Low solids, non-dispersed	5668 – 15156	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.

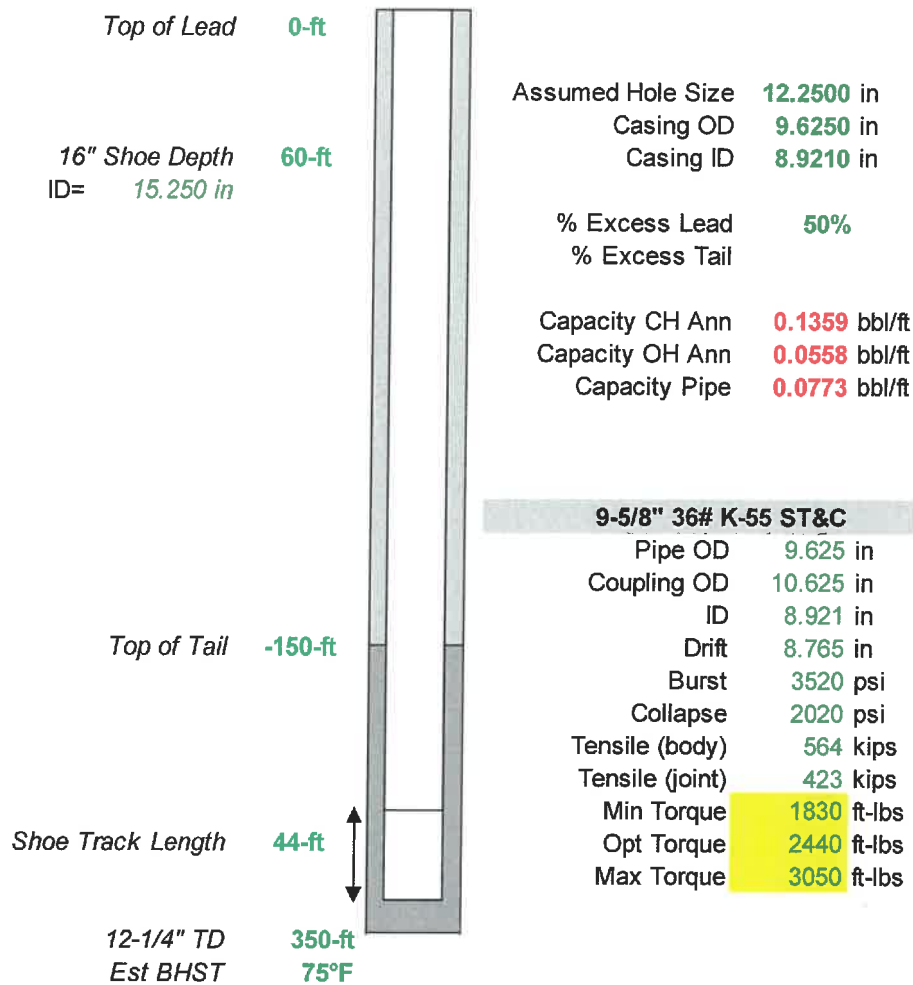
Completion

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

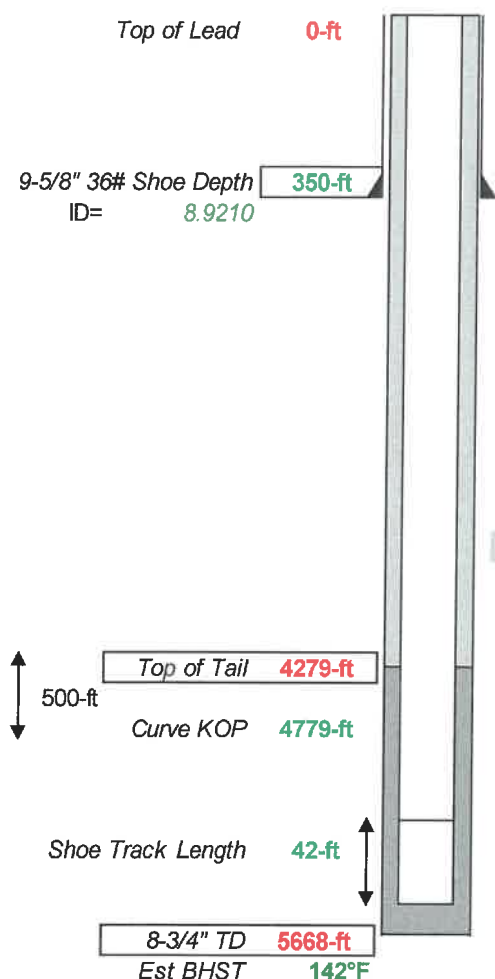


Lead Slurry		Properties	
Redi Mix Type I/II		Density	14.50 ppg
20% Fly Ash		Yield	1.61 cf/sk
		Total Mix Fluid	7.41 gal/sk
		Est pump time (70Bc)	NA
		8-hr compressive	475 psi
		24-hr compressive	1375 psi
Tail Slurry		Properties	
None		Density	ppg
		Yield	cf/sk
		Total Mix Fluid	gal/sk
		Est pump time (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 632H



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		Properties	
Type III		Density	12.30 ppg
BA-90	5 lb/sx%	Yield	2.3404 cf/sk
KCI	3.00%	Total Mix Fluid	13.26 gal/sk
GW-86	0.10%	Thickening Time	3:11 hr:min
FL-66	0.20%	Time to 50 psi (80°F)	5:10 hr:min
R-3	0.50%	24-hr UCA (80°F)	659 psi
FP-25	0.30%		

BJ Tail Slurry		Properties	
G+Pozz	50:50	Density	13.50 ppg
BA-90	3 lb/sx	Yield	1.4946 cf/sk
FL-66	0.40%	Total Mix Fluid	7.24 gal/sk
FP-25	0.30%	Thickening Time	3:26 hr:min
Sod. Met	0.50%	Time to 50 psi (135°F)	2:55 hr:min
Gyp	3.00%	Time to 500 psi (135°F)	6:40 hr:min

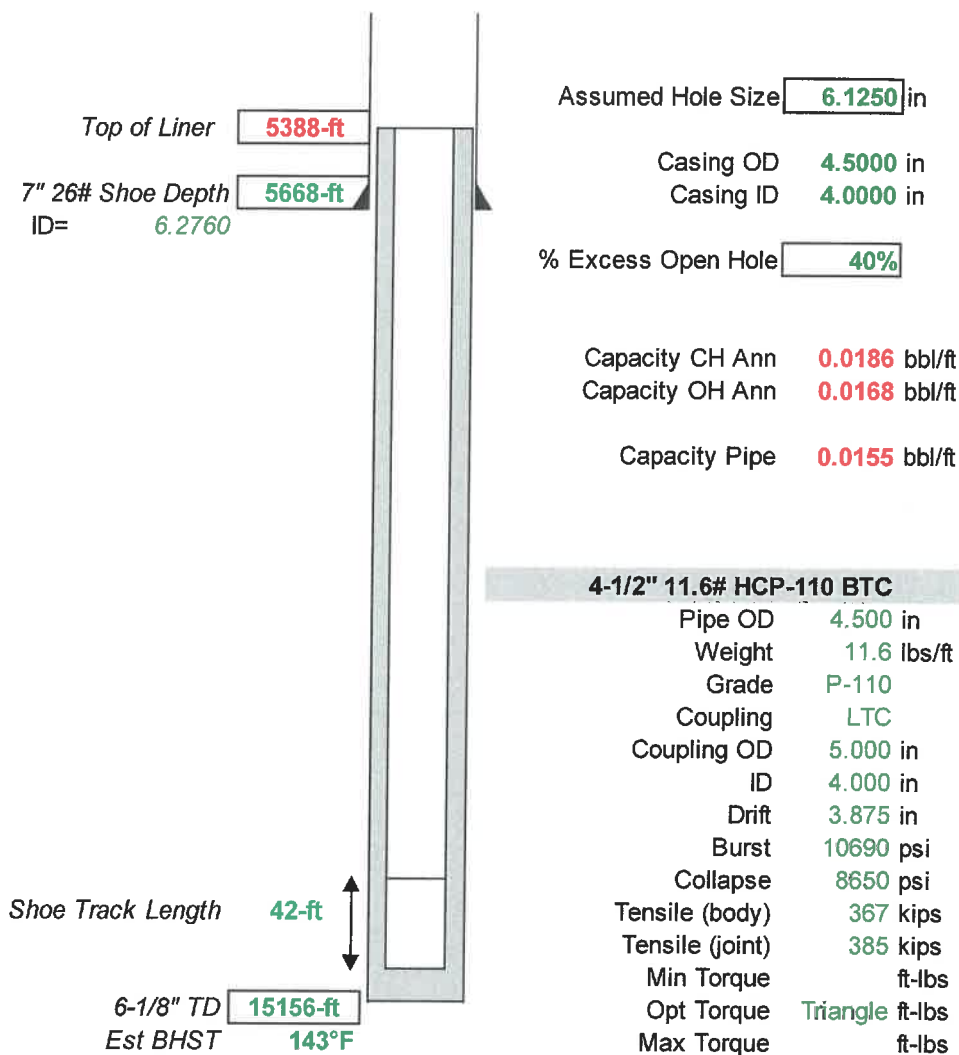
Volumes

Lead Volume	179 bbls	429 sx
Tail Volume	61 bbls	230 sx
Approx Displacement	215 bbls	
Total Volume	455 bbls	

Rev 0



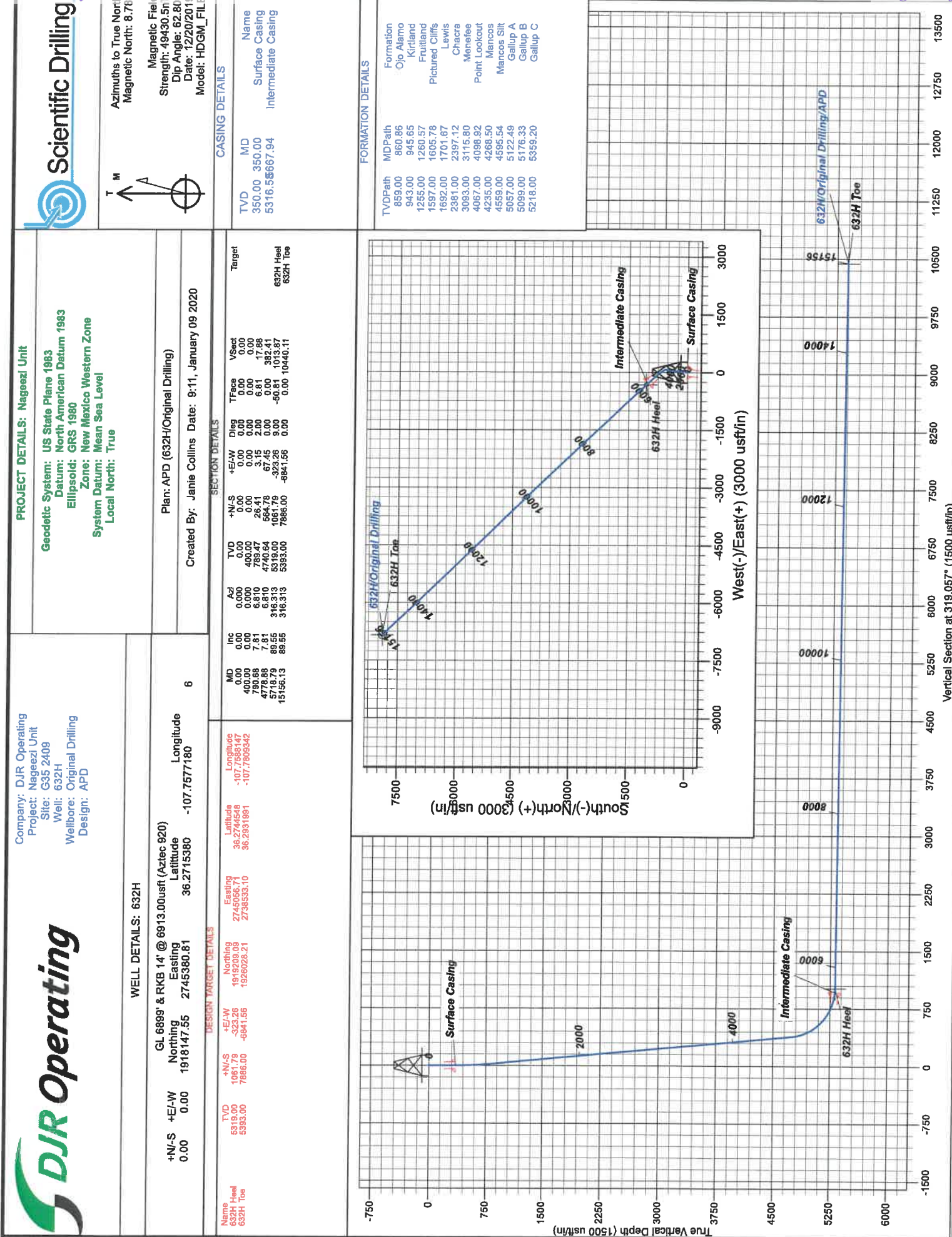
4-1/2" Liner Cementing Nageezi Unit 632H



BJ Lead Slurry		Properties	
G+Pozz	50:50	Density	13.30 ppg
BA-90	3 lb/sx	Yield	1.5629 cf/sk
GW-86	0.10%	Total Mix Fluid	7.70 gal/sk
R-3	0.40%	Thickening Time	6:04 hr:min
FP-25	30.00%	Time to 50 psi (147°F)	7:15 hr:min
FL-24	0.40%	24-hr UCA (147°F)	1293 psi
Gel	4.00%		

Volumes

Lead Volume	229 bbls	821 sx
Approx Displacement	164 bbls	
Total Volume	392 bbls	





DJR Operating

Nageezi Unit

G35 2409

632H - Slot 6

Original Drilling

Plan: APD

Standard Planning Report

09 January, 2020



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Scientific Drilling, Intl
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 632H - Slot 6
Company:	DJR Operating	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site:	G35 2409	North Reference:	True
Well:	632H	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	G35 2409				
Site Position:		Northing:	1,918,072.88 usft	Latitude:	36.2713330
From:	Lat/Long	Easting:	2,745,314.54 usft	Longitude:	-107.7579430
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.04 °

Well	632H - Slot 6					
Well Position	+N/-S	74.62 usft	Northing:	1,918,147.55 usft	Latitude:	36.2715380
	+E/-W	66.32 usft	Easting:	2,745,380.81 usft	Longitude:	-107.7577180
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	6,899.00 usft

Wellbore	Original Drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	12/20/2019	8.78	62.80	49,430.50000000

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	319.056	

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	
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
790.68	7.81	6.810	789.47	26.41	3.15	2.00	2.00	0.00	6.81	
4,778.88	7.81	6.810	4,740.64	564.78	67.45	0.00	0.00	0.00	0.00	
5,718.79	89.55	316.313	5,319.00	1,061.79	-323.26	9.00	8.70	-5.37	-50.81	632H Heel
15,156.13	89.55	316.313	5,393.00	7,886.00	-6,841.56	0.00	0.00	0.00	0.00	632H Toe



Scientific Drilling, Intl
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 632H - Slot 6
Company:	DJR Operating	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site:	G35 2409	North Reference:	True
Well:	632H	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
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	2.00	6.810	499.98	1.73	0.21	1.17	2.00	2.00	0.00
600.00	4.00	6.810	599.84	6.93	0.83	4.69	2.00	2.00	0.00
700.00	6.00	6.810	699.45	15.58	1.86	10.55	2.00	2.00	0.00
790.68	7.81	6.810	789.47	26.41	3.15	17.88	2.00	2.00	0.00
800.00	7.81	6.810	798.70	27.67	3.30	18.73	0.00	0.00	0.00
900.00	7.81	6.810	897.77	41.17	4.92	27.87	0.00	0.00	0.00
1,000.00	7.81	6.810	998.84	54.67	6.53	37.01	0.00	0.00	0.00
1,100.00	7.81	6.810	1,095.92	68.17	8.14	46.15	0.00	0.00	0.00
1,200.00	7.81	6.810	1,194.99	81.66	9.75	55.30	0.00	0.00	0.00
1,300.00	7.81	6.810	1,294.06	95.16	11.36	64.44	0.00	0.00	0.00
1,400.00	7.81	6.810	1,393.13	108.66	12.98	73.58	0.00	0.00	0.00
1,500.00	7.81	6.810	1,492.20	122.16	14.59	82.72	0.00	0.00	0.00
1,600.00	7.81	6.810	1,591.27	135.66	16.20	91.86	0.00	0.00	0.00
1,700.00	7.81	6.810	1,690.34	149.16	17.81	101.00	0.00	0.00	0.00
1,800.00	7.81	6.810	1,789.42	162.66	19.42	110.14	0.00	0.00	0.00
1,900.00	7.81	6.810	1,888.49	176.16	21.04	119.28	0.00	0.00	0.00
2,000.00	7.81	6.810	1,987.56	189.66	22.65	128.42	0.00	0.00	0.00
2,100.00	7.81	6.810	2,086.63	203.16	24.26	137.56	0.00	0.00	0.00
2,200.00	7.81	6.810	2,185.70	216.66	25.87	146.70	0.00	0.00	0.00
2,300.00	7.81	6.810	2,284.77	230.16	27.48	155.84	0.00	0.00	0.00
2,400.00	7.81	6.810	2,383.84	243.65	29.10	164.98	0.00	0.00	0.00
2,500.00	7.81	6.810	2,482.92	257.15	30.71	174.12	0.00	0.00	0.00
2,599.99	7.81	6.810	2,581.99	270.65	32.32	183.26	0.00	0.00	0.00
2,699.99	7.81	6.810	2,681.06	284.15	33.93	192.40	0.00	0.00	0.00
2,799.99	7.81	6.810	2,780.13	297.65	35.55	201.54	0.00	0.00	0.00
2,899.99	7.81	6.810	2,879.20	311.15	37.16	210.68	0.00	0.00	0.00
2,999.99	7.81	6.810	2,978.27	324.65	38.77	219.82	0.00	0.00	0.00
3,099.99	7.81	6.810	3,077.34	338.15	40.38	228.96	0.00	0.00	0.00
3,199.99	7.81	6.810	3,176.41	351.65	41.99	238.10	0.00	0.00	0.00
3,299.99	7.81	6.810	3,275.49	365.15	43.61	247.24	0.00	0.00	0.00
3,399.99	7.81	6.810	3,374.56	378.65	45.22	256.38	0.00	0.00	0.00
3,499.99	7.81	6.810	3,473.63	392.14	46.83	265.52	0.00	0.00	0.00
3,599.99	7.81	6.810	3,572.70	405.64	48.44	274.66	0.00	0.00	0.00
3,699.99	7.81	6.810	3,671.77	419.14	50.05	283.80	0.00	0.00	0.00
3,799.99	7.81	6.810	3,770.84	432.64	51.67	292.94	0.00	0.00	0.00
3,899.99	7.81	6.810	3,869.91	446.14	53.28	302.08	0.00	0.00	0.00
3,999.99	7.81	6.810	3,968.99	459.64	54.89	311.22	0.00	0.00	0.00
4,099.99	7.81	6.810	4,068.06	473.14	56.50	320.36	0.00	0.00	0.00
4,199.99	7.81	6.810	4,167.13	486.64	58.11	329.50	0.00	0.00	0.00
4,299.99	7.81	6.810	4,266.20	500.14	59.73	338.64	0.00	0.00	0.00
4,399.99	7.81	6.810	4,365.27	513.64	61.34	347.78	0.00	0.00	0.00
4,499.99	7.81	6.810	4,464.34	527.14	62.95	356.92	0.00	0.00	0.00
4,599.99	7.81	6.810	4,563.41	540.63	64.56	366.06	0.00	0.00	0.00
4,699.99	7.81	6.810	4,662.49	554.13	66.17	375.20	0.00	0.00	0.00
4,778.88	7.81	6.810	4,740.64	564.78	67.45	382.41	0.00	0.00	0.00
4,799.99	9.13	357.493	4,761.52	567.88	67.54	384.69	9.00	6.25	-44.13
4,899.99	16.94	336.618	4,858.92	589.23	61.40	404.84	9.00	7.81	-20.87



Scientific Drilling, Intl
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 632H - Slot 6
Company:	DJR Operating	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site:	G35 2409	North Reference:	True
Well:	632H	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)
4,999.99	25.54	329.079	4,952.06	621.16	44.51	440.03	9.00	8.59	-7.54
5,099.99	34.33	325.191	5,038.64	662.89	17.28	489.39	9.00	8.79	-3.89
5,199.99	43.20	322.744	5,116.54	713.39	-19.61	551.71	9.00	8.87	-2.45
5,299.99	52.11	320.996	5,183.84	771.41	-65.26	625.46	9.00	8.91	-1.75
5,399.99	61.03	319.628	5,238.87	835.53	-118.54	708.81	9.00	8.93	-1.37
5,499.99	69.97	318.479	5,280.30	904.17	-178.14	799.71	9.00	8.94	-1.15
5,599.99	78.92	317.455	5,307.08	975.64	-242.59	895.93	9.00	8.95	-1.02
5,699.99	87.87	316.492	5,318.58	1,048.18	-310.31	995.10	9.00	8.95	-0.96
5,718.79	89.55	316.313	5,319.00	1,061.79	-323.26	1,013.87	9.00	8.95	-0.95
5,799.99	89.55	316.313	5,319.64	1,120.51	-379.35	1,094.98	0.00	0.00	0.00
5,899.99	89.55	316.313	5,320.42	1,192.82	-448.42	1,194.86	0.00	0.00	0.00
5,999.99	89.55	316.313	5,321.21	1,265.13	-517.49	1,294.74	0.00	0.00	0.00
6,099.99	89.55	316.313	5,321.99	1,337.44	-586.56	1,394.62	0.00	0.00	0.00
6,199.99	89.55	316.313	5,322.77	1,409.75	-655.63	1,494.51	0.00	0.00	0.00
6,299.99	89.55	316.313	5,323.56	1,482.06	-724.70	1,594.39	0.00	0.00	0.00
6,399.99	89.55	316.313	5,324.34	1,554.37	-793.76	1,694.27	0.00	0.00	0.00
6,499.99	89.55	316.313	5,325.13	1,626.68	-862.83	1,794.15	0.00	0.00	0.00
6,599.99	89.55	316.313	5,325.91	1,698.99	-931.90	1,894.03	0.00	0.00	0.00
6,699.99	89.55	316.313	5,326.69	1,771.30	-1,000.97	1,993.92	0.00	0.00	0.00
6,799.99	89.55	316.313	5,327.48	1,843.61	-1,070.04	2,093.80	0.00	0.00	0.00
6,899.99	89.55	316.313	5,328.26	1,915.92	-1,139.11	2,193.68	0.00	0.00	0.00
6,999.99	89.55	316.313	5,329.05	1,988.23	-1,208.18	2,293.56	0.00	0.00	0.00
7,099.99	89.55	316.313	5,329.83	2,060.55	-1,277.25	2,393.44	0.00	0.00	0.00
7,199.99	89.55	316.313	5,330.61	2,132.86	-1,346.32	2,493.33	0.00	0.00	0.00
7,299.99	89.55	316.313	5,331.40	2,205.17	-1,415.39	2,593.21	0.00	0.00	0.00
7,399.99	89.55	316.313	5,332.18	2,277.48	-1,484.46	2,693.09	0.00	0.00	0.00
7,499.99	89.55	316.313	5,332.97	2,349.79	-1,553.52	2,792.97	0.00	0.00	0.00
7,599.98	89.55	316.313	5,333.75	2,422.10	-1,622.59	2,892.86	0.00	0.00	0.00
7,699.98	89.55	316.313	5,334.54	2,494.41	-1,691.66	2,992.74	0.00	0.00	0.00
7,799.98	89.55	316.313	5,335.32	2,566.72	-1,760.73	3,092.62	0.00	0.00	0.00
7,899.98	89.55	316.313	5,336.10	2,639.03	-1,829.80	3,192.50	0.00	0.00	0.00
7,999.98	89.55	316.313	5,336.89	2,711.34	-1,898.87	3,292.38	0.00	0.00	0.00
8,099.98	89.55	316.313	5,337.67	2,783.65	-1,967.94	3,392.27	0.00	0.00	0.00
8,199.98	89.55	316.313	5,338.46	2,855.96	-2,037.01	3,492.15	0.00	0.00	0.00
8,299.98	89.55	316.313	5,339.24	2,928.27	-2,106.08	3,592.03	0.00	0.00	0.00
8,399.98	89.55	316.313	5,340.02	3,000.58	-2,175.15	3,691.91	0.00	0.00	0.00
8,499.98	89.55	316.313	5,340.81	3,072.89	-2,244.22	3,791.79	0.00	0.00	0.00
8,599.98	89.55	316.313	5,341.59	3,145.20	-2,313.28	3,891.68	0.00	0.00	0.00
8,699.98	89.55	316.313	5,342.38	3,217.51	-2,382.35	3,991.56	0.00	0.00	0.00
8,799.98	89.55	316.313	5,343.16	3,289.82	-2,451.42	4,091.44	0.00	0.00	0.00
8,899.98	89.55	316.313	5,343.94	3,362.13	-2,520.49	4,191.32	0.00	0.00	0.00
8,999.98	89.55	316.313	5,344.73	3,434.44	-2,589.56	4,291.21	0.00	0.00	0.00
9,099.98	89.55	316.313	5,345.51	3,506.75	-2,658.63	4,391.09	0.00	0.00	0.00
9,199.98	89.55	316.313	5,346.30	3,579.07	-2,727.70	4,490.97	0.00	0.00	0.00
9,299.98	89.55	316.313	5,347.08	3,651.38	-2,796.77	4,590.85	0.00	0.00	0.00
9,399.98	89.55	316.313	5,347.87	3,723.69	-2,865.84	4,690.73	0.00	0.00	0.00
9,499.98	89.55	316.313	5,348.65	3,796.00	-2,934.91	4,790.62	0.00	0.00	0.00
9,599.98	89.55	316.313	5,349.43	3,868.31	-3,003.98	4,890.50	0.00	0.00	0.00
9,699.98	89.55	316.313	5,350.22	3,940.62	-3,073.04	4,990.38	0.00	0.00	0.00
9,799.98	89.55	316.313	5,351.00	4,012.93	-3,142.11	5,090.26	0.00	0.00	0.00
9,899.98	89.55	316.313	5,351.79	4,085.24	-3,211.18	5,190.14	0.00	0.00	0.00
9,999.98	89.55	316.313	5,352.57	4,157.55	-3,280.25	5,290.03	0.00	0.00	0.00



Scientific Drilling, Intl Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 632H - Slot 6
Company:	DJR Operating	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site:	G35 2409	North Reference:	True
Well:	632H	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)
10,099.98	89.55	316.313	5,353.35	4,229.86	-3,349.32	5,389.91	0.00	0.00	0.00
10,199.98	89.55	316.313	5,354.14	4,302.17	-3,418.39	5,489.79	0.00	0.00	0.00
10,299.98	89.55	316.313	5,354.92	4,374.48	-3,487.46	5,589.67	0.00	0.00	0.00
10,399.98	89.55	316.313	5,355.71	4,446.79	-3,556.53	5,689.56	0.00	0.00	0.00
10,499.98	89.55	316.313	5,356.49	4,519.10	-3,625.60	5,789.44	0.00	0.00	0.00
10,599.98	89.55	316.313	5,357.27	4,591.41	-3,694.67	5,889.32	0.00	0.00	0.00
10,699.98	89.55	316.313	5,358.06	4,663.72	-3,763.74	5,989.20	0.00	0.00	0.00
10,799.98	89.55	316.313	5,358.84	4,736.03	-3,832.80	6,089.08	0.00	0.00	0.00
10,899.98	89.55	316.313	5,359.63	4,808.34	-3,901.87	6,188.97	0.00	0.00	0.00
10,999.98	89.55	316.313	5,360.41	4,880.65	-3,970.94	6,288.85	0.00	0.00	0.00
11,099.98	89.55	316.313	5,361.20	4,952.96	-4,040.01	6,388.73	0.00	0.00	0.00
11,199.98	89.55	316.313	5,361.98	5,025.28	-4,109.08	6,488.61	0.00	0.00	0.00
11,299.98	89.55	316.313	5,362.76	5,097.59	-4,178.15	6,588.49	0.00	0.00	0.00
11,399.98	89.55	316.313	5,363.55	5,169.90	-4,247.22	6,688.38	0.00	0.00	0.00
11,499.98	89.55	316.313	5,364.33	5,242.21	-4,316.29	6,788.26	0.00	0.00	0.00
11,599.98	89.55	316.313	5,365.12	5,314.52	-4,385.36	6,888.14	0.00	0.00	0.00
11,699.98	89.55	316.313	5,365.90	5,386.83	-4,454.43	6,988.02	0.00	0.00	0.00
11,799.98	89.55	316.313	5,366.68	5,459.14	-4,523.50	7,087.91	0.00	0.00	0.00
11,899.98	89.55	316.313	5,367.47	5,531.45	-4,592.56	7,187.79	0.00	0.00	0.00
11,999.98	89.55	316.313	5,368.25	5,603.76	-4,661.63	7,287.67	0.00	0.00	0.00
12,099.98	89.55	316.313	5,369.04	5,676.07	-4,730.70	7,387.55	0.00	0.00	0.00
12,199.98	89.55	316.313	5,369.82	5,748.38	-4,799.77	7,487.43	0.00	0.00	0.00
12,299.98	89.55	316.313	5,370.60	5,820.69	-4,868.84	7,587.32	0.00	0.00	0.00
12,399.98	89.55	316.313	5,371.39	5,893.00	-4,937.91	7,687.20	0.00	0.00	0.00
12,499.98	89.55	316.313	5,372.17	5,965.31	-5,006.98	7,787.08	0.00	0.00	0.00
12,599.98	89.55	316.313	5,372.96	6,037.62	-5,076.05	7,886.96	0.00	0.00	0.00
12,699.97	89.55	316.313	5,373.74	6,109.93	-5,145.12	7,986.84	0.00	0.00	0.00
12,799.97	89.55	316.313	5,374.53	6,182.24	-5,214.19	8,086.73	0.00	0.00	0.00
12,899.97	89.55	316.313	5,375.31	6,254.55	-5,283.25	8,186.61	0.00	0.00	0.00
12,999.97	89.55	316.313	5,376.09	6,326.86	-5,352.32	8,286.49	0.00	0.00	0.00
13,099.97	89.55	316.313	5,376.88	6,399.17	-5,421.39	8,386.37	0.00	0.00	0.00
13,199.97	89.55	316.313	5,377.66	6,471.48	-5,490.46	8,486.26	0.00	0.00	0.00
13,299.97	89.55	316.313	5,378.45	6,543.80	-5,559.53	8,586.14	0.00	0.00	0.00
13,399.97	89.55	316.313	5,379.23	6,616.11	-5,628.60	8,686.02	0.00	0.00	0.00
13,499.97	89.55	316.313	5,380.01	6,688.42	-5,697.67	8,785.90	0.00	0.00	0.00
13,599.97	89.55	316.313	5,380.80	6,760.73	-5,766.74	8,885.78	0.00	0.00	0.00
13,699.97	89.55	316.313	5,381.58	6,833.04	-5,835.81	8,985.67	0.00	0.00	0.00
13,799.97	89.55	316.313	5,382.37	6,905.35	-5,904.88	9,085.55	0.00	0.00	0.00
13,899.97	89.55	316.313	5,383.15	6,977.66	-5,973.95	9,185.43	0.00	0.00	0.00
13,999.97	89.55	316.313	5,383.93	7,049.97	-6,043.01	9,285.31	0.00	0.00	0.00
14,099.97	89.55	316.313	5,384.72	7,122.28	-6,112.08	9,385.19	0.00	0.00	0.00
14,199.97	89.55	316.313	5,385.50	7,194.59	-6,181.15	9,485.08	0.00	0.00	0.00
14,299.97	89.55	316.313	5,386.29	7,266.90	-6,250.22	9,584.96	0.00	0.00	0.00
14,399.97	89.55	316.313	5,387.07	7,339.21	-6,319.29	9,684.84	0.00	0.00	0.00
14,499.97	89.55	316.313	5,387.86	7,411.52	-6,388.36	9,784.72	0.00	0.00	0.00
14,599.97	89.55	316.313	5,388.64	7,483.83	-6,457.43	9,884.61	0.00	0.00	0.00
14,699.97	89.55	316.313	5,389.42	7,556.14	-6,526.50	9,984.49	0.00	0.00	0.00
14,799.97	89.55	316.313	5,390.21	7,628.45	-6,595.57	10,084.37	0.00	0.00	0.00
14,899.97	89.55	316.313	5,390.99	7,700.76	-6,664.64	10,184.25	0.00	0.00	0.00
14,999.97	89.55	316.313	5,391.78	7,773.07	-6,733.71	10,284.13	0.00	0.00	0.00
15,099.97	89.55	316.313	5,392.56	7,845.38	-6,802.77	10,384.02	0.00	0.00	0.00
15,156.13	89.55	316.313	5,393.00	7,886.00	-6,841.56	10,440.11	0.00	0.00	0.00



Scientific Drilling, Intl
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 632H - Slot 6
Company:	DJR Operating	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site:	G35 2409	North Reference:	True
Well:	632H	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)
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Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
632H Heel - plan hits target center - Circle (radius 50.00)	0.00	0.000	5,319.00	1,061.79	-323.26	1,919,209.09	2,745,056.71	36.2744548	-107.7588147
632H Toe - plan hits target center - Circle (radius 100.00)	0.00	0.000	5,393.00	7,886.00	-6,841.56	1,926,028.21	2,738,533.10	36.2931991	-107.7809342

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
5,667.94	5,316.58	Intermediate Casing	7.00	8.75

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
860.86	859.00	Ojo Alamo		0.00	0.000
945.85	943.00	Kirtland		0.00	0.000
1,260.57	1,255.00	Fruitland		0.00	0.000
1,605.78	1,597.00	Pictured Cliffs		0.00	0.000
1,701.67	1,692.00	Lewis		0.00	0.000
2,397.12	2,381.00	Chacra		0.00	0.000
3,115.80	3,093.00	Menefee		0.00	0.000
4,098.92	4,067.00	Point Lookout		0.00	0.000
4,268.50	4,235.00	Mancos		0.00	0.000
4,595.54	4,559.00	Mancos Silt		0.00	0.000
5,122.49	5,057.00	Gallup A		0.00	0.000
5,176.33	5,099.00	Gallup B		0.00	0.000
5,359.20	5,218.00	Gallup C		0.00	0.000



DJR Operating

Nageezi Unit

G35 2409

632H

Original Drilling

APD

Anticollision Report

09 January, 2020



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Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 632H - Slot 6
Project:	Nageezi Unit	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Reference Site:	G35 2409	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	632H	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
Depth Range:	Unlimited
Results Limited by:	Maximum ellipse separation of 1,000.00 usft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program	Date	1/9/2020
From (usft)	To (usft)	Survey (Wellbore)
0.00	15,156.13	APD (Original Drilling)
		Tool Name
		MWD+IGRF
		Description
		OWSG MWD + IGRF or WMM

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
G35 2409						
308H - Original Drilling - APD	400.00	400.00	19.69	17.23	8.009	CC, ES
308H - Original Drilling - APD	14,581.62	14,895.82	651.56	189.48	1.410	Level 3, SF
309H - Original Drilling - APD	305.56	305.56	59.90	58.12	33.613	CC
309H - Original Drilling - APD	400.00	399.53	60.00	57.54	24.456	ES
309H - Original Drilling - APD	600.00	594.70	73.85	70.01	19.224	SF
310H - Original Drilling - APD	400.00	400.00	39.66	37.20	16.128	CC, ES
310H - Original Drilling - APD	14,300.00	15,169.25	1,234.62	759.48	2.598	SF
313H - Original Drilling - APD	305.57	305.57	19.97	18.19	11.205	CC
313H - Original Drilling - APD	800.00	797.35	22.63	17.30	4.248	ES
313H - Original Drilling - APD	900.00	896.58	25.05	19.00	4.139	SF

Offset Design		G35 2409 - 308H - 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							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
							+N/-S (usft)	+E/-W (usft)						
0.00	0.00	0.00	0.00	0.00	0.00	-137.67	-14.56	-13.26	19.69					
100.00	100.00	100.00	100.00	0.15	0.15	-137.67	-14.56	-13.26	19.69	19.39	0.31	63.882		
200.00	200.00	200.00	200.00	0.51	0.51	-137.67	-14.56	-13.26	19.69	18.67	1.03	19.209		
300.00	300.00	300.00	300.00	0.87	0.87	-137.67	-14.56	-13.26	19.69	17.95	1.74	11.304		
400.00	400.00	400.00	400.00	1.23	1.23	-137.67	-14.56	-13.26	19.69	17.23	2.46	8.009	CC, ES	
500.00	499.98	499.58	499.58	1.59	1.57	-151.12	-16.17	-12.64	22.04	18.88	3.16	6.974		
600.00	599.84	598.79	598.54	1.95	1.91	-163.78	-20.73	-10.88	30.05	26.19	3.86	7.783		
700.00	699.45	697.82	697.53	2.32	2.25	-172.15	-25.83	-8.91	42.83	38.26	4.57	9.374		
800.00	798.70	796.33	795.88	2.70	2.60	-176.83	-30.91	-6.95	59.53	54.25	5.28	11.267		
900.00	897.78	894.59	893.99	3.10	2.96	-179.48	-35.97	-5.00	77.86	71.88	5.98	13.013		
1,000.00	996.85	992.84	992.10	3.51	3.32	178.88	-41.04	-3.04	96.30	89.61	6.69	14.399		
1,100.00	1,095.92	1,091.10	1,090.20	3.93	3.68	177.77	-46.10	-1.08	114.78	107.38	7.40	15.520		
1,200.00	1,194.99	1,189.35	1,188.31	4.35	4.04	176.97	-51.16	0.87	133.29	125.19	8.11	16.445		
1,300.00	1,294.06	1,287.61	1,286.42	4.77	4.40	176.36	-56.23	2.83	151.83	143.01	8.82	17.218		
1,400.00	1,393.13	1,385.87	1,384.52	5.20	4.77	175.88	-61.29	4.78	170.37	160.84	9.53	17.875		
1,500.00	1,492.20	1,484.12	1,482.63	5.62	5.13	175.50	-66.36	6.74	188.93	178.68	10.25	18.439		

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

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COMPASS 5000.15 Build 91D



Scientific Drilling, Intl

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 632H - Slot 6
Project:	Nageezi Unit	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Reference Site:	G35 2409	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	632H	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 G35 2409 - 308H - Original Drilling - APD													Offset Site Error:	0.00 usft
Survey Program: C-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		
1,600.00	1,591.28	1,582.38	1,580.74	6.05	5.49	175.19	-71.42	8.69	207.49	196.52	10.96	18.928		
1,700.00	1,690.35	1,680.64	1,678.84	6.48	5.86	174.93	-76.49	10.65	226.05	214.37	11.68	19.356		
1,800.00	1,789.42	1,778.89	1,776.95	6.91	6.23	174.70	-81.55	12.60	244.62	232.23	12.40	19.734		
1,900.00	1,888.49	1,877.15	1,875.06	7.34	6.59	174.51	-86.61	14.56	263.20	250.08	13.11	20.070		
2,000.00	1,987.56	1,975.41	1,973.16	7.77	6.96	174.35	-91.68	16.51	281.77	267.94	13.83	20.370		
2,100.00	2,086.63	2,073.66	2,071.27	8.20	7.32	174.20	-96.74	18.47	300.35	285.80	14.55	20.641		
2,200.00	2,185.71	2,171.92	2,169.38	8.64	7.69	174.07	-101.81	20.42	318.93	303.66	15.27	20.885		
2,300.00	2,284.78	2,270.18	2,267.48	9.07	8.06	173.96	-106.87	22.38	337.51	321.52	15.99	21.108		
2,400.00	2,383.85	2,368.43	2,365.59	9.50	8.42	173.86	-111.94	24.33	356.09	339.38	16.71	21.310		
2,500.00	2,482.92	2,466.69	2,463.69	9.93	8.79	173.77	-117.00	26.29	374.67	357.24	17.43	21.496		
2,600.00	2,581.99	2,564.95	2,561.80	10.37	9.16	173.68	-122.06	28.24	393.26	375.11	18.15	21.667		
2,700.00	2,681.06	2,663.20	2,659.91	10.80	9.53	173.61	-127.13	30.20	411.84	392.97	18.87	21.825		
2,800.00	2,780.13	2,761.46	2,758.01	11.24	9.89	173.54	-132.19	32.15	430.43	410.83	19.59	21.970		
2,900.00	2,879.21	2,859.72	2,856.12	11.67	10.26	173.47	-137.26	34.11	449.01	428.70	20.31	22.106		
3,000.00	2,978.28	2,957.97	2,954.23	12.10	10.63	173.42	-142.32	36.06	467.60	446.56	21.03	22.232		
3,100.00	3,077.35	3,056.23	3,052.33	12.54	11.00	173.36	-147.38	38.02	486.18	464.43	21.75	22.349		
3,200.00	3,176.42	3,154.49	3,150.44	12.97	11.36	173.31	-152.45	39.97	504.77	482.30	22.48	22.459		
3,300.00	3,275.49	3,252.74	3,248.55	13.41	11.73	173.26	-157.51	41.93	523.36	500.16	23.20	22.562		
3,400.00	3,374.56	3,351.00	3,346.65	13.84	12.10	173.22	-162.58	43.88	541.94	518.03	23.92	22.659		
3,500.00	3,473.64	3,449.26	3,444.76	14.28	12.47	173.18	-167.64	45.84	560.53	535.89	24.64	22.750		
3,600.00	3,572.71	3,547.51	3,542.87	14.71	12.84	173.14	-172.71	47.79	579.12	553.76	25.36	22.835		
3,700.00	3,671.78	3,645.77	3,640.97	15.15	13.20	173.11	-177.77	49.75	597.71	571.63	26.08	22.916		
3,800.00	3,770.85	3,744.03	3,739.08	15.58	13.57	173.07	-182.83	51.70	616.30	589.49	26.80	22.992		
3,900.00	3,869.92	3,842.28	3,837.19	16.02	13.94	173.04	-187.90	53.66	634.89	607.36	27.53	23.065		
4,000.00	3,968.99	3,940.54	3,935.29	16.45	14.31	173.01	-192.96	55.61	653.47	625.23	28.25	23.133		
4,100.00	4,068.07	4,038.79	4,033.40	16.89	14.68	172.99	-198.03	57.57	672.06	643.09	28.97	23.198		
4,200.00	4,167.14	4,137.05	4,131.50	17.32	15.04	172.96	-203.09	59.52	690.65	660.96	29.69	23.260		
4,300.00	4,266.21	4,235.31	4,229.61	17.76	15.41	172.93	-208.16	61.48	709.24	678.83	30.41	23.319		
4,400.00	4,365.28	4,333.56	4,327.72	18.20	15.78	172.91	-213.22	63.43	727.83	696.69	31.14	23.375		
4,500.00	4,464.35	4,431.82	4,425.82	18.63	16.15	172.89	-218.28	65.39	746.42	714.56	31.86	23.429		
4,600.00	4,563.42	4,530.93	4,525.88	19.07	16.52	172.87	-223.34	67.34	765.01	732.63	32.58	23.483		
4,700.00	4,662.49	4,629.19	4,623.06	19.50	16.89	172.84	-228.40	69.29	783.60	750.72	33.30	23.537		
4,800.00	4,761.53	4,727.08	4,720.88	19.94	17.26	172.81	-233.46	71.24	802.19	768.81	34.02	23.591		
4,900.00	4,858.93	4,823.11	4,816.91	20.37	17.63	172.78	-238.52	73.19	820.78	786.90	34.74	23.645		
5,000.00	4,952.06	4,915.11	4,908.91	20.81	18.00	172.75	-243.58	75.14	839.37	805.00	35.46	23.699		
5,100.00	5,038.65	5,000.11	4,993.91	21.24	18.37	172.72	-248.64	77.09	857.96	823.10	36.18	23.753		
5,200.00	5,124.34	5,084.11	5,077.91	21.68	18.74	172.69	-253.70	79.04	876.55	841.20	36.90	23.807		
5,300.00	5,210.03	5,168.11	5,161.91	22.11	19.11	172.66	-258.76	80.99	895.14	859.30	37.62	23.861		
5,400.00	5,295.72	5,252.11	5,245.91	22.55	19.48	172.63	-263.82	82.94	913.73	877.40	38.34	23.915		
5,500.00	5,381.41	5,336.11	5,329.91	22.98	19.85	172.60	-268.88	84.89	932.32	895.50	39.06	23.969		
5,600.00	5,467.10	5,420.11	5,413.91	23.42	20.22	172.57	-273.94	86.84	950.91	913.60	39.78	24.023		
5,700.00	5,552.79	5,504.11	5,497.91	23.85	20.59	172.54	-279.00	88.79	969.50	931.70	40.50	24.077		
5,800.00	5,638.48	5,588.11	5,581.91	24.29	20.96	172.51	-284.06	90.74	988.09	949.80	41.22	24.131		
5,900.00	5,724.17	5,672.11	5,665.91	24.72	21.33	172.48	-289.12	92.69	1,006.68	967.90	41.94	24.185		
6,000.00	5,809.86	5,756.11	5,749.91	25.16	21.70	172.45	-294.18	94.64	1,025.27	986.00	42.66	24.239		
6,100.00	5,895.55	5,840.11	5,833.91	25.59	22.07	172.42	-299.24	96.59	1,043.86	1,004.10	43.38	24.293		
6,200.00	5,981.24	5,924.11	5,917.91	26.03	22.44	172.39	-304.30	98.54	1,062.45	1,022.20	44.10	24.347		
6,300.00	6,066.93	6,008.11	6,001.91	26.46	22.81	172.36	-309.36	1,000.00	1,081.04	1,040.30	44.82	24.401		
6,400.00	6,152.62	6,092.11	6,085.91	26.90	23.18	172.33	-314.42	1,019.00	1,100.00	1,058.40	45.54	24.455		
6,500.00	6,238.31	6,176.11	6,169.91	27.33	23.55	172.30	-319.48	1,038.00	1,119.00	1,076.90	46.26	24.509		
6,600.00	6,324.00	6,260.11	6,253.91	27.77	23.92	172.27	-324.54	1,057.00	1,138.00	1,095.40	46.98	24.563		
6,700.00	6,409.69	6,344.11	6,337.91	28.20	24.29	172.24	-329.60	1,076.00	1,157.00	1,113.90	47.70	24.617		
6,800.00	6,495.38	6,428.11	6,421.91	28.64	24.66	172.21	-334.66	1,095.00	1,176.00	1,132.40	48.42	24.671		
6,900.00	6,581.07	6,512.11	6,505.91	29.07	25.03	172.18	-339.72	1,114.00	1,195.00	1,150.90	49.14	24.725		
7,000.00	6,666.76	6,595.11	6,588.91	29.51	25.40	172.15	-344.78	1,133.00	1,214.00	1,169.40	49.86	24.779		
7,100.00	6,752.45	6,679.11	6,672.91	29.94	25.77	172.12	-349.84	1,152.00	1,233.00	1,187.90	50.58	24.833		
7,200.00	6,838.14	6,763.11	6,756.91	30.38	26.14	172.09	-354.90	1,171.00	1,252.00	1,206.40	51.30	24.887		
7,300.00	6,923.83	6,847.11	6,840.91	30.81	26.51	172.06	-359.96	1,190.00	1,271.00	1,224.90	52.02	24.941		
7,400.00	7,009.52	6,931.11	6,924.91	31.25	26.88	172.03	-365.02	1,209.00	1,290.00	1,243.40	52.74	24.995		
7,500.00	7,095.21	7,015.11	7,008.91	31.68	27.25	172.00	-370.08	1,228.00	1,309.00	1,261.90	53.46	25.049		
7,600.00	7,180.90	7,099.11	7,092.91	32.12	27.62	171.97	-375.14	1,247.00	1,328.00	1,280.40	54.18	25.103		
7,700.00	7,266.59	7,183.11	7,176.91	32.55	28.00	171.94	-380.20	1,266.00	1,347.00	1,298.90	54.90	25.157		
7,800.00	7,352.28	7,267.11	7,260.91	32.99	28.37	171.91	-385.26	1,285.00	1,366.00	1,317.40	55.62	25.211		
7,900.00	7,437.97	7,351.11	7,344.91	33.42	28.74	171.88	-390.32	1,304.00	1,385.00	1,335.90	56.34	25.265		
8,000.00	7,523.66	7,435.11	7,428.91	33.86	29.11	171.85	-395.38	1,323.00	1,404.00	1,354.40	57.06	25.319		



Scientific Drilling, Intl Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 632H - Slot 6
Project:	Nageezi Unit	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Reference Site:	G35 2409	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	632H	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 G35 2409 - 308H - 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		
6,500.00	5,325.13	6,814.28	5,114.00	44.05	48.93	-71.12	1,201.51	-1,310.48	652.48	565.06	87.42	7.464		
6,600.00	5,325.91	6,914.28	5,114.82	46.21	51.24	-71.12	1,273.82	-1,379.55	652.47	560.76	91.71	7.114		
6,700.00	5,326.69	7,014.28	5,115.63	48.41	53.57	-71.13	1,346.13	-1,448.61	652.46	556.41	96.05	6.793		
6,800.00	5,327.48	7,114.28	5,116.45	50.63	55.90	-71.13	1,418.45	-1,517.68	652.44	552.03	100.41	6.497		
6,900.00	5,328.26	7,214.28	5,117.27	52.87	58.26	-71.13	1,490.76	-1,586.75	652.43	547.62	104.81	6.225		
7,000.00	5,329.05	7,314.28	5,118.08	55.14	60.62	-71.13	1,563.07	-1,655.82	652.42	543.18	109.24	5.972		
7,100.00	5,329.83	7,414.28	5,118.90	57.42	62.99	-71.14	1,635.38	-1,724.89	652.41	538.72	113.69	5.739		
7,200.00	5,330.61	7,514.28	5,119.72	59.71	65.37	-71.14	1,707.69	-1,793.96	652.40	534.24	118.16	5.521		
7,300.00	5,331.40	7,614.28	5,120.53	62.03	67.75	-71.14	1,780.00	-1,863.03	652.39	529.74	122.65	5.319		
7,400.00	5,332.18	7,714.28	5,121.35	64.35	70.14	-71.14	1,852.31	-1,932.09	652.38	525.22	127.15	5.131		
7,500.00	5,332.97	7,814.28	5,122.17	66.68	72.54	-71.15	1,924.62	-2,001.16	652.37	520.69	131.67	4.954		
7,600.00	5,333.75	7,914.28	5,122.98	69.03	74.94	-71.15	1,996.93	-2,070.23	652.36	516.15	136.21	4.789		
7,700.00	5,334.54	8,014.28	5,123.80	71.38	77.35	-71.15	2,069.24	-2,139.30	652.34	511.59	140.75	4.635		
7,800.00	5,335.32	8,114.28	5,124.62	73.74	79.76	-71.15	2,141.56	-2,208.37	652.33	507.02	145.31	4.489		
7,900.00	5,336.10	8,214.28	5,125.43	76.11	82.18	-71.16	2,213.87	-2,277.44	652.32	502.45	149.87	4.352		
8,000.00	5,336.89	8,314.28	5,126.25	78.48	84.60	-71.16	2,286.18	-2,346.51	652.31	497.86	154.45	4.223		
8,100.00	5,337.67	8,414.28	5,127.07	80.86	87.02	-71.16	2,358.49	-2,415.57	652.30	493.26	159.03	4.102		
8,200.00	5,338.46	8,514.28	5,127.88	83.25	89.45	-71.17	2,430.80	-2,484.64	652.29	488.66	163.63	3.986		
8,300.00	5,339.24	8,614.28	5,128.70	85.64	91.88	-71.17	2,503.11	-2,553.71	652.28	484.05	168.22	3.877		
8,400.00	5,340.02	8,714.28	5,129.52	88.03	94.31	-71.17	2,575.42	-2,622.78	652.27	479.44	172.83	3.774		
8,500.00	5,340.81	8,814.28	5,130.33	90.43	96.75	-71.17	2,647.73	-2,691.85	652.25	474.81	177.44	3.676		
8,600.00	5,341.59	8,914.28	5,131.15	92.84	99.18	-71.18	2,720.04	-2,760.92	652.24	470.19	182.06	3.583		
8,700.00	5,342.38	9,014.28	5,131.97	95.24	101.62	-71.18	2,792.35	-2,829.98	652.23	465.55	186.68	3.494		
8,800.00	5,343.16	9,114.28	5,132.78	97.65	104.06	-71.18	2,864.66	-2,899.05	652.22	460.92	191.30	3.409		
8,900.00	5,343.94	9,214.28	5,133.60	100.07	106.50	-71.18	2,936.98	-2,968.12	652.21	456.27	195.93	3.329		
9,000.00	5,344.73	9,314.28	5,134.42	102.48	108.95	-71.19	3,009.29	-3,037.19	652.20	451.63	200.57	3.252		
9,100.00	5,345.51	9,414.28	5,135.23	104.90	111.39	-71.19	3,081.60	-3,106.26	652.19	446.98	205.21	3.178		
9,200.00	5,346.30	9,514.28	5,136.05	107.32	113.84	-71.19	3,153.91	-3,175.33	652.18	442.33	209.85	3.108		
9,300.00	5,347.08	9,614.28	5,136.87	109.75	116.29	-71.20	3,226.22	-3,244.40	652.16	437.67	214.50	3.040		
9,400.00	5,347.87	9,714.28	5,137.68	112.18	118.74	-71.20	3,298.53	-3,313.46	652.15	433.01	219.14	2.976		
9,500.00	5,348.65	9,814.28	5,138.50	114.60	121.19	-71.20	3,370.84	-3,382.53	652.14	428.35	223.80	2.914		
9,600.00	5,349.43	9,914.28	5,139.32	117.03	123.64	-71.20	3,443.15	-3,451.60	652.13	423.68	228.45	2.855		
9,700.00	5,350.22	10,014.28	5,140.13	119.47	126.09	-71.21	3,515.46	-3,520.67	652.12	419.01	233.11	2.798		
9,800.00	5,351.00	10,114.28	5,140.95	121.90	128.55	-71.21	3,587.77	-3,589.74	652.11	414.34	237.77	2.743		
9,900.00	5,351.79	10,214.28	5,141.77	124.33	131.00	-71.21	3,660.09	-3,658.81	652.10	409.67	242.43	2.690		
10,000.00	5,352.57	10,314.28	5,142.58	126.77	133.46	-71.21	3,732.40	-3,727.88	652.09	404.99	247.09	2.639		
10,100.00	5,353.35	10,414.28	5,143.40	129.21	135.91	-71.22	3,804.71	-3,796.94	652.08	400.32	251.76	2.590		
10,200.00	5,354.14	10,514.28	5,144.22	131.65	138.37	-71.22	3,877.02	-3,866.01	652.06	395.64	256.43	2.543		
10,300.00	5,354.92	10,614.28	5,145.03	134.09	140.83	-71.22	3,949.33	-3,935.08	652.05	390.95	261.10	2.497		
10,400.00	5,355.71	10,714.28	5,145.85	136.53	143.29	-71.22	4,021.64	-4,004.15	652.04	386.27	265.77	2.453		
10,500.00	5,356.49	10,814.28	5,146.67	138.97	145.75	-71.23	4,093.95	-4,073.22	652.03	381.59	270.44	2.411		
10,600.00	5,357.27	10,914.28	5,147.48	141.42	148.21	-71.23	4,166.26	-4,142.29	652.02	376.90	275.12	2.370		
10,700.00	5,358.06	11,014.28	5,148.30	143.86	150.67	-71.23	4,238.57	-4,211.36	652.01	372.21	279.80	2.330		
10,800.00	5,358.84	11,114.28	5,149.12	146.31	153.13	-71.24	4,310.88	-4,280.42	652.00	367.52	284.47	2.292		
10,900.00	5,359.63	11,214.28	5,149.93	148.76	155.59	-71.24	4,383.19	-4,349.49	651.99	362.83	289.15	2.255		
11,000.00	5,360.41	11,314.28	5,150.75	151.20	158.06	-71.24	4,455.51	-4,418.56	651.97	358.14	293.84	2.219		
11,100.00	5,361.20	11,414.28	5,151.57	153.65	160.52	-71.24	4,527.82	-4,487.63	651.96	353.45	298.52	2.184		
11,200.00	5,361.98	11,514.28	5,152.38	156.10	162.98	-71.25	4,600.13	-4,556.70	651.95	348.75	303.20	2.150		
11,300.00	5,362.76	11,614.28	5,153.20	158.55	165.45	-71.25	4,672.44	-4,625.77	651.94	344.05	307.89	2.117		
11,400.00	5,363.55	11,714.28	5,154.02	161.00	167.91	-71.25	4,744.75	-4,694.83	651.93	339.36	312.57	2.086		
11,500.00	5,364.33	11,814.28	5,154.83	163.46	170.38	-71.25	4,817.06	-4,763.90	651.92	334.66	317.26	2.055		

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

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COMPASS 5000.15 Build 91D



Scientific Drilling, Intl Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 632H - Slot 6
Project:	Nageezi Unit	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Reference Site:	G35 2409	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	632H	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 G35 2409 - 308H - 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		
11,600.00	5,365.12	11,914.28	5,155.65	165.91	172.84	-71.26	4,889.37	-4,832.97	651.91	329.96	321.95	2.025		
11,700.00	5,365.90	12,014.28	5,156.47	168.36	175.31	-71.26	4,961.68	-4,902.04	651.90	325.26	326.64	1.996		
11,800.00	5,366.68	12,114.28	5,157.28	170.81	177.77	-71.26	5,033.99	-4,971.11	651.89	320.56	331.33	1.967		
11,900.00	5,367.47	12,214.28	5,158.10	173.27	180.24	-71.27	5,106.30	-5,040.18	651.87	315.86	336.02	1.940		
12,000.00	5,368.25	12,314.28	5,158.92	175.72	182.71	-71.27	5,178.61	-5,109.25	651.86	311.15	340.71	1.913		
12,100.00	5,369.04	12,414.28	5,159.73	178.18	185.17	-71.27	5,250.93	-5,178.31	651.85	306.45	345.40	1.887		
12,200.00	5,369.82	12,514.28	5,160.55	180.63	187.64	-71.27	5,323.24	-5,247.38	651.84	301.74	350.10	1.862		
12,300.00	5,370.60	12,614.28	5,161.37	183.09	190.11	-71.28	5,395.55	-5,316.45	651.83	297.04	354.79	1.837		
12,400.00	5,371.39	12,714.28	5,162.18	185.55	192.58	-71.28	5,467.86	-5,385.52	651.82	292.33	359.49	1.813		
12,500.00	5,372.17	12,814.28	5,163.00	188.00	195.05	-71.28	5,540.17	-5,454.59	651.81	287.62	364.18	1.790		
12,600.00	5,372.96	12,914.28	5,163.82	190.46	197.51	-71.28	5,612.48	-5,523.66	651.80	282.91	368.88	1.767		
12,700.00	5,373.74	13,014.28	5,164.63	192.92	199.98	-71.29	5,684.79	-5,592.73	651.79	278.21	373.58	1.745		
12,800.00	5,374.53	13,114.28	5,165.45	195.38	202.45	-71.29	5,757.10	-5,661.79	651.77	273.50	378.28	1.723		
12,900.00	5,375.31	13,214.28	5,166.27	197.84	204.92	-71.29	5,829.41	-5,730.86	651.76	268.79	382.98	1.702		
13,000.00	5,376.09	13,314.28	5,167.08	200.29	207.39	-71.29	5,901.72	-5,799.93	651.75	264.07	387.68	1.681		
13,100.00	5,376.88	13,414.28	5,167.90	202.75	209.86	-71.30	5,974.04	-5,869.00	651.74	259.36	392.38	1.661		
13,200.00	5,377.66	13,514.28	5,168.72	205.21	212.33	-71.30	6,046.35	-5,938.07	651.73	254.65	397.08	1.641		
13,300.00	5,378.45	13,614.28	5,169.53	207.67	214.80	-71.30	6,118.66	-6,007.14	651.72	249.94	401.78	1.622		
13,400.00	5,379.23	13,714.28	5,170.35	210.13	217.27	-71.31	6,190.97	-6,076.20	651.71	245.22	406.48	1.603		
13,500.00	5,380.01	13,814.28	5,171.17	212.59	219.74	-71.31	6,263.28	-6,145.27	651.70	240.51	411.19	1.585		
13,600.00	5,380.80	13,914.28	5,171.98	215.06	222.21	-71.31	6,335.59	-6,214.34	651.69	235.80	415.89	1.567		
13,700.00	5,381.58	14,014.28	5,172.80	217.52	224.69	-71.31	6,407.90	-6,283.41	651.67	231.08	420.59	1.549		
13,800.00	5,382.37	14,114.28	5,173.62	219.98	227.16	-71.32	6,480.21	-6,352.48	651.66	226.37	425.30	1.532		
13,900.00	5,383.15	14,214.28	5,174.43	222.44	229.63	-71.32	6,552.52	-6,421.55	651.65	221.65	430.00	1.515		
14,000.00	5,383.93	14,314.28	5,175.25	224.90	232.10	-71.32	6,624.83	-6,490.62	651.64	216.93	434.71	1.499 Level 3		
14,100.00	5,384.72	14,414.28	5,176.07	227.36	234.57	-71.32	6,697.14	-6,559.68	651.63	212.22	439.41	1.483 Level 3		
14,200.00	5,385.50	14,514.28	5,176.88	229.83	237.04	-71.33	6,769.46	-6,628.75	651.62	207.50	444.12	1.467 Level 3		
14,300.00	5,386.29	14,614.28	5,177.70	232.29	239.52	-71.33	6,841.77	-6,697.82	651.61	202.78	448.83	1.452 Level 3		
14,400.00	5,387.07	14,714.28	5,178.52	234.75	241.99	-71.33	6,914.08	-6,766.89	651.60	198.06	453.53	1.437 Level 3		
14,500.00	5,387.86	14,814.35	5,179.33	237.22	244.46	-71.34	6,986.44	-6,836.01	651.58	193.34	458.25	1.422 Level 3		
14,581.62	5,388.50	14,895.82	5,180.00	239.23	246.48	-71.34	7,045.37	-6,892.27	651.56	189.48	462.08	1.410 Level 3, SF		
14,600.00	5,388.64	14,895.82	5,180.00	239.68	246.48	-71.34	7,045.37	-6,892.27	651.82	189.67	462.15	1.410 Level 3		
14,700.00	5,389.42	14,895.82	5,180.00	242.14	246.48	-71.34	7,045.37	-6,892.27	662.23	205.94	456.29	1.451 Level 3		
14,800.00	5,390.21	14,895.82	5,180.00	244.61	246.48	-71.34	7,045.37	-6,892.27	687.19	245.01	441.18	1.558		
14,900.00	5,390.99	14,895.82	5,180.00	247.07	246.48	-71.34	7,045.37	-6,892.27	725.19	305.65	419.55	1.729		
15,000.00	5,391.78	14,895.82	5,180.00	249.54	246.48	-71.34	7,045.37	-6,892.27	774.32	379.92	394.41	1.963		
15,100.00	5,392.56	14,895.82	5,180.00	252.00	246.48	-71.34	7,045.37	-6,892.27	832.62	464.36	368.26	2.261		
15,156.13	5,393.00	14,895.82	5,180.00	253.38	246.48	-71.34	7,045.37	-6,892.27	868.69	514.88	353.80	2.455		

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

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COMPASS 5000.15 Build 91D



Scientific Drilling, Intl Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 632H - Slot 6
Project:	Nageezi Unit	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Reference Site:	G35 2409	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	632H	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 G35 2409 - 309H - 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	-138.37	-44.77	-39.79	59.90					
100.00	100.00	100.00	100.00	0.15	0.15	-138.37	-44.77	-39.79	59.90	59.59	0.31	194.297		
200.00	200.00	200.00	200.00	0.51	0.51	-138.37	-44.77	-39.79	59.90	58.87	1.03	58.425		
300.00	300.00	300.00	300.00	0.87	0.87	-138.37	-44.77	-39.79	59.90	58.16	1.74	34.382		
305.56	305.56	305.56	305.56	0.89	0.89	-138.37	-44.77	-39.79	59.90	58.12	1.78	33.613 CC		
400.00	400.00	399.53	399.53	1.23	1.22	-138.41	-44.87	-39.83	60.00	57.54	2.45	24.456 ES		
500.00	499.98	497.50	497.47	1.59	1.55	-147.00	-47.28	-40.56	63.79	60.65	3.14	20.311		
600.00	599.84	594.70	594.48	1.95	1.89	-150.83	-52.83	-42.24	73.85	70.01	3.84	19.224 SF		
700.00	699.45	692.17	691.58	2.32	2.24	-155.16	-60.99	-44.72	89.97	85.43	4.55	19.783		
800.00	798.70	789.93	788.94	2.70	2.61	-158.87	-69.45	-47.28	109.93	104.87	5.26	20.884		
900.00	897.78	887.39	886.00	3.10	2.98	-161.73	-77.87	-49.84	131.56	125.59	5.96	22.061		
1,000.00	996.85	984.85	983.06	3.51	3.35	-163.79	-86.30	-52.39	153.40	146.74	6.67	23.013		
1,100.00	1,095.92	1,082.30	1,080.12	3.93	3.73	-165.33	-94.72	-54.95	175.39	168.02	7.37	23.798		
1,200.00	1,194.99	1,179.76	1,177.18	4.35	4.11	-166.53	-103.15	-57.50	197.48	189.40	8.08	24.447		
1,300.00	1,294.06	1,277.22	1,274.23	4.77	4.49	-167.49	-111.57	-60.08	219.63	210.84	8.79	24.996		
1,400.00	1,393.13	1,374.67	1,371.29	5.20	4.88	-168.27	-120.00	-62.61	241.82	232.33	9.50	25.464		
1,500.00	1,492.20	1,472.13	1,468.35	5.62	5.26	-168.92	-128.43	-65.17	264.05	253.85	10.21	25.868		
1,600.00	1,591.28	1,569.59	1,565.41	6.05	5.65	-169.47	-136.85	-67.73	286.31	275.39	10.92	26.219		
1,700.00	1,690.35	1,667.05	1,662.47	6.48	6.03	-169.94	-145.28	-70.28	308.60	296.96	11.63	26.528		
1,800.00	1,789.42	1,764.50	1,759.53	6.91	6.42	-170.34	-153.70	-72.84	330.89	318.55	12.35	26.801		
1,900.00	1,888.49	1,861.96	1,856.58	7.34	6.81	-170.70	-162.13	-75.39	353.21	340.15	13.06	27.044		
2,000.00	1,987.56	1,959.42	1,953.64	7.77	7.19	-171.01	-170.55	-77.95	375.53	361.76	13.77	27.262		
2,100.00	2,086.63	2,056.87	2,050.70	8.20	7.58	-171.29	-178.98	-80.51	397.86	383.37	14.49	27.459		
2,200.00	2,185.71	2,154.33	2,147.76	8.64	7.97	-171.54	-187.41	-83.06	420.21	405.00	15.20	27.637		
2,300.00	2,284.78	2,251.79	2,244.82	9.07	8.35	-171.76	-195.83	-85.62	442.55	426.63	15.92	27.798		
2,400.00	2,383.85	2,349.24	2,341.88	9.50	8.74	-171.97	-204.26	-88.17	464.91	448.27	16.64	27.946		
2,500.00	2,482.92	2,446.70	2,438.94	9.93	9.13	-172.15	-212.68	-90.73	487.27	469.91	17.35	28.081		
2,600.00	2,581.99	2,544.16	2,535.99	10.37	9.52	-172.32	-221.11	-93.28	509.63	491.56	18.07	28.206		
2,700.00	2,681.06	2,641.62	2,633.05	10.80	9.91	-172.47	-229.53	-95.84	532.00	513.21	18.78	28.321		
2,800.00	2,780.13	2,739.07	2,730.11	11.24	10.30	-172.61	-237.96	-98.40	554.37	534.86	19.50	28.427		
2,900.00	2,879.21	2,836.53	2,827.17	11.67	10.68	-172.74	-246.39	-100.95	576.74	556.52	20.22	28.526		
3,000.00	2,978.28	2,933.99	2,924.23	12.10	11.07	-172.86	-254.81	-103.51	599.11	578.18	20.94	28.618		
3,100.00	3,077.35	3,031.44	3,021.29	12.54	11.46	-172.97	-263.24	-106.06	621.49	599.84	21.65	28.704		
3,200.00	3,176.42	3,128.90	3,118.35	12.97	11.85	-173.08	-271.66	-108.62	643.87	621.50	22.37	28.784		
3,300.00	3,275.49	3,226.36	3,215.40	13.41	12.24	-173.17	-280.09	-111.17	666.25	643.17	23.09	28.859		
3,400.00	3,374.56	3,323.82	3,312.46	13.84	12.63	-173.26	-288.51	-113.73	688.64	664.83	23.80	28.929		
3,500.00	3,473.64	3,421.27	3,409.52	14.28	13.02	-173.35	-296.94	-116.29	711.02	686.50	24.52	28.996		
3,600.00	3,572.71	3,518.73	3,506.58	14.71	13.41	-173.43	-305.36	-118.84	733.41	708.17	25.24	29.058		
3,700.00	3,671.78	3,616.19	3,603.64	15.15	13.79	-173.50	-313.79	-121.40	755.80	729.84	25.96	29.117		
3,800.00	3,770.85	3,713.64	3,700.70	15.58	14.18	-173.57	-322.22	-123.95	778.19	751.51	26.68	29.173		
3,900.00	3,869.92	3,811.10	3,797.76	16.02	14.57	-173.64	-330.64	-126.51	800.58	773.18	27.39	29.226		
4,000.00	3,968.99	3,908.56	3,894.81	16.45	14.96	-173.70	-339.07	-129.07	822.97	794.86	28.11	29.276		
4,100.00	4,068.07	4,006.01	3,991.87	16.89	15.35	-173.76	-347.49	-131.62	845.36	816.53	28.83	29.323		
4,200.00	4,167.14	4,103.47	4,088.93	17.32	15.74	-173.82	-355.92	-134.18	867.75	838.21	29.55	29.368		
4,300.00	4,266.21	4,200.93	4,185.99	17.76	16.13	-173.87	-364.34	-136.73	890.15	859.88	30.27	29.411		
4,400.00	4,365.28	4,298.39	4,283.05	18.20	16.52	-173.93	-372.77	-139.29	912.54	881.56	30.98	29.452		
4,500.00	4,464.35	4,395.84	4,380.11	18.63	16.91	-173.97	-381.20	-141.84	934.94	903.23	31.70	29.491		
4,600.00	4,563.42	4,493.30	4,477.16	19.07	17.30	-174.02	-389.52	-144.40	957.33	924.91	32.42	29.528		
4,700.00	4,662.49	4,590.76	4,574.22	19.50	17.69	-174.07	-398.05	-146.96	979.73	946.59	33.14	29.563		
4,800.00	4,761.53	4,688.17	4,671.23	19.94	18.08	-174.12	-406.47	-149.51	1,002.31	968.45	33.86	29.602		
4,900.00	4,858.93	4,749.99	4,732.59	20.44	18.33	-174.16	-414.82	-149.15	1,024.67	990.33	34.34	29.633		

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

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COMPASS 5000.15 Build 91D



Scientific Drilling, Intl Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 632H - Slot 6
Project:	Nageezi Unit	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Reference Site:	G35 2409	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	632H	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 G35 2409 - 309H - Original Drilling - APD													Offset Site Error:	0.00 usft
Survey Program: D-MWD+IGRF													Offset Well Error:	0.00 usft
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	
5,000.00	4,952.06	4,783.34	4,765.39	21.03	18.48	-132.30	-419.54	-147.21	1,074.55	1,039.98	34.57	31.081		
5,100.00	5,038.65	4,819.28	4,800.36	21.70	18.64	-125.02	-427.05	-143.77	1,127.25	1,092.44	34.81	32.382		
5,200.00	5,116.55	4,849.99	4,829.86	22.49	18.78	-117.80	-434.57	-139.71	1,189.29	1,154.27	35.02	33.958		
5,300.00	5,183.84	4,864.47	4,843.61	23.40	18.85	-108.97	-438.45	-137.44	1,258.87	1,223.75	35.12	35.849		
5,400.00	5,238.88	4,874.73	4,853.31	24.46	18.90	-98.69	-441.34	-135.70	1,333.94	1,298.70	35.24	37.853		
5,500.00	5,280.30	4,878.08	4,856.46	25.70	18.92	-87.12	-442.31	-135.11	1,412.28	1,376.90	35.38	39.915		
5,600.00	5,307.09	4,875.56	4,854.09	27.10	18.91	-75.34	-441.58	-135.58	1,491.71	1,456.15	35.56	41.951		
5,700.00	5,318.58	4,868.15	4,847.10	28.63	18.87	-64.60	-439.48	-136.83	1,570.20	1,534.43	35.78	43.888		
5,800.00	5,319.64	4,849.99	4,829.86	30.28	18.78	-61.97	-434.57	-139.71	1,647.91	1,611.96	35.95	45.835		
5,900.00	5,320.42	4,849.99	4,829.86	32.03	18.78	-61.97	-434.57	-139.71	1,727.53	1,691.22	36.31	47.572		
6,000.00	5,321.21	4,849.99	4,829.86	33.87	18.78	-61.97	-434.57	-139.71	1,809.18	1,772.52	36.66	49.351		
6,100.00	5,321.99	4,849.99	4,829.86	35.80	18.78	-61.97	-434.57	-139.71	1,892.69	1,855.61	36.99	51.167		
6,200.00	5,322.77	4,826.36	4,807.20	37.78	18.67	-60.81	-428.69	-142.92	1,977.02	1,939.92	37.10	53.293		
6,300.00	5,323.56	4,819.95	4,801.01	39.83	18.64	-60.49	-427.20	-143.69	2,063.00	2,025.66	37.34	55.244		
6,400.00	5,324.34	4,799.99	4,781.65	41.92	18.55	-59.52	-422.84	-145.79	2,150.31	2,112.84	37.46	57.399		
6,500.00	5,325.13	4,799.99	4,781.65	44.05	18.55	-59.52	-422.84	-145.79	2,238.33	2,200.60	37.73	59.319		
6,600.00	5,325.91	4,799.99	4,781.65	46.21	18.55	-59.52	-422.84	-145.79	2,327.32	2,289.34	37.99	61.264		
6,700.00	5,326.69	4,799.99	4,781.65	48.41	18.55	-59.52	-422.84	-145.79	2,417.18	2,378.95	38.23	63.233		
6,800.00	5,327.48	4,799.99	4,781.65	50.63	18.55	-59.52	-422.84	-145.79	2,507.80	2,469.35	38.45	65.221		
6,900.00	5,328.26	4,799.99	4,781.65	52.87	18.55	-59.52	-422.84	-145.79	2,599.11	2,560.45	38.66	67.228		
7,000.00	5,329.05	4,799.99	4,781.65	55.14	18.55	-59.52	-422.84	-145.79	2,691.04	2,652.18	38.86	69.251		
7,100.00	5,329.83	4,799.99	4,781.65	57.42	18.55	-59.52	-422.84	-145.79	2,783.52	2,744.48	39.05	71.288		
7,200.00	5,330.61	4,779.10	4,761.23	59.71	18.46	-58.52	-418.74	-147.53	2,876.11	2,837.03	39.08	73.598		
7,300.00	5,331.40	4,775.85	4,758.05	62.03	18.45	-58.36	-418.15	-147.76	2,969.42	2,930.19	39.23	75.700		
7,400.00	5,332.18	4,772.78	4,755.04	64.35	18.43	-58.22	-417.59	-147.96	3,063.14	3,023.77	39.37	77.809		
7,500.00	5,332.97	4,749.99	4,732.59	66.68	18.33	-57.14	-413.82	-149.15	3,157.58	3,118.21	39.37	80.207		
7,600.00	5,333.75	4,749.99	4,732.59	69.03	18.33	-57.14	-413.82	-149.15	3,251.91	3,212.40	39.52	82.291		
7,700.00	5,334.54	4,749.99	4,732.59	71.38	18.33	-57.14	-413.82	-149.15	3,346.57	3,306.91	39.66	84.382		
7,800.00	5,335.32	4,749.99	4,732.59	73.74	18.33	-57.14	-413.82	-149.15	3,441.54	3,401.74	39.80	86.479		
7,900.00	5,336.10	4,749.99	4,732.59	76.11	18.33	-57.14	-413.82	-149.15	3,536.78	3,496.85	39.93	88.582		
8,000.00	5,336.89	4,749.99	4,732.59	78.48	18.33	-57.14	-413.82	-149.15	3,632.27	3,592.22	40.05	90.689		
8,100.00	5,337.67	4,749.99	4,732.59	80.86	18.33	-57.14	-413.82	-149.15	3,728.01	3,687.83	40.17	92.799		
8,200.00	5,338.46	4,749.99	4,732.59	83.25	18.33	-57.14	-413.82	-149.15	3,823.96	3,783.67	40.29	94.913		
8,300.00	5,339.24	4,749.99	4,732.59	85.64	18.33	-57.14	-413.82	-149.15	3,920.11	3,879.71	40.40	97.029		
8,400.00	5,340.02	4,749.99	4,732.59	88.03	18.33	-57.14	-413.82	-149.15	4,016.45	3,975.94	40.51	99.147		
8,500.00	5,340.81	4,749.99	4,732.59	90.43	18.33	-57.14	-413.82	-149.15	4,112.97	4,072.35	40.62	101.265		
8,600.00	5,341.59	4,749.99	4,732.59	92.84	18.33	-57.14	-413.82	-149.15	4,209.65	4,168.93	40.72	103.385		
8,700.00	5,342.38	4,749.99	4,732.59	95.24	18.33	-57.14	-413.82	-149.15	4,306.48	4,265.66	40.82	105.505		
8,800.00	5,343.16	4,749.99	4,732.59	97.65	18.33	-57.14	-413.82	-149.15	4,403.45	4,362.53	40.92	107.624		
8,900.00	5,343.94	4,749.99	4,732.59	100.07	18.33	-57.14	-413.82	-149.15	4,500.55	4,459.54	41.01	109.743		
9,000.00	5,344.73	4,749.99	4,732.59	102.48	18.33	-57.14	-413.82	-149.15	4,597.78	4,556.68	41.10	111.861		
9,100.00	5,345.51	4,749.99	4,732.59	104.90	18.33	-57.14	-413.82	-149.15	4,695.13	4,653.93	41.19	113.977		
9,200.00	5,346.30	4,749.99	4,732.59	107.32	18.33	-57.14	-413.82	-149.15	4,792.58	4,751.30	41.28	116.092		
9,300.00	5,347.08	4,749.99	4,732.59	109.75	18.33	-57.14	-413.82	-149.15	4,890.14	4,848.77	41.37	118.205		
9,400.00	5,347.87	4,749.99	4,732.59	112.18	18.33	-57.14	-413.82	-149.15	4,987.79	4,946.34	41.46	120.316		
9,500.00	5,348.65	4,749.99	4,732.59	114.60	18.33	-57.14	-413.82	-149.15	5,085.54	5,044.00	41.54	122.424		
9,600.00	5,349.43	4,749.99	4,732.59	117.03	18.33	-57.14	-413.82	-149.15	5,183.37	5,141.74	41.62	124.529		
9,700.00	5,350.22	4,749.99	4,732.59	119.47	18.33	-57.14	-413.82	-149.15	5,281.28	5,239.57	41.71	126.631		
9,800.00	5,351.00	4,749.99	4,732.59	121.90	18.33	-57.14	-413.82	-149.15	5,379.27	5,337.48	41.79	128.730		
9,900.00	5,351.79	4,749.99	4,732.59	124.33	18.33	-57.14	-413.82	-149.15	5,477.33	5,435.46	41.87	130.825		

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 632H - Slot 6
Project:	Nageezi Unit	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Reference Site:	G35 2409	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	632H	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 G35 2409 - 309H - 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							
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	
10,000.00	5,352.57	4,749.99	4,732.59	126.77	18.33	-57.14	-413.82	-149.15	5,575.46	5,533.52	41.95	132.917		
10,100.00	5,353.35	4,726.92	4,709.76	129.21	18.23	-56.06	-410.58	-149.78	5,673.20	5,631.30	41.90	135.405		
10,200.00	5,354.14	4,725.97	4,708.82	131.65	18.23	-56.02	-410.46	-149.79	5,771.42	5,729.45	41.97	137.509		
10,300.00	5,354.92	4,725.05	4,707.90	134.09	18.23	-55.98	-410.34	-149.80	5,869.70	5,827.65	42.04	139.608		
10,400.00	5,355.71	4,724.15	4,707.02	136.53	18.22	-55.93	-410.23	-149.81	5,968.03	5,925.92	42.12	141.702		
10,500.00	5,356.49	4,723.29	4,706.16	138.97	18.22	-55.89	-410.12	-149.82	6,066.42	6,024.23	42.19	143.792		
10,600.00	5,357.27	4,699.99	4,683.01	141.42	18.12	-54.83	-407.55	-149.77	6,165.29	6,123.15	42.14	146.313		
10,700.00	5,358.06	4,699.99	4,683.01	143.86	18.12	-54.83	-407.55	-149.77	6,263.75	6,221.53	42.21	148.380		
10,800.00	5,358.84	4,699.99	4,683.01	146.31	18.12	-54.83	-407.55	-149.77	6,362.25	6,319.96	42.29	150.442		
10,900.00	5,359.63	4,699.99	4,683.01	148.76	18.12	-54.83	-407.55	-149.77	6,460.80	6,418.43	42.37	152.499		
11,000.00	5,360.41	4,699.99	4,683.01	151.20	18.12	-54.83	-407.55	-149.77	6,559.39	6,516.95	42.44	154.550		
11,100.00	5,361.20	4,699.99	4,683.01	153.65	18.12	-54.83	-407.55	-149.77	6,658.03	6,615.51	42.52	156.596		
11,200.00	5,361.98	4,699.99	4,683.01	156.10	18.12	-54.83	-407.55	-149.77	6,756.70	6,714.11	42.59	158.637		
11,300.00	5,362.76	4,699.99	4,683.01	158.55	18.12	-54.83	-407.55	-149.77	6,855.42	6,812.75	42.67	160.672		
11,400.00	5,363.55	4,699.99	4,683.01	161.00	18.12	-54.83	-407.55	-149.77	6,954.17	6,911.43	42.74	162.701		
11,500.00	5,364.33	4,699.99	4,683.01	163.46	18.12	-54.83	-407.55	-149.77	7,052.95	7,010.14	42.82	164.724		
11,600.00	5,365.12	4,699.99	4,683.01	165.91	18.12	-54.83	-407.55	-149.77	7,151.77	7,108.88	42.89	166.741		
11,700.00	5,365.90	4,699.99	4,683.01	168.36	18.12	-54.83	-407.55	-149.77	7,250.62	7,207.66	42.97	168.752		
11,800.00	5,366.68	4,699.99	4,683.01	170.81	18.12	-54.83	-407.55	-149.77	7,349.51	7,306.47	43.04	170.757		
11,900.00	5,367.47	4,699.99	4,683.01	173.27	18.12	-54.83	-407.55	-149.77	7,448.42	7,405.30	43.12	172.756		
12,000.00	5,368.25	4,699.99	4,683.01	175.72	18.12	-54.83	-407.55	-149.77	7,547.36	7,504.17	43.19	174.748		
12,100.00	5,369.04	4,699.99	4,683.01	178.18	18.12	-54.83	-407.55	-149.77	7,646.33	7,603.07	43.26	176.734		
12,200.00	5,369.82	4,699.99	4,683.01	180.63	18.12	-54.83	-407.55	-149.77	7,745.33	7,701.89	43.34	178.714		
12,300.00	5,370.60	4,699.99	4,683.01	183.09	18.12	-54.83	-407.55	-149.77	7,844.35	7,800.93	43.41	180.687		
12,400.00	5,371.39	4,699.99	4,683.01	185.55	18.12	-54.83	-407.55	-149.77	7,943.39	7,899.90	43.49	182.653		
12,500.00	5,372.17	4,699.99	4,683.01	188.00	18.12	-54.83	-407.55	-149.77	8,042.46	7,998.90	43.56	184.612		
12,600.00	5,372.96	4,699.99	4,683.01	190.46	18.12	-54.83	-407.55	-149.77	8,141.55	8,097.91	43.64	186.565		
12,700.00	5,373.74	4,699.99	4,683.01	192.92	18.12	-54.83	-407.55	-149.77	8,240.67	8,196.95	43.71	188.511		
12,800.00	5,374.53	4,699.99	4,683.01	195.38	18.12	-54.83	-407.55	-149.77	8,339.80	8,296.01	43.79	190.449		
12,900.00	5,375.31	4,699.99	4,683.01	197.84	18.12	-54.83	-407.55	-149.77	8,438.96	8,395.09	43.87	192.381		
13,000.00	5,376.09	4,699.99	4,683.01	200.29	18.12	-54.83	-407.55	-149.77	8,538.13	8,494.19	43.94	194.306		
13,100.00	5,376.88	4,699.99	4,683.01	202.75	18.12	-54.83	-407.55	-149.77	8,637.33	8,593.31	44.02	196.224		
13,200.00	5,377.66	4,699.99	4,683.01	205.21	18.12	-54.83	-407.55	-149.77	8,736.54	8,692.45	44.09	198.134		
13,300.00	5,378.45	4,699.99	4,683.01	207.67	18.12	-54.83	-407.55	-149.77	8,835.77	8,791.60	44.17	200.038		
13,400.00	5,379.23	4,699.99	4,683.01	210.13	18.12	-54.83	-407.55	-149.77	8,935.02	8,890.77	44.25	201.934		
13,500.00	5,380.01	4,699.99	4,683.01	212.59	18.12	-54.83	-407.55	-149.77	9,034.28	8,989.96	44.32	203.823		
13,600.00	5,380.80	4,699.99	4,683.01	215.05	18.12	-54.83	-407.55	-149.77	9,133.56	9,089.16	44.40	205.705		
13,700.00	5,381.58	4,699.99	4,683.01	217.52	18.12	-54.83	-407.55	-149.77	9,232.86	9,188.38	44.48	207.579		
13,800.00	5,382.37	4,699.99	4,683.01	219.98	18.12	-54.83	-407.55	-149.77	9,332.17	9,287.61	44.56	209.446		
13,900.00	5,383.15	4,699.99	4,683.01	222.44	18.12	-54.83	-407.55	-149.77	9,431.49	9,386.86	44.63	211.305		
14,000.00	5,383.93	4,699.99	4,683.01	224.90	18.12	-54.83	-407.55	-149.77	9,530.83	9,486.12	44.71	213.157		
14,100.00	5,384.72	4,699.99	4,683.01	227.36	18.12	-54.83	-407.55	-149.77	9,630.19	9,585.39	44.79	215.002		
14,200.00	5,385.50	4,699.99	4,683.01	229.83	18.12	-54.83	-407.55	-149.77	9,729.55	9,684.68	44.87	216.839		
14,300.00	5,386.29	4,699.99	4,683.01	232.29	18.12	-54.83	-407.55	-149.77	9,828.93	9,783.98	44.95	218.668		
14,400.00	5,387.07	4,699.99	4,683.01	234.75	18.12	-54.83	-407.55	-149.77	9,928.32	9,883.29	45.03	220.490		

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

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COMPASS 5000.15 Build 91D



Scientific Drilling, Intl Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 632H - Slot 6
Project:	Nageezi Unit	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Reference Site:	G35 2409	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	632H	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 G35 2409 - 310H - 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	-138.01	-29.48	-26.53	39.66					
100.00	100.00	100.00	100.00	0.15	0.15	-138.01	-29.48	-26.53	39.66	39.35	0.31	128.651		
200.00	200.00	200.00	200.00	0.51	0.51	-138.01	-29.48	-26.53	39.66	38.64	1.03	38.585		
300.00	300.00	300.00	300.00	0.87	0.87	-138.01	-29.48	-26.53	39.66	37.92	1.74	22.766		
400.00	400.00	400.00	400.00	1.23	1.23	-138.01	-29.48	-26.53	39.66	37.20	2.46	16.128 CC, ES		
500.00	499.98	498.88	498.86	1.59	1.57	-147.72	-31.19	-26.49	42.40	39.24	3.16	13.426		
600.00	599.84	597.06	596.91	1.95	1.90	-154.44	-36.25	-26.38	51.12	47.27	3.86	13.260		
700.00	699.45	693.85	693.33	2.32	2.24	-161.52	-44.53	-26.19	66.52	62.06	4.56	14.618		
800.00	798.70	788.60	787.41	2.70	2.60	-167.16	-55.79	-25.94	89.15	83.89	5.26	16.950		
900.00	897.78	881.33	879.07	3.10	2.98	-171.15	-69.81	-25.63	116.61	110.69	5.93	19.676		
1,000.00	996.85	972.93	969.13	3.51	3.38	-173.91	-86.53	-25.25	147.36	140.77	6.59	22.377		
1,100.00	1,095.92	1,067.53	1,061.93	3.93	3.81	-175.87	-104.84	-24.84	179.37	172.09	7.27	24.657		
1,200.00	1,194.99	1,162.12	1,154.73	4.35	4.26	-177.24	-123.15	-24.43	211.51	203.55	7.96	26.576		
1,300.00	1,294.06	1,256.71	1,247.53	4.77	4.71	-178.24	-141.46	-24.02	243.73	235.07	8.66	28.149		
1,400.00	1,393.13	1,351.30	1,340.34	5.20	5.17	-179.01	-159.77	-23.61	276.01	266.65	9.36	29.495		
1,500.00	1,492.20	1,445.89	1,433.14	5.62	5.64	-179.62	-178.07	-23.19	308.32	298.26	10.06	30.650		
1,600.00	1,591.28	1,540.48	1,525.94	6.05	6.11	179.88	-196.38	-22.78	340.65	329.89	10.76	31.651		
1,700.00	1,690.35	1,635.07	1,618.74	6.48	6.58	179.47	-214.69	-22.37	373.00	361.54	11.47	32.526		
1,800.00	1,789.42	1,729.66	1,711.54	6.91	7.06	179.13	-233.00	-21.96	405.37	393.20	12.17	33.297		
1,900.00	1,888.49	1,824.25	1,804.34	7.34	7.53	178.84	-251.31	-21.55	437.75	424.87	12.88	33.980		
2,000.00	1,987.56	1,918.85	1,897.14	7.77	8.01	178.59	-269.62	-21.14	470.14	456.55	13.59	34.591		
2,100.00	2,086.63	2,013.44	1,989.94	8.20	8.49	178.37	-287.93	-20.73	502.53	488.23	14.30	35.139		
2,200.00	2,185.71	2,108.03	2,082.75	8.64	8.97	178.17	-306.24	-20.31	534.93	519.92	15.01	35.634		
2,300.00	2,284.78	2,202.62	2,175.55	9.07	9.45	178.00	-324.55	-19.90	567.34	551.62	15.72	36.083		
2,400.00	2,383.85	2,297.21	2,268.35	9.50	9.94	177.85	-342.86	-19.49	599.75	583.31	16.43	36.493		
2,500.00	2,482.92	2,391.80	2,361.15	9.93	10.42	177.71	-361.17	-19.08	632.16	615.01	17.15	36.867		
2,600.00	2,581.99	2,486.39	2,453.95	10.37	10.90	177.59	-379.48	-18.67	664.58	646.72	17.86	37.210		
2,700.00	2,681.06	2,580.98	2,546.75	10.80	11.39	177.48	-397.79	-18.26	697.00	678.42	18.57	37.527		
2,800.00	2,780.13	2,675.57	2,639.55	11.24	11.87	177.37	-416.09	-17.85	729.42	710.13	19.29	37.819		
2,900.00	2,879.21	2,770.16	2,732.35	11.67	12.36	177.28	-434.40	-17.43	761.84	741.84	20.00	38.090		
3,000.00	2,978.28	2,864.76	2,825.16	12.10	12.84	177.19	-452.71	-17.02	794.26	773.55	20.72	38.342		
3,100.00	3,077.35	2,959.35	2,917.96	12.54	13.33	177.12	-471.02	-16.61	826.69	805.26	21.43	38.576		
3,200.00	3,176.42	3,053.94	3,010.76	12.97	13.81	177.04	-489.33	-16.20	859.11	836.97	22.15	38.795		
3,300.00	3,275.49	3,148.53	3,103.56	13.41	14.30	176.97	-507.64	-15.79	891.54	868.68	22.86	39.000		
3,400.00	3,374.56	3,243.12	3,196.36	13.84	14.79	176.91	-525.95	-15.38	923.97	900.40	23.58	39.192		
3,500.00	3,473.64	3,337.71	3,289.16	14.28	15.27	176.85	-544.26	-14.97	956.40	932.11	24.29	39.372		
3,600.00	3,572.71	3,432.30	3,381.96	14.71	15.76	176.80	-562.57	-14.55	988.83	963.83	25.01	39.542		
3,700.00	3,671.78	3,526.89	3,474.76	15.15	16.25	176.75	-580.88	-14.14	1,021.26	995.54	25.72	39.702		
3,800.00	3,770.85	3,621.48	3,567.56	15.58	16.73	176.70	-599.19	-13.73	1,053.70	1,027.26	26.44	39.853		
3,900.00	3,869.92	3,716.08	3,660.37	16.02	17.22	176.65	-617.50	-13.32	1,086.13	1,058.97	27.16	39.995		
4,000.00	3,968.99	3,810.67	3,753.17	16.45	17.71	176.61	-635.81	-12.91	1,118.56	1,090.69	27.87	40.130		
4,100.00	4,068.07	3,905.26	3,845.97	16.89	18.20	176.57	-654.12	-12.50	1,151.00	1,122.41	28.59	40.259		
4,200.00	4,167.14	3,999.85	3,938.77	17.32	18.68	176.53	-672.42	-12.09	1,183.43	1,154.12	29.31	40.380		
4,300.00	4,266.21	4,094.44	4,031.57	17.76	19.17	176.50	-690.73	-11.67	1,215.87	1,185.84	30.02	40.496		
4,400.00	4,365.28	4,189.03	4,124.37	18.20	19.66	176.46	-709.04	-11.26	1,248.30	1,217.56	30.74	40.606		
4,500.00	4,464.35	4,283.62	4,217.17	18.63	20.15	176.43	-727.35	-10.85	1,280.74	1,249.28	31.46	40.711		
4,600.00	4,563.42	5,998.58	5,286.25	19.07	20.76	-144.08	-215.53	-706.06	1,299.28	1,262.92	36.36	35.730		
4,700.00	4,662.49	6,007.96	5,286.33	19.50	25.90	-143.62	-208.80	-712.59	1,256.07	1,217.84	38.24	32.849		
4,800.00	4,761.53	6,017.68	5,286.41	19.94	26.06	-134.60	-201.83	-719.36	1,219.50	1,179.41	40.09	30.422		
4,900.00	4,858.93	6,038.07	5,286.58	20.44	26.38	-115.93	-187.20	-733.56	1,190.67	1,148.62	42.05	28.319		
5,000.00	4,952.06	6,073.50	5,286.86	21.03	26.95	-109.12	-161.77	-758.24	1,170.25	1,126.09	44.16	26.501		

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

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COMPASS 5000.15 Build 91D



Scientific Drilling, Intl Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 632H - Slot 6
Project:	Nageezi Unit	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Reference Site:	G35 2409	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	632H	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 G35 2409 - 310H - 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 +/-S (usft)	Offset Wellbore Centre +/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,038.65	6,123.12	5,287.27	21.70	27.77	-104.73	-126.17	-792.79	1,157.86	1,111.45	48.41	24.947		
5,200.00	5,116.55	6,185.68	5,287.78	22.49	28.85	-100.90	-81.28	-836.37	1,152.35	1,103.52	48.82	23.602		
5,257.33	5,156.54	6,226.81	5,288.11	23.00	29.58	-98.80	-51.76	-865.01	1,151.62	1,101.33	50.29	22.898		
5,300.00	5,183.84	6,259.66	5,288.38	23.40	30.17	-97.29	-28.19	-887.89	1,151.96	1,100.53	51.43	22.397		
5,400.00	5,238.88	6,343.23	5,289.06	24.46	31.72	-94.02	31.77	-946.09	1,154.73	1,100.44	54.28	21.272		
5,500.00	5,280.30	6,434.33	5,289.81	25.70	33.47	-91.34	97.14	-1,009.54	1,158.71	1,101.31	57.40	20.185		
5,600.00	5,307.09	6,530.72	5,290.59	27.10	35.39	-89.51	166.31	-1,076.67	1,162.32	1,101.52	60.80	19.116		
5,700.00	5,318.58	6,630.02	5,291.40	28.63	37.41	-88.69	237.56	-1,145.83	1,164.45	1,100.01	64.44	18.071		
5,800.00	5,319.64	6,730.02	5,292.22	30.28	39.50	-88.66	309.32	-1,215.47	1,165.28	1,097.03	68.25	17.074		
5,900.00	5,320.42	6,830.01	5,293.03	32.03	41.63	-88.66	381.07	-1,285.11	1,166.08	1,093.88	72.20	16.150		
6,000.00	5,321.21	6,930.01	5,293.85	33.87	43.79	-88.66	452.82	-1,354.75	1,166.88	1,090.60	76.28	15.297		
6,100.00	5,321.99	7,030.01	5,294.66	35.80	45.98	-88.66	524.58	-1,424.40	1,167.68	1,087.21	80.46	14.512		
6,200.00	5,322.77	7,130.00	5,295.48	37.78	48.21	-88.66	596.33	-1,494.04	1,168.47	1,083.74	84.73	13.790		
6,300.00	5,323.56	7,230.00	5,296.29	39.83	50.45	-88.67	668.08	-1,563.68	1,169.27	1,080.20	89.07	13.127		
6,400.00	5,324.34	7,330.00	5,297.11	41.92	52.72	-88.67	739.84	-1,633.32	1,170.07	1,076.59	93.48	12.517		
6,500.00	5,325.13	7,429.99	5,297.92	44.05	55.00	-88.67	811.59	-1,702.97	1,170.87	1,072.93	97.94	11.955		
6,600.00	5,325.91	7,529.99	5,298.74	46.21	57.30	-88.67	883.35	-1,772.61	1,171.67	1,069.22	102.45	11.437		
6,700.00	5,326.69	7,629.99	5,299.55	48.41	59.62	-88.68	955.10	-1,842.25	1,172.47	1,065.47	107.00	10.958		
6,800.00	5,327.48	7,729.98	5,300.37	50.63	61.94	-88.68	1,026.85	-1,911.90	1,173.27	1,061.68	111.58	10.515		
6,900.00	5,328.26	7,829.98	5,301.18	52.87	64.28	-88.68	1,098.61	-1,981.54	1,174.06	1,057.86	116.20	10.104		
7,000.00	5,329.05	7,929.98	5,302.00	55.14	66.63	-88.68	1,170.36	-2,051.18	1,174.86	1,054.02	120.84	9.722		
7,100.00	5,329.83	8,029.97	5,302.81	57.42	68.99	-88.69	1,242.11	-2,120.82	1,175.66	1,050.15	125.51	9.367		
7,200.00	5,330.61	8,129.97	5,303.63	59.71	71.36	-88.69	1,313.87	-2,190.47	1,176.46	1,046.26	130.20	9.036		
7,300.00	5,331.40	8,229.97	5,304.44	62.03	73.73	-88.69	1,385.62	-2,260.11	1,177.26	1,042.35	134.91	8.726		
7,400.00	5,332.18	8,329.96	5,305.26	64.35	76.11	-88.69	1,457.38	-2,329.75	1,178.06	1,038.42	139.64	8.436		
7,500.00	5,332.97	8,429.96	5,306.07	66.68	78.50	-88.70	1,529.13	-2,399.39	1,178.86	1,034.47	144.38	8.165		
7,600.00	5,333.75	8,529.96	5,306.89	69.03	80.89	-88.70	1,600.88	-2,469.04	1,179.65	1,030.51	149.14	7.910		
7,700.00	5,334.54	8,629.95	5,307.70	71.38	83.29	-88.70	1,672.64	-2,538.68	1,180.45	1,026.54	153.91	7.670		
7,800.00	5,335.32	8,729.95	5,308.52	73.74	85.69	-88.70	1,744.39	-2,608.32	1,181.25	1,022.56	158.69	7.444		
7,900.00	5,336.10	8,829.95	5,309.33	76.11	88.10	-88.71	1,816.14	-2,677.96	1,182.05	1,018.57	163.46	7.230		
8,000.00	5,336.89	8,929.94	5,310.15	78.48	90.51	-88.71	1,887.90	-2,747.61	1,182.85	1,014.56	168.29	7.029		
8,100.00	5,337.67	9,029.94	5,310.96	80.86	92.93	-88.71	1,959.65	-2,817.25	1,183.65	1,010.55	173.10	6.838		
8,200.00	5,338.46	9,129.94	5,311.78	83.25	95.35	-88.71	2,031.40	-2,886.89	1,184.44	1,006.53	177.92	6.657		
8,300.00	5,339.24	9,229.94	5,312.59	85.64	97.77	-88.72	2,103.16	-2,956.54	1,185.24	1,002.50	182.74	6.488		
8,400.00	5,340.02	9,329.93	5,313.41	88.03	100.20	-88.72	2,174.91	-3,026.18	1,186.04	998.47	187.58	6.323		
8,500.00	5,340.81	9,429.93	5,314.22	90.43	102.62	-88.72	2,246.67	-3,095.82	1,186.84	994.43	192.42	6.168		
8,600.00	5,341.59	9,529.93	5,315.04	92.84	105.05	-88.72	2,318.42	-3,165.46	1,187.64	990.38	197.26	6.021		
8,700.00	5,342.38	9,629.92	5,315.85	95.24	107.49	-88.72	2,390.17	-3,235.11	1,188.44	986.33	202.11	5.880		
8,800.00	5,343.16	9,729.92	5,316.67	97.65	109.92	-88.73	2,461.93	-3,304.75	1,189.24	982.27	206.97	5.746		
8,900.00	5,343.94	9,829.92	5,317.48	100.07	112.36	-88.73	2,533.68	-3,374.39	1,190.03	978.21	211.83	5.618		
9,000.00	5,344.73	9,929.91	5,318.30	102.48	114.80	-88.73	2,605.43	-3,444.03	1,190.83	974.14	216.69	5.495		
9,100.00	5,345.51	10,029.91	5,319.11	104.90	117.24	-88.73	2,677.19	-3,513.68	1,191.63	970.07	221.56	5.378		
9,200.00	5,346.30	10,129.91	5,319.93	107.32	119.68	-88.74	2,748.94	-3,583.32	1,192.43	965.99	226.44	5.266		
9,300.00	5,347.08	10,229.90	5,320.74	109.75	122.13	-88.74	2,820.70	-3,652.96	1,193.23	961.91	231.31	5.158		
9,400.00	5,347.87	10,329.90	5,321.56	112.18	124.58	-88.74	2,892.45	-3,722.61	1,194.03	957.83	236.19	5.055		
9,500.00	5,348.65	10,429.90	5,322.37	114.60	127.02	-88.74	2,964.20	-3,792.25	1,194.83	953.75	241.08	4.956		
9,600.00	5,349.43	10,529.89	5,323.19	117.03	129.47	-88.75	3,035.96	-3,861.89	1,195.62	949.66	245.96	4.861		
9,700.00	5,350.22	10,629.89	5,324.00	119.47	131.92	-88.75	3,107.71	-3,931.53	1,196.42	945.57	250.85	4.769		
9,800.00	5,351.00	10,729.88	5,324.82	121.90	134.37	-88.75	3,179.46	-4,001.18	1,197.22	941.48	255.75	4.681		
9,900.00	5,351.79	10,829.88	5,325.63	124.33	136.83	-88.75	3,251.22	-4,070.82	1,198.02	937.38	260.64	4.596		

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 632H - Slot 6
Project:	Nageezi Unit	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Reference Site:	G35 2409	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	632H	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 G35 2409 - 310H - 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		
10,000.00	5,352.57	10,929.88	5,326.45	126.77	139.28	-88.75	3,322.97	-4,140.46	1,198.82	933.28	265.54	4.515		
10,100.00	5,353.35	11,029.88	5,327.26	129.21	141.74	-88.76	3,394.72	-4,210.10	1,199.62	929.18	270.44	4.436		
10,200.00	5,354.14	11,129.87	5,328.08	131.65	144.19	-88.76	3,466.48	-4,279.75	1,200.42	925.08	275.34	4.360		
10,300.00	5,354.92	11,229.87	5,328.89	134.09	146.65	-88.76	3,538.23	-4,349.39	1,201.21	920.97	280.24	4.286		
10,400.00	5,355.71	11,329.87	5,329.71	136.53	149.11	-88.76	3,609.99	-4,419.03	1,202.01	916.87	285.14	4.215		
10,500.00	5,356.49	11,429.86	5,330.52	138.97	151.57	-88.77	3,681.74	-4,488.68	1,202.81	912.76	290.05	4.147		
10,600.00	5,357.27	11,529.86	5,331.34	141.42	154.03	-88.77	3,753.49	-4,558.32	1,203.61	908.65	294.96	4.081		
10,700.00	5,358.06	11,629.86	5,332.15	143.86	156.49	-88.77	3,825.25	-4,627.96	1,204.41	904.54	299.87	4.016		
10,800.00	5,358.84	11,729.86	5,332.97	146.31	158.95	-88.77	3,897.00	-4,697.60	1,205.21	900.42	304.78	3.954		
10,900.00	5,359.63	11,829.85	5,333.78	148.76	161.41	-88.78	3,968.75	-4,767.25	1,206.01	896.31	309.70	3.894		
11,000.00	5,360.41	11,929.85	5,334.60	151.20	163.87	-88.78	4,040.51	-4,836.89	1,206.80	892.19	314.61	3.836		
11,100.00	5,361.20	12,029.85	5,335.41	153.65	166.33	-88.78	4,112.26	-4,906.53	1,207.60	888.08	319.53	3.779		
11,200.00	5,361.98	12,129.84	5,336.23	156.10	168.80	-88.78	4,184.02	-4,976.17	1,208.40	883.96	324.44	3.725		
11,300.00	5,362.76	12,229.84	5,337.04	158.55	171.26	-88.78	4,255.77	-5,045.82	1,209.20	879.84	329.36	3.671		
11,400.00	5,363.55	12,329.84	5,337.86	161.00	173.73	-88.79	4,327.52	-5,115.46	1,210.00	875.72	334.28	3.620		
11,500.00	5,364.33	12,429.83	5,338.67	163.46	176.19	-88.79	4,399.28	-5,185.10	1,210.80	871.60	339.20	3.570		
11,600.00	5,365.12	12,529.83	5,339.49	165.91	178.66	-88.79	4,471.03	-5,254.74	1,211.60	867.47	344.12	3.521		
11,700.00	5,365.90	12,629.83	5,340.30	168.36	181.13	-88.79	4,542.78	-5,324.39	1,212.39	863.35	349.05	3.473		
11,800.00	5,366.68	12,729.82	5,341.12	170.81	183.59	-88.80	4,614.54	-5,394.03	1,213.19	859.22	353.97	3.427		
11,900.00	5,367.47	12,829.82	5,341.93	173.27	186.06	-88.80	4,686.29	-5,463.67	1,213.99	855.10	358.89	3.383		
12,000.00	5,368.25	12,929.82	5,342.75	175.72	188.53	-88.80	4,758.04	-5,533.32	1,214.79	850.97	363.82	3.339		
12,100.00	5,369.04	13,029.81	5,343.56	178.18	191.00	-88.80	4,829.80	-5,602.96	1,215.59	846.84	368.75	3.297		
12,200.00	5,369.82	13,129.81	5,344.38	180.63	193.47	-88.80	4,901.55	-5,672.60	1,216.39	842.71	373.67	3.255		
12,300.00	5,370.60	13,229.81	5,345.19	183.09	195.94	-88.81	4,973.31	-5,742.24	1,217.19	838.58	378.60	3.215		
12,400.00	5,371.39	13,329.80	5,346.01	185.55	198.41	-88.81	5,045.06	-5,811.89	1,217.98	834.45	383.53	3.176		
12,500.00	5,372.17	13,429.80	5,346.82	188.00	200.88	-88.81	5,116.81	-5,881.53	1,218.78	830.32	388.46	3.137		
12,600.00	5,372.96	13,529.80	5,347.64	190.46	203.35	-88.81	5,188.57	-5,951.17	1,219.58	826.19	393.39	3.100		
12,700.00	5,373.74	13,629.79	5,348.45	192.92	205.82	-88.82	5,260.32	-6,020.81	1,220.38	822.06	398.32	3.064		
12,800.00	5,374.53	13,729.79	5,349.27	195.38	208.29	-88.82	5,332.07	-6,090.46	1,221.18	817.93	403.25	3.028		
12,900.00	5,375.31	13,829.79	5,350.08	197.84	210.76	-88.82	5,403.83	-6,160.10	1,221.98	813.79	408.18	2.994		
13,000.00	5,376.09	13,929.79	5,350.90	200.29	213.23	-88.82	5,475.58	-6,229.74	1,222.78	809.66	413.12	2.960		
13,100.00	5,376.88	14,029.78	5,351.71	202.75	215.70	-88.83	5,547.34	-6,299.39	1,223.57	805.52	418.05	2.927		
13,200.00	5,377.66	14,129.78	5,352.53	205.21	218.17	-88.83	5,619.09	-6,369.03	1,224.37	801.39	422.98	2.895		
13,300.00	5,378.45	14,229.78	5,353.34	207.67	220.65	-88.83	5,690.84	-6,438.67	1,225.17	797.25	427.92	2.863		
13,400.00	5,379.23	14,329.77	5,354.16	210.13	223.12	-88.83	5,762.60	-6,508.31	1,225.97	793.12	432.85	2.832		
13,500.00	5,380.01	14,429.77	5,354.97	212.59	225.59	-88.83	5,834.35	-6,577.96	1,226.77	788.98	437.79	2.802		
13,600.00	5,380.80	14,529.77	5,355.79	215.06	228.07	-88.84	5,906.10	-6,647.60	1,227.57	784.84	442.73	2.773		
13,700.00	5,381.58	14,629.76	5,356.60	217.52	230.54	-88.84	5,977.85	-6,717.24	1,228.37	780.70	447.66	2.744		
13,800.00	5,382.37	14,729.76	5,357.42	219.98	233.01	-88.84	6,049.61	-6,786.88	1,229.16	776.56	452.60	2.716		
13,900.00	5,383.15	14,829.76	5,358.23	222.44	235.49	-88.84	6,121.36	-6,856.53	1,229.96	772.43	457.54	2.688		
14,000.00	5,383.93	14,929.75	5,359.05	224.90	237.96	-88.84	6,193.12	-6,926.17	1,230.76	768.29	462.48	2.661		
14,100.00	5,384.72	15,029.75	5,359.86	227.36	240.44	-88.85	6,264.87	-6,995.81	1,231.56	764.15	467.41	2.635		
14,200.00	5,385.50	15,130.06	5,360.68	229.83	242.92	-88.85	6,336.66	-7,065.45	1,232.35	759.99	472.36	2.609		
14,300.00	5,386.29	15,169.25	5,361.00	232.29	243.89	-88.85	6,364.98	-7,092.95	1,234.62	759.48	475.14	2.598 SF		
14,400.00	5,387.07	15,169.25	5,361.00	234.75	243.89	-88.85	6,364.98	-7,092.95	1,244.33	770.25	474.08	2.625		
14,500.00	5,387.86	15,169.25	5,361.00	237.22	243.89	-88.85	6,364.98	-7,092.95	1,261.92	791.80	470.11	2.684		
14,600.00	5,388.64	15,169.25	5,361.00	239.68	243.89	-88.85	6,364.98	-7,092.95	1,287.05	823.50	463.55	2.777		
14,700.00	5,389.42	15,169.25	5,361.00	242.14	243.89	-88.85	6,364.98	-7,092.95	1,319.31	864.51	454.80	2.901		
14,800.00	5,390.21	15,169.25	5,361.00	244.61	243.89	-88.85	6,364.98	-7,092.95	1,358.17	913.85	444.32	3.057		
14,900.00	5,390.99	15,169.25	5,361.00	247.07	243.89	-88.85	6,364.98	-7,092.95	1,403.11	970.53	432.58	3.244		
15,000.00	5,391.78	15,169.25	5,361.00	249.54	243.89	-88.85	6,364.98	-7,092.95	1,453.54	1,033.54	420.00	3.461		

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

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COMPASS 5000.15 Build 91D



Scientific Drilling, Intl
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 632H - Slot 6
Project:	Nageezi Unit	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Reference Site:	G35 2409	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	632H	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 G35 2409 - 310H - 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		
15,100.00	5,392.56	15,169.25	5,361.00	252.00	243.89	-88.85	6,364.98	-7,092.95	1,508.92	1,101.98	406.94	3.708		
15,156.13	5,393.00	15,169.25	5,361.00	253.38	243.89	-88.85	6,364.98	-7,092.95	1,541.99	1,142.46	399.53	3.860		

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 632H - Slot 6
Project:	Nageezi Unit	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Reference Site:	G35 2409	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	632H	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 G35 2409 - 313H - 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		
0.00	0.00	0.00	0.00	0.00	0.00	41.61	14.93	13.26	19.97					
100.00	100.00	100.00	100.00	0.15	0.15	41.61	14.93	13.26	19.97	19.66	0.31	64.775		
200.00	200.00	200.00	200.00	0.51	0.51	41.61	14.93	13.26	19.97	18.94	1.03	19.478		
300.00	300.00	300.00	300.00	0.87	0.87	41.61	14.93	13.26	19.97	18.23	1.74	11.462		
305.57	305.57	305.57	305.57	0.89	0.89	41.61	14.93	13.26	19.97	18.19	1.78	11.205 CC		
400.00	400.00	399.86	399.86	1.23	1.23	41.43	15.04	13.27	20.06	17.80	2.48	8.158		
500.00	499.98	499.27	499.23	1.59	1.59	33.19	17.61	13.54	20.75	17.57	3.17	6.538		
600.00	599.84	598.66	598.43	1.95	1.95	31.77	23.61	14.17	21.40	17.52	3.89	5.505		
700.00	699.45	698.02	697.33	2.32	2.32	30.34	33.02	15.15	22.03	17.42	4.61	4.783		
800.00	798.70	797.35	795.82	2.70	2.71	28.89	45.84	16.49	22.63	17.30	5.33	4.248 ES		
900.00	897.78	896.58	893.70	3.10	3.12	25.29	62.02	18.18	25.05	19.00	6.05	4.139 SF		
1,000.00	996.85	995.50	990.66	3.51	3.57	19.82	81.51	20.21	30.75	23.99	6.76	4.548		
1,100.00	1,095.92	1,094.67	1,087.27	3.93	4.05	14.88	103.76	22.53	39.35	31.87	7.48	5.260		
1,200.00	1,194.99	1,194.23	1,184.20	4.35	4.55	11.64	126.36	24.89	48.40	40.19	8.21	5.893		
1,300.00	1,294.06	1,293.79	1,281.13	4.77	5.06	9.43	148.96	27.25	57.56	48.60	8.96	6.427		
1,400.00	1,393.13	1,393.35	1,378.06	5.20	5.57	7.82	171.56	29.60	66.78	57.08	9.70	6.885		
1,500.00	1,492.20	1,492.90	1,476.00	5.62	6.10	6.61	194.16	31.96	76.04	65.59	10.46	7.279		
1,600.00	1,591.28	1,592.46	1,571.93	6.05	6.63	5.66	216.76	34.32	85.32	74.13	11.19	7.622		
1,700.00	1,690.35	1,692.02	1,668.86	6.48	7.16	4.89	239.36	36.68	94.62	82.68	11.94	7.922		
1,800.00	1,789.42	1,791.58	1,765.79	6.91	7.69	4.27	261.96	39.04	103.94	91.25	12.70	8.187		
1,900.00	1,888.49	1,891.14	1,862.72	7.34	8.23	3.74	284.56	41.39	113.27	99.82	13.45	8.422		
2,000.00	1,987.56	1,990.70	1,959.65	7.77	8.77	3.30	307.16	43.75	122.60	108.40	14.20	8.632		
2,100.00	2,086.63	2,090.26	2,056.58	8.20	9.31	2.92	329.76	46.11	131.95	116.99	14.96	8.821		
2,200.00	2,185.71	2,189.82	2,153.51	8.64	9.85	2.58	352.36	48.47	141.29	125.58	15.71	8.992		
2,300.00	2,284.78	2,289.38	2,250.45	9.07	10.39	2.29	374.96	50.83	150.64	134.17	16.47	9.147		
2,400.00	2,383.85	2,388.94	2,347.38	9.50	10.94	2.04	397.57	53.18	160.00	142.77	17.22	9.289		
2,500.00	2,482.92	2,488.50	2,444.31	9.93	11.48	1.81	420.17	55.54	169.35	151.37	17.98	9.418		
2,600.00	2,581.99	2,588.06	2,541.24	10.37	12.03	1.61	442.77	57.90	178.71	159.97	18.74	9.537		
2,700.00	2,681.06	2,687.61	2,638.17	10.80	12.57	1.42	465.37	60.26	188.07	168.58	19.50	9.647		
2,800.00	2,780.13	2,787.17	2,735.10	11.24	13.12	1.26	487.97	62.62	197.44	177.18	20.25	9.748		
2,900.00	2,879.21	2,886.73	2,832.03	11.67	13.67	1.11	510.57	64.97	206.80	185.79	21.01	9.842		
3,000.00	2,978.28	2,986.29	2,928.96	12.10	14.21	0.97	533.17	67.33	216.17	194.40	21.77	9.929		
3,100.00	3,077.35	3,085.85	3,025.90	12.54	14.76	0.84	555.77	69.69	225.53	203.00	22.53	10.011		
3,200.00	3,176.42	3,185.41	3,122.83	12.97	15.31	0.72	578.37	72.05	234.90	211.61	23.29	10.087		
3,300.00	3,275.49	3,284.97	3,219.76	13.41	15.86	0.62	600.97	74.41	244.27	220.22	24.05	10.158		
3,400.00	3,374.56	3,384.53	3,316.69	13.84	16.40	0.52	623.57	76.76	253.64	228.83	24.81	10.225		
3,500.00	3,473.64	3,484.09	3,413.62	14.28	16.95	0.43	646.17	79.12	263.01	237.44	25.57	10.287		
3,600.00	3,572.71	3,583.65	3,510.55	14.71	17.50	0.34	668.77	81.48	272.38	246.06	26.33	10.347		
3,700.00	3,671.78	3,683.21	3,607.48	15.15	18.05	0.26	691.37	83.84	281.75	254.67	27.09	10.402		
3,800.00	3,770.85	3,782.77	3,704.41	15.58	18.60	0.18	713.97	86.20	291.12	263.28	27.84	10.455		
3,900.00	3,869.92	3,882.32	3,801.35	16.02	19.15	0.11	736.57	88.55	300.50	271.89	28.60	10.505		
4,000.00	3,968.99	3,981.88	3,898.28	16.45	19.70	0.05	759.18	90.91	309.87	280.50	29.36	10.552		
4,100.00	4,068.07	4,081.44	3,995.21	16.89	20.25	-0.02	781.78	93.27	319.24	289.12	30.12	10.597		
4,200.00	4,167.14	4,181.00	4,092.14	17.32	20.80	-0.07	804.38	95.63	328.62	297.73	30.89	10.640		
4,300.00	4,266.21	4,280.56	4,189.07	17.75	21.35	-0.13	826.98	97.99	337.99	306.34	31.65	10.681		
4,400.00	4,365.28	4,380.12	4,286.00	18.20	21.90	-0.18	849.58	100.34	347.36	314.96	32.41	10.719		
4,500.00	4,464.35	4,479.68	4,382.93	18.63	22.44	-0.23	872.18	102.70	356.74	323.57	33.17	10.756		
4,600.00	4,563.42	4,579.24	4,479.87	19.07	22.99	-0.28	894.78	105.06	366.11	332.19	33.93	10.791		
4,700.00	4,662.49	4,678.80	4,576.80	19.50	23.54	-0.32	917.38	107.42	375.49	340.80	34.69	10.825		
4,800.00	4,761.53	4,825.47	4,720.61	19.94	24.24	10.43	941.68	119.85	379.65	344.01	35.64	10.653		
4,900.00	4,858.93	4,966.44	4,857.22	20.44	24.63	39.18	942.26	153.43	364.83	328.54	36.29	10.053		

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

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COMPASS 5000.15 Build 91D



Scientific Drilling, Intl Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 632H - Slot 6
Project:	Nageezi Unit	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Reference Site:	G35 2409	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	632H	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 G35 2409 - 313H - 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		
5,000.00	4,952.06	5,068.48	4,951.31	21.03	24.75	58.89	928.58	190.18	340.19	302.49	37.69	9.025		
5,100.00	5,038.65	5,131.54	5,006.22	21.70	24.77	72.98	914.35	217.67	323.17	282.97	40.21	8.038		
5,131.90	5,064.54	5,144.84	5,017.50	21.95	24.78	76.00	910.77	223.95	321.91	280.83	41.07	7.837		
5,200.00	5,116.55	5,184.95	5,034.07	22.49	24.77	80.01	905.08	233.60	328.12	285.50	42.62	7.699		
5,300.00	5,183.84	5,177.71	5,044.46	23.40	24.77	80.39	901.23	239.92	359.75	315.97	43.78	8.217		
5,400.00	5,238.88	5,176.31	5,043.33	24.46	24.77	75.21	901.66	239.22	413.05	369.11	43.94	9.401		
5,500.00	5,280.30	5,165.07	5,034.17	25.70	24.77	65.93	905.04	233.66	479.75	435.92	43.83	10.946		
5,600.00	5,307.09	5,150.00	5,021.72	27.10	24.78	55.10	909.37	226.36	552.94	508.97	43.97	12.574		
5,700.00	5,318.58	5,123.56	4,999.43	28.63	24.77	43.80	916.39	214.00	627.80	583.71	44.09	14.240		
5,800.00	5,319.64	5,100.00	4,979.11	30.28	24.77	40.22	922.01	203.48	703.61	659.13	44.48	15.819		
5,900.00	5,320.42	5,077.20	4,959.07	32.03	24.76	38.23	926.87	193.77	783.41	738.67	44.73	17.513		
6,000.00	5,321.21	5,050.00	4,934.70	33.87	24.74	35.96	931.93	182.79	866.50	821.75	44.75	19.363		
6,100.00	5,321.99	5,050.00	4,934.70	35.80	24.74	35.96	931.93	182.79	952.03	906.66	45.36	20.987		
6,200.00	5,322.77	5,027.01	4,913.75	37.78	24.71	34.14	935.55	174.05	1,039.49	994.17	45.32	22.938		
6,300.00	5,323.56	5,000.00	4,888.77	39.83	24.68	32.11	939.06	164.41	1,128.91	1,083.75	45.16	24.999		
6,400.00	5,324.34	5,000.00	4,888.77	41.92	24.68	32.11	939.06	164.41	1,219.21	1,173.69	45.51	26.789		
6,500.00	5,325.13	5,000.00	4,888.77	44.05	24.68	32.11	939.06	164.41	1,310.91	1,265.12	45.79	28.628		
6,600.00	5,325.91	4,982.04	4,871.95	46.21	24.65	30.83	940.93	158.39	1,403.40	1,357.68	45.71	30.699		
6,700.00	5,326.69	4,973.35	4,863.76	48.41	24.64	30.23	941.71	155.60	1,496.74	1,450.96	45.78	32.696		
6,800.00	5,327.48	4,950.00	4,841.59	50.63	24.60	28.67	943.36	148.45	1,591.01	1,545.41	45.60	34.893		
6,900.00	5,328.26	4,950.00	4,841.59	52.87	24.60	28.67	943.36	148.45	1,685.40	1,639.84	45.76	36.829		
7,000.00	5,329.05	4,950.00	4,841.59	55.14	24.60	28.67	943.36	148.45	1,780.41	1,734.51	45.90	38.785		
7,100.00	5,329.83	4,950.00	4,841.59	57.42	24.60	28.67	943.36	148.45	1,875.94	1,829.91	46.03	40.757		
7,200.00	5,330.61	4,950.00	4,841.59	59.71	24.60	28.67	943.36	148.45	1,971.91	1,925.78	46.13	42.744		
7,300.00	5,331.40	4,950.00	4,841.59	62.03	24.60	28.67	943.36	148.45	2,068.26	2,022.44	46.23	44.741		
7,400.00	5,332.18	4,928.51	4,821.97	64.35	24.55	27.38	944.31	142.84	2,164.52	2,118.46	46.06	46.992		
7,500.00	5,332.97	4,924.95	4,817.58	66.68	24.54	27.10	944.45	141.40	2,261.29	2,215.20	46.09	49.062		
7,600.00	5,333.75	4,920.68	4,813.47	69.03	24.53	26.84	944.56	140.27	2,358.29	2,312.17	46.12	51.135		
7,700.00	5,334.54	4,900.00	4,793.47	71.38	24.48	25.63	944.82	135.02	2,455.77	2,409.82	45.96	53.435		
7,800.00	5,335.32	4,900.00	4,793.47	73.74	24.48	25.63	944.82	135.02	2,553.06	2,507.03	46.03	55.464		
7,900.00	5,336.10	4,900.00	4,793.47	76.11	24.48	25.63	944.82	135.02	2,650.55	2,604.45	46.10	57.497		
8,000.00	5,336.89	4,900.00	4,793.47	78.48	24.48	25.63	944.82	135.02	2,748.22	2,702.05	46.16	59.534		
8,100.00	5,337.67	4,900.00	4,793.47	80.86	24.48	25.63	944.82	135.02	2,846.05	2,799.82	46.22	61.573		
8,200.00	5,338.46	4,900.00	4,793.47	83.25	24.48	25.63	944.82	135.02	2,944.02	2,897.74	46.28	63.614		
8,300.00	5,339.24	4,900.00	4,793.47	85.64	24.48	25.63	944.82	135.02	3,042.13	2,995.80	46.33	65.656		
8,400.00	5,340.02	4,900.00	4,793.47	88.03	24.48	25.63	944.82	135.02	3,140.36	3,093.97	46.39	67.699		
8,500.00	5,340.81	4,900.00	4,793.47	90.43	24.48	25.63	944.82	135.02	3,238.70	3,192.26	46.44	69.742		
8,600.00	5,341.59	4,900.00	4,793.47	92.84	24.48	25.63	944.82	135.02	3,337.13	3,290.64	46.49	71.785		
8,700.00	5,342.38	4,900.00	4,793.47	95.24	24.48	25.63	944.82	135.02	3,435.66	3,389.12	46.54	73.827		
8,800.00	5,343.16	4,900.00	4,793.47	97.65	24.48	25.63	944.82	135.02	3,534.26	3,487.68	46.58	75.868		
8,900.00	5,343.94	4,900.00	4,793.47	100.07	24.48	25.63	944.82	135.02	3,632.95	3,586.32	46.63	77.908		
9,000.00	5,344.73	4,900.00	4,793.47	102.48	24.48	25.63	944.82	135.02	3,731.70	3,685.02	46.68	79.947		
9,100.00	5,345.51	4,900.00	4,793.47	104.90	24.48	25.63	944.82	135.02	3,830.52	3,783.80	46.72	81.983		
9,200.00	5,346.30	4,877.59	4,771.66	107.32	24.41	24.38	944.54	129.84	3,928.94	3,882.38	46.57	84.372		
9,300.00	5,347.08	4,875.87	4,769.99	109.75	24.41	24.29	944.50	129.46	4,027.81	3,981.21	46.60	86.435		
9,400.00	5,347.87	4,874.22	4,768.38	112.18	24.40	24.20	944.45	129.11	4,126.72	4,080.09	46.63	88.496		
9,500.00	5,348.65	4,872.64	4,766.84	114.60	24.40	24.12	944.40	128.77	4,225.68	4,179.01	46.67	90.552		
9,600.00	5,349.43	4,850.00	4,744.69	117.03	24.33	22.94	943.41	124.19	4,325.08	4,278.56	46.52	92.979		
9,700.00	5,350.22	4,850.00	4,744.69	119.47	24.33	22.94	943.41	124.19	4,424.07	4,377.51	46.57	95.007		
9,800.00	5,351.00	4,850.00	4,744.69	121.90	24.33	22.94	943.41	124.19	4,523.11	4,476.49	46.62	97.031		

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 632H - Slot 6
Project:	Nageezi Unit	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Reference Site:	G35 2409	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	632H	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 G35 2409 - 313H - 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		
9,900.00	5,351.79	4,850.00	4,744.69	124.33	24.33	22.94	943.41	124.19	4,622.18	4,575.52	46.66	99.051		
10,000.00	5,352.57	4,850.00	4,744.69	126.77	24.33	22.94	943.41	124.19	4,721.30	4,674.58	46.71	101.068		
10,100.00	5,353.35	4,850.00	4,744.69	129.21	24.33	22.94	943.41	124.19	4,820.45	4,773.68	46.76	103.081		
10,200.00	5,354.14	4,850.00	4,744.69	131.65	24.33	22.94	943.41	124.19	4,919.63	4,872.82	46.81	105.090		
10,300.00	5,354.92	4,850.00	4,744.69	134.09	24.33	22.94	943.41	124.19	5,018.85	4,971.99	46.86	107.095		
10,400.00	5,355.71	4,850.00	4,744.69	136.53	24.33	22.94	943.41	124.19	5,118.10	5,071.18	46.91	109.096		
10,500.00	5,356.49	4,850.00	4,744.69	138.97	24.33	22.94	943.41	124.19	5,217.37	5,170.41	46.96	111.092		
10,600.00	5,357.27	4,850.00	4,744.69	141.42	24.33	22.94	943.41	124.19	5,316.68	5,269.66	47.02	113.084		
10,700.00	5,358.06	4,850.00	4,744.69	143.86	24.33	22.94	943.41	124.19	5,416.01	5,368.94	47.07	115.071		
10,800.00	5,358.84	4,850.00	4,744.69	146.31	24.33	22.94	943.41	124.19	5,515.36	5,468.24	47.12	117.054		
10,900.00	5,359.63	4,850.00	4,744.69	148.76	24.33	22.94	943.41	124.19	5,614.74	5,567.57	47.17	119.031		
11,000.00	5,360.41	4,850.00	4,744.69	151.20	24.33	22.94	943.41	124.19	5,714.14	5,666.92	47.22	121.004		
11,100.00	5,361.20	4,850.00	4,744.69	153.65	24.33	22.94	943.41	124.19	5,813.56	5,766.28	47.28	122.971		
11,200.00	5,361.98	4,850.00	4,744.69	156.10	24.33	22.94	943.41	124.19	5,913.00	5,865.67	47.33	124.933		
11,300.00	5,362.76	4,850.00	4,744.69	158.55	24.33	22.94	943.41	124.19	6,012.45	5,965.07	47.38	126.891		
11,400.00	5,363.55	4,850.00	4,744.69	161.00	24.33	22.94	943.41	124.19	6,111.93	6,064.49	47.44	128.842		
11,500.00	5,364.33	4,850.00	4,744.69	163.46	24.33	22.94	943.41	124.19	6,211.42	6,163.93	47.49	130.788		
11,600.00	5,365.12	4,850.00	4,744.69	165.91	24.33	22.94	943.41	124.19	6,310.93	6,263.38	47.55	132.729		
11,700.00	5,365.90	4,850.00	4,744.69	168.36	24.33	22.94	943.41	124.19	6,410.45	6,362.85	47.60	134.664		
11,800.00	5,366.68	4,850.00	4,744.69	170.81	24.33	22.94	943.41	124.19	6,509.99	6,462.33	47.66	136.594		
11,900.00	5,367.47	4,850.00	4,744.69	173.27	24.33	22.94	943.41	124.19	6,609.54	6,561.83	47.72	138.517		
12,000.00	5,368.25	4,850.00	4,744.69	175.72	24.33	22.94	943.41	124.19	6,709.11	6,661.33	47.77	140.435		
12,100.00	5,369.04	4,850.00	4,744.69	178.18	24.33	22.94	943.41	124.19	6,808.69	6,760.85	47.83	142.347		
12,200.00	5,369.82	4,850.00	4,744.69	180.63	24.33	22.94	943.41	124.19	6,908.28	6,860.39	47.89	144.253		
12,300.00	5,370.60	4,850.00	4,744.69	183.09	24.33	22.94	943.41	124.19	7,007.88	6,959.93	47.95	146.153		
12,400.00	5,371.39	4,850.00	4,744.69	185.55	24.33	22.94	943.41	124.19	7,107.49	7,059.48	48.01	148.047		
12,500.00	5,372.17	4,850.00	4,744.69	188.00	24.33	22.94	943.41	124.19	7,207.11	7,159.05	48.07	149.935		
12,600.00	5,372.96	4,850.00	4,744.69	190.46	24.33	22.94	943.41	124.19	7,306.75	7,258.62	48.13	151.817		
12,700.00	5,373.74	4,850.00	4,744.69	192.92	24.33	22.94	943.41	124.19	7,406.39	7,358.20	48.19	153.692		
12,800.00	5,374.53	4,850.00	4,744.69	195.38	24.33	22.94	943.41	124.19	7,506.05	7,457.79	48.25	155.561		
12,900.00	5,375.31	4,850.00	4,744.69	197.84	24.33	22.94	943.41	124.19	7,605.71	7,557.39	48.31	157.424		
13,000.00	5,376.09	4,850.00	4,744.69	200.29	24.33	22.94	943.41	124.19	7,705.38	7,657.00	48.38	159.281		
13,100.00	5,376.88	4,850.00	4,744.69	202.75	24.33	22.94	943.41	124.19	7,805.06	7,756.62	48.44	161.131		
13,200.00	5,377.66	4,850.00	4,744.69	205.21	24.33	22.94	943.41	124.19	7,904.75	7,856.24	48.50	162.974		
13,300.00	5,378.45	4,850.00	4,744.69	207.67	24.33	22.94	943.41	124.19	8,004.44	7,955.87	48.57	164.811		
13,400.00	5,379.23	4,850.00	4,744.69	210.13	24.33	22.94	943.41	124.19	8,104.14	8,055.51	48.63	166.642		
13,500.00	5,380.01	4,850.00	4,744.69	212.59	24.33	22.94	943.41	124.19	8,203.86	8,155.16	48.70	168.466		
13,600.00	5,380.80	4,850.00	4,744.69	215.06	24.33	22.94	943.41	124.19	8,303.57	8,254.81	48.76	170.283		
13,700.00	5,381.58	4,850.00	4,744.69	217.52	24.33	22.94	943.41	124.19	8,403.30	8,354.47	48.83	172.094		
13,800.00	5,382.37	4,850.00	4,744.69	219.98	24.33	22.94	943.41	124.19	8,503.03	8,454.13	48.90	173.898		
13,900.00	5,383.15	4,850.00	4,744.69	222.44	24.33	22.94	943.41	124.19	8,602.76	8,553.80	48.96	175.695		
14,000.00	5,383.93	4,850.00	4,744.69	224.90	24.33	22.94	943.41	124.19	8,702.51	8,653.47	49.03	177.486		
14,100.00	5,384.72	4,850.00	4,744.69	227.36	24.33	22.94	943.41	124.19	8,802.25	8,753.15	49.10	179.269		
14,200.00	5,385.50	4,850.00	4,744.69	229.83	24.33	22.94	943.41	124.19	8,902.01	8,852.84	49.17	181.046		
14,300.00	5,386.29	4,850.00	4,744.69	232.29	24.33	22.94	943.41	124.19	9,001.77	8,952.53	49.24	182.817		
14,400.00	5,387.07	4,850.00	4,744.69	234.75	24.33	22.94	943.41	124.19	9,101.53	9,052.22	49.31	184.580		
14,500.00	5,387.86	4,850.00	4,744.69	237.22	24.33	22.94	943.41	124.19	9,201.30	9,151.92	49.38	186.336		
14,600.00	5,388.64	4,850.00	4,744.69	239.68	24.33	22.94	943.41	124.19	9,301.08	9,251.63	49.45	188.086		
14,700.00	5,389.42	4,850.00	4,744.69	242.14	24.33	22.94	943.41	124.19	9,400.86	9,351.34	49.52	189.829		
14,800.00	5,390.21	4,850.00	4,744.69	244.61	24.33	22.94	943.41	124.19	9,500.64	9,451.05	49.59	191.565		
14,900.00	5,390.99	4,850.00	4,744.69	247.07	24.33	22.94	943.41	124.19	9,600.43	9,550.76	49.67	193.284		

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

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COMPASS 5000.15 Build 91D



Scientific Drilling, Intl
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 632H - Slot 6
Project:	Nageezi Unit	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Reference Site:	G35 2409	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	632H	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 G35 2409 - 313H - 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	
15,000.00	5,391.78	4,850.00	4,744.69	249.54	24.33	22.94	943.41	124.19	9,700.22	9,650.48	49.74	195.016	
15,100.00	5,392.56	4,850.00	4,744.69	252.00	24.33	22.94	943.41	124.19	9,800.02	9,750.21	49.81	196.731	
15,156.13	5,393.00	4,850.00	4,744.69	253.38	24.33	22.94	943.41	124.19	9,856.04	9,806.18	49.86	197.691	

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



Scientific Drilling, Intl
Anticollision Report

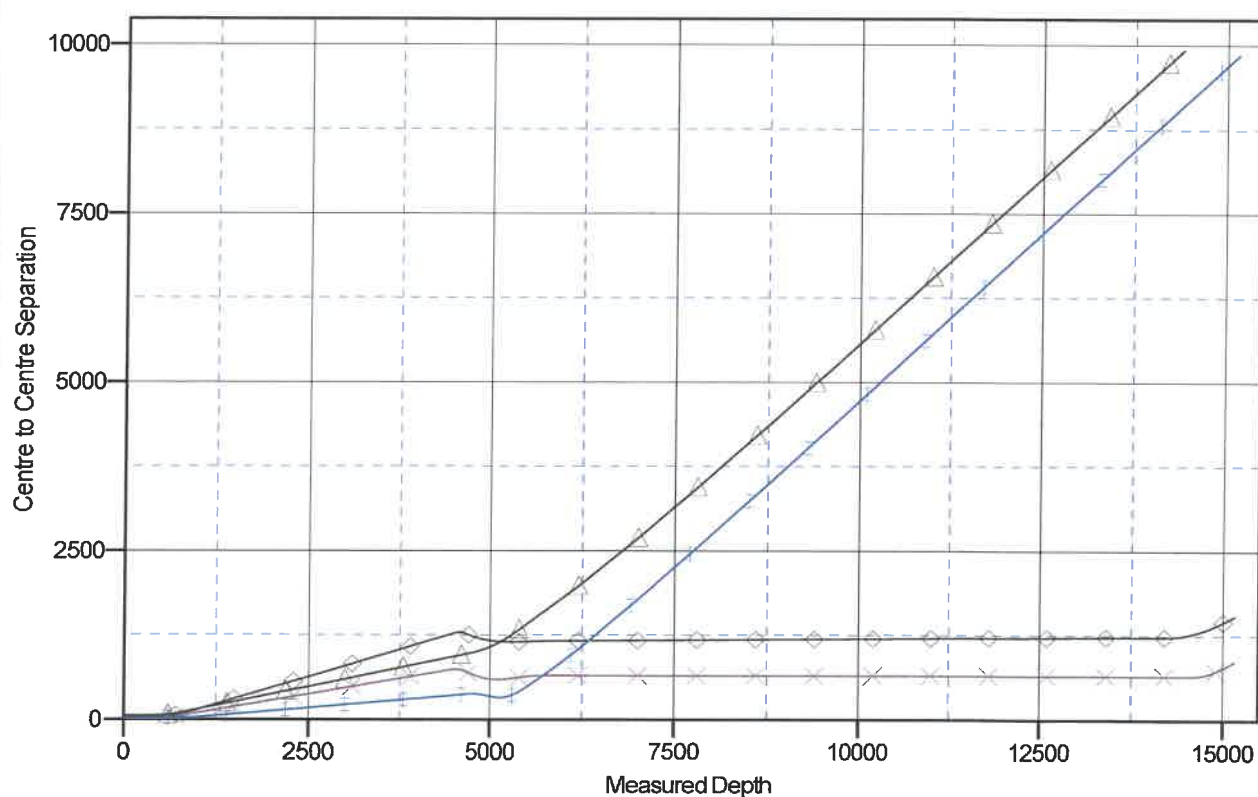


Company:	DJR Operating	Local Co-ordinate Reference:	Well 632H - Slot 6
Project:	Nageezi Unit	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Reference Site:	G35 2409	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	632H	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 6899' & RKB 14' @ 6913.00usft (A)
Offset Depths are relative to Offset Datum
Central Meridian is -107.8333334

Coordinates are relative to: 632H - Slot 6
Coordinate System is US State Plane 1983, New Mexico Western Zone
Grid Convergence at Surface is: 0.04°

Ladder Plot



LEGEND

- ◆ 310H, Original Drilling, APD V0
- ▲ 309H, Original Drilling, APD V0
- ✕ 308H, Original Drilling, APD V0
- + 313H, Original Drilling, APD V0

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

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COMPASS 5000.15 Build 91D



Scientific Drilling, Intl
Anticollision Report

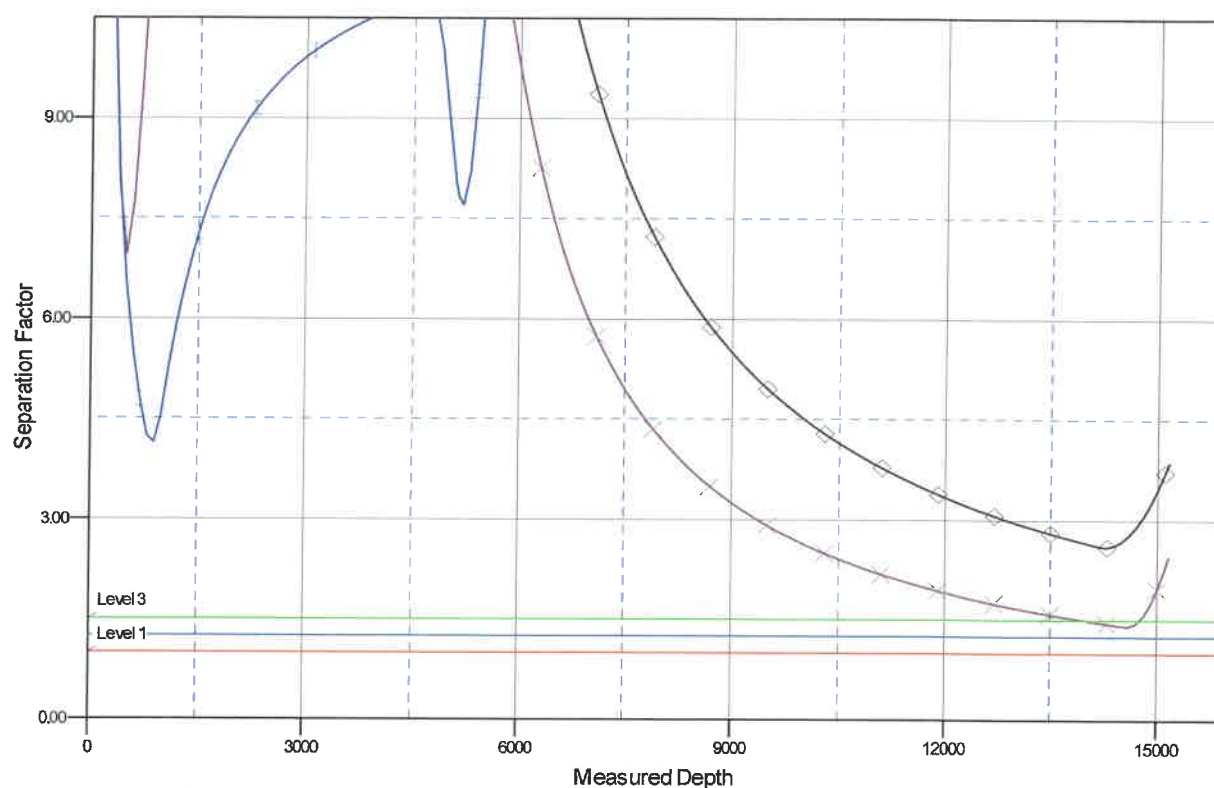


Company:	DJR Operating	Local Co-ordinate Reference:	Well 632H - Slot 6
Project:	Nageezi Unit	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
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Reference Well:	632H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
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Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 6899' & RKB 14' @ 6913.00usft (A)
Offset Depths are relative to Offset Datum
Central Meridian is -107.8333334

Coordinates are relative to: 632H - Slot 6
Coordinate System is US State Plane 1983, New Mexico Western Zone
Grid Convergence at Surface is: 0.04°

Separation Factor Plot



LEGEND

- ◆ 310H, Original Drilling, APD V0
- ▲ 309H, Original Drilling, APD V0
- ✕ 308H, Original Drilling, APD V0
- + 313H, Original Drilling, APD V0

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

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COMPASS 5000.15 Build 91D

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 308H	Pending	SWNE, Section 35, T24N, R9W	2333' FNL, 2295' FEL	850	Flared	
Nageezi Unit 309H	Pending	SWNE, Section 35, T24N, R9W	2363' FNL, 2321' FEL	975	Flared	
Nageezi Unit 310H	Pending	SWNE, Section 35, T24N, R9W	2348' FNL, 2308' FEL	975	Flared	
Nageezi Unit 313H	Pending	SWNE, Section 35, T24N, R9W	2303' FNL, 2268' FEL	960	Flared	
Nageezi Unit 632H	Pending	SWNE, Section 35, T24N, R9W	2318' FNL, 2282' FEL	975	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 11,270' 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 20401

COMMENTS

Operator:			OGRID:	Action Number:	Action Type:
DJR OPERATING, LLC 1 Road 3263 Aztec, NM87410			371838	20401	FORM 3160-3
Created By	Comment				Comment Date
ahvermersch	See additional NMOCD COA's on attached letter				03/10/2021

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

CONDITIONS

Action 20401

CONDITIONS OF APPROVAL

Operator: DJR OPERATING, LLC 1 Road 3263 Aztec, NM87410			OGRID: 371838	Action Number: 20401	Action Type: FORM 3160-3
OCD Reviewer		Condition			
ahvermersch		Notify OCD 24 hours prior to casing & cement			