

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: 2/14/2020

Operator: DJR **Well Name and Number:** Nageezi Unit 315H

API#: 30-045-38196 , **Section:** 35, **Township:** 24N, **Range:** 9 W

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

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

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

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

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

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

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

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

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

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

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

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

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

NMOCD Approved by Signature

12/7/2020
Date

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. NMNM012374 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. NMNM 132981A 8. Lease Name and Well No. NAGEEZI UNIT 315H 9. API Well No. 30-045-38196
2. Name of Operator DJR OPERATING LLC 3a. Address 1700 LINCOLN STREET, SUITE 2800, DENVER, CO 802		3b. Phone No. (include area code) (505) 632-3476 10. Field and Pool, or Exploratory BASIN MANCOS Nageezi Unit Mancos
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWSW / 30 FSL / 273 FWL / LAT 36.263367 / LONG -107.766496 At proposed prod. zone SWSW / 919 FSL / 837 FWL / LAT 36.280362 / LONG -107.782575		11. Sec., T. R. M. or Blk. and Survey or Area SEC 35/T24N/R9W/NMP
14. Distance in miles and direction from nearest town or post office* 40 miles		12. County or Parish SAN JUAN 13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 70 feet	16. No of acres in lease 2240	17. Spacing Unit dedicated to this well 520.0
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 5280 feet	19. Proposed Depth 5251 feet / 12360 feet	20. BLM/BIA Bond No. in file FED: NMB001464
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6864 feet	22. Approximate date work will start* 07/24/2020	23. Estimated duration 12 days
24. Attachments		

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

- | | |
|---|---|
| 1. Well plat certified by a registered surveyor.
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 02/14/2020
Title Regulatory Specialist		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) RICHARD FIELDS / Ph: (505) 564-7612	Date 11/19/2020
Title Field Manager		

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 I1685 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-8161 Fax: (575) 393-0780**DISTRICT II**811 S. First St., Artesia, N.M. 88210
Phone: (575) 749-1293 Fax: (575) 749-9720**DISTRICT III**1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170**DISTRICT IV**1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 478-3460 Fax: (505) 478-3462State 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 30-045-38196		² Pool Code 98080	³ Pool Name NAGEEZI UNIT MANCOS OIL POOL
⁴ Property Code 325268	⁵ Property Name NAGEEZI UNIT		⁶ Well Number 315H
⁷ OGRIID No. 371838	⁸ Operator Name DJR OPERATING, LLC		⁹ Elevation 6864'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	35	24N	9W		30'	SOUTH	273'	WEST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	27	24N	9W		919'	SOUTH	837'	WEST	SAN JUAN

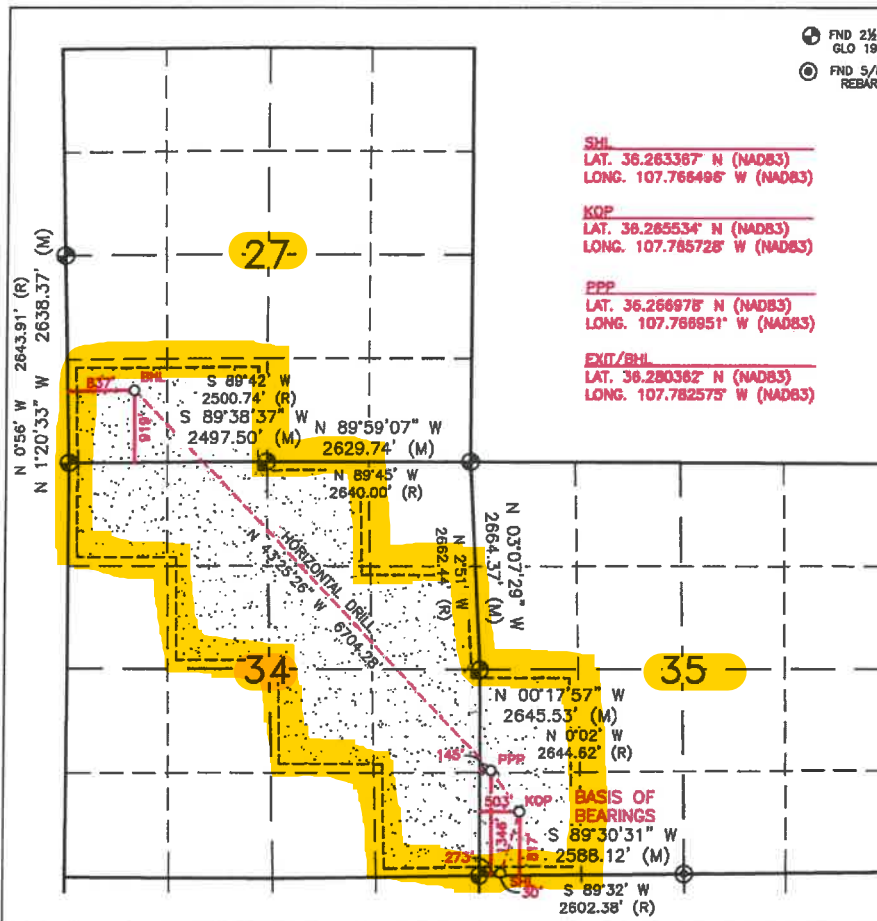
¹² Dedicated Acres PENETRATED SPACING UNIT
SEC 35: NW/SW & SW/SW (80 AC.); SEC 34: SE/SE,
NE/SE, NW/SE, SE/NE, SW/NE, NW/NE, SE/NW,
& NW/NW (360 AC.); SEC 27: SE/SW & SW/SW (80
AC.) = 520 ACRES TOTAL

¹³ Joint or Infill¹⁴ Consolidation Code¹⁵ Order No.

R-13856 R-13856A

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

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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 2/7/20
Signature Date

Shaw-Marie Ford

Printed Name

sford@djrlc.com

E-mail Address

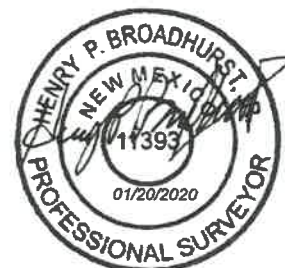
SURVEYOR CERTIFICATION

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

APRIL 4, 2019

Date of Survey

Signature and Seal of Professional Surveyor:



Certificate Number

11393

DISTRICT I

1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-8181 Fax: (575) 393-0780

DISTRICT II

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

DISTRICT III

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

DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 478-8480 Fax: (505) 478-3482

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

☐ AMENDED REPORT

DJR OPERATING, LLC
NAGEEZI UNIT #315H

SW CORNER SEC 27

LAT. 36.277829° N (NAD83)
LONG. 107.785353° W (NAD83)

W/4 CORNER SEC 27

LAT. 36.285075° N (NAD83)
LONG. 107.785559° W (NAD83)

NW CORNER SEC 35

LAT. 36.277882° N (NAD83)
LONG. 107.767958° W (NAD83)

S/4 CORNER SEC 35

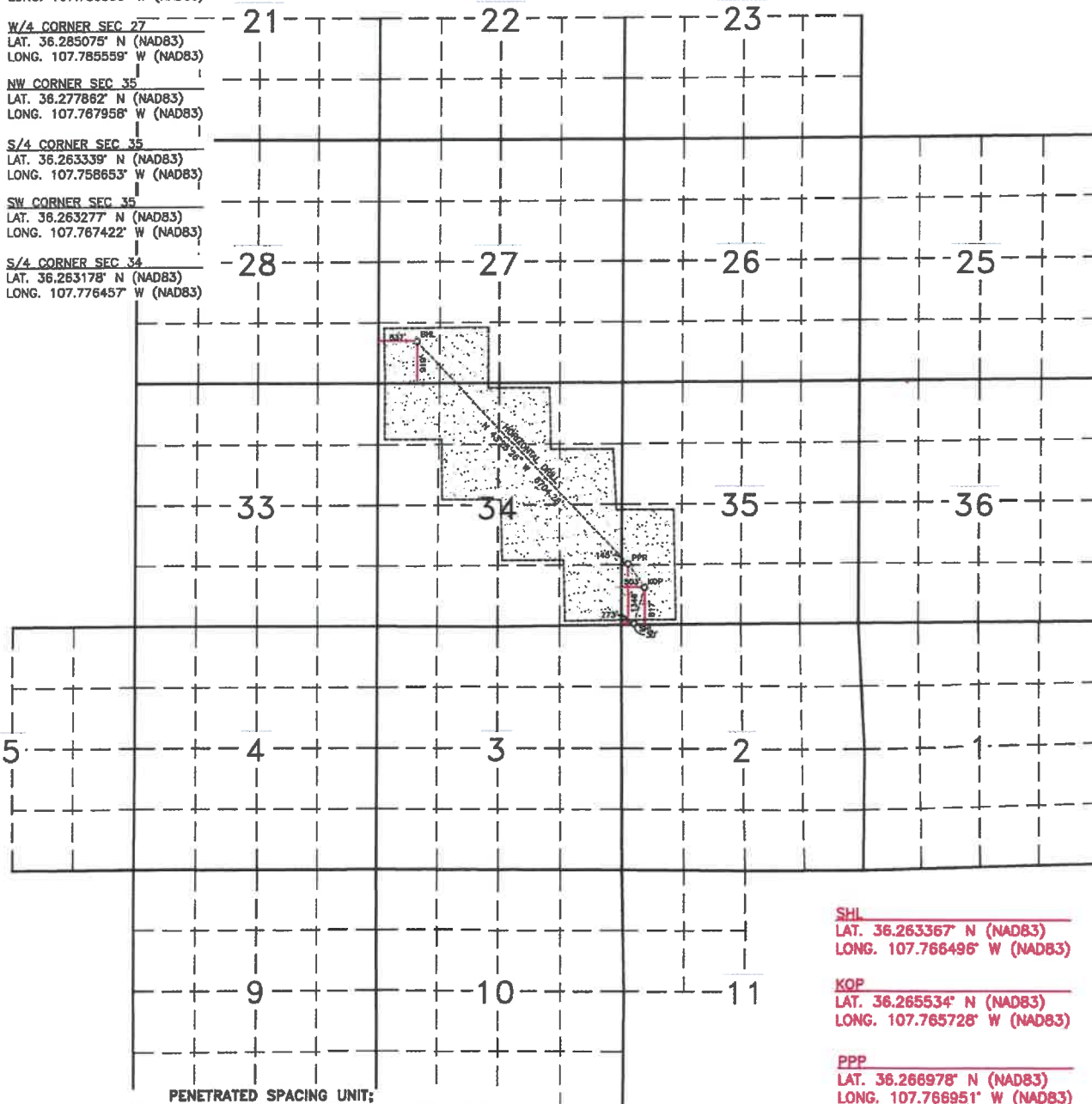
LAT. 36.263339° N (NAD83)
LONG. 107.758653° W (NAD83)

SW CORNER SEC 35

LAT. 36.263277° N (NAD83)
LONG. 107.767422° W (NAD83)

S/4 CORNER SEC 34

LAT. 36.263178° N (NAD83)
LONG. 107.776457° W (NAD83)

**SHL**

LAT. 36.263367° N (NAD83)
LONG. 107.766496° W (NAD83)

KOP

LAT. 36.265534° N (NAD83)
LONG. 107.765728° W (NAD83)

PPP

LAT. 36.266978° N (NAD83)
LONG. 107.766951° W (NAD83)

EXIT/BHL

LAT. 36.280362° N (NAD83)
LONG. 107.782575° W (NAD83)

PENETRATED SPACING UNIT:

SEC 35: NW/SW & SW/SW (80 AC.); SEC 34: SE/SE, NE/SE, NW/SE, SE/NE, SW/NE, NW/NE, SE/NW, NE/NW & NW/NW (360 AC.); SEC 27: SE/SW & SW/SW (80 AC.) = 520 ACRES TOTAL
TOTAL 10,415.12 ACRES: SEC. 21-23 (S/2); 25-28, 33-36, 1-4, 9-10 (ALL); 5 (W/2); 11 (NW/4) - UNDIVIDED UNIT

Rev 1



DRILLING PLAN **Nageezi Unit 315H** **San Juan County, New Mexico**

Surface Location

273-ft FWL & 30-ft FSL
 Sec 35 T24N R09W
 Graded Elevation 6864' MSL
 RKB Elevation 6878' (14' KB)

SHL Geographical Coordinates (NAD-83)

Latitude 36.2633670° N
 Longitude 107.7664960° W

Kick Off Point for Horizontal Build Curve

4725-ft MD
 4644-ft TVD

Local Coordinates (from SHL)

789-ft North
 226-ft East

Heel Location (Pay zone entry)

145-ft FWL & 1346-ft FSL
 Sec 35 T24N R9W

Heel Geographical Coordinates (NAD-83)

Latitude 36.2669778° N
 Longitude 107.76695060° W

Bottom Hole Location (TD)

837-ft FWL & 919-ft FSL
 Sec 27 T24N R9W

BHL Geographical Coordinates (NAD-83)

Latitude 36.2803616° N
 Longitude 107.7825751° W

Well objectives

This well is planned as a 6700-ft lateral in the Gallup C R3 sand.

Bottom Hole temperature and pressure

The temperature in the Gallup C R3 horizontal objective is 141°F. Bottom hole pressure in the Gallup C R3 is forecast to be 1985 psi.

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

Name	MD (ft)	TVD (ft)	Lithology	Pore fluid	Expected Pore Pressure (ppg)	Planned Mud Weight (ppg)
Ojo Alamo	728	727	Sd	W	8.3	8.4 – 8.8
Kirtland	883	880	Sh	-	8.3	8.4 – 8.8
Fruitland	1157	1149	C	G	8.3	9.0 - 9.5
Pictured Cliffs	1515	1499	Sd	W	8.3	9.0 - 9.5
Lewis	1625	1607	Sh	-		9.0 - 9.5
Chacra	2316	2284	Sd	-	8.3	9.0 - 9.5
Menefee	3061	3014	Sd, C	G	8.3	9.0 - 9.5
Point Lookout	4018	3951	Sd	-	8.3	9.0 - 9.5
Mancos	4187	4116	Sh	-		9.0 - 9.5
Mancos Silt	4523	4445	Slt	O/G	6.6	9.0 - 9.5
Gallup A	5057	4945	Slt	O/G	6.6	9.0 - 9.5
Gallup B	5110	4986	Sd	O/G	6.6	8.8 - 9.0
Gallup C	5290	5103	Sd	O/G	6.6	8.8 - 9.0
Target	5656	5206	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	5603	surf	5204	surface
4-1/2"	6-1/8"	11.6	P-110	BTC	5321	12360	5119	5251	5321

Note: all casing will be new

Rev 1



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	4225-ft
Yield (cf/sx)	12.30	13.50
Mix water (gal/sx)	2.34	1.50
Volume (sx)	13.26	7.20
Volume (bbls)	423	228
Volume (cu.ft.)	176	61
Excess %	991	341
	50	50

Rev 1

**4-1/2" Production Liner**

	BJ Services
Type	Poz/G
Planned top	5321-ft
Density (ppg)	13.3
Yield (cf/sx)	1.56
Mix water (gal/sx)	7.71
Volume (sx)	591
Volume (bbls)	165
Volume (cu.ft)	924
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 – 5603	9.0 – 9.5	38 – 45	8 – 14	<20
Production	Low solids, non-dispersed	5603 – 12360	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.

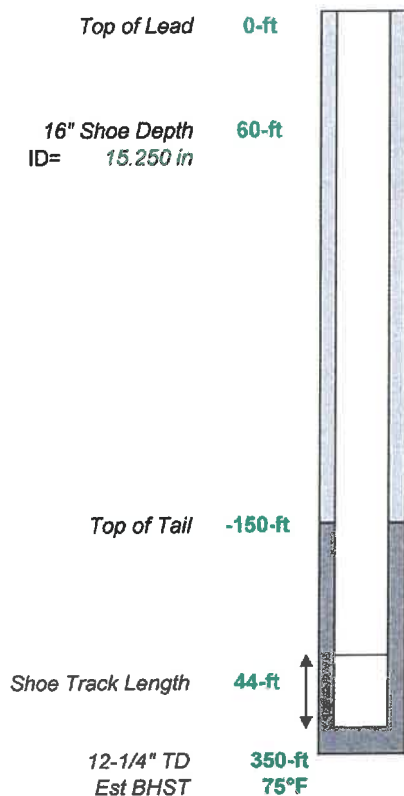
Cuttings and drilling fluids management

- ✓ 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.

9-5/8" Surface Casing & Cementing



Assumed Hole Size	12.2500 in
Casing OD	9.6250 in
Casing ID	8.9210 in
% Excess Lead	50%
% Excess Tail	
Capacity CH Ann	0.1359 bbl/ft
Capacity OH Ann	0.0558 bbl/ft
Capacity Pipe	0.0773 bbl/ft

9-5/8" 36# K-55 ST&C

Pipe OD	9.625 in
Coupling OD	10.625 in
ID	8.921 in
Drift	8.765 in
Burst	3520 psi
Collapse	2020 psi
Tensile (body)	564 kips
Tensile (joint)	423 kips
Min Torque	1830 ft-lbs
Opt Torque	2440 ft-lbs
Max Torque	3050 ft-lbs

Lead Slurry

Redi Mix Type I/ii
20% Fly Ash

Properties

Density	14.50 ppg
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

Density	ppg
Yield	cf/sk
Total Mix Fluid	gal/sk
Est pump time (70Bc)	
50 psi strength in	
24/72 hr strength	psi

Volumes

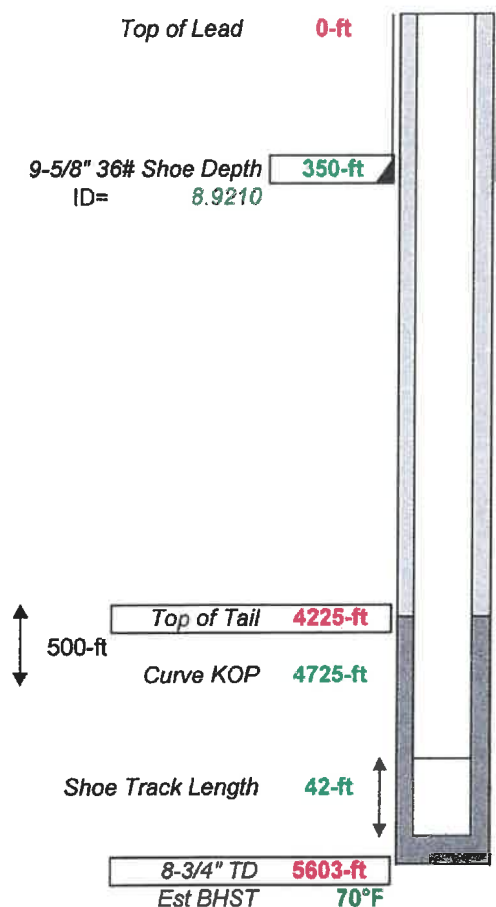
Lead Volume	33 bbls	114 sx
Tail Volume	bbls	sx
Displacement	24 bbls	
Total Volume	56 bbls	

Casing Jewelry and Pump Schedule

Run guide shoe, 1 joint, then float collar. Centralize with 1 one bow spring per joint for the first 500-ft, then 1 every third joint to surface. Bottom centralizer to be 10-ft above guide shoe with stop collar above, thereafter around the coupling. Thread lock guide shoe, shoe track and float collar.

Pump schedule: 40 bbls fresh water, drop bottom plug, lead, tail, top plug, displace with water. Land wellhead housing on u-plate.

7" Intermediate Casing & Cementing Nageezi Unit 315H



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	4330 psi
Tensile (body)	415 kips
Tensile (joint)	367 kips
Min Torque	ft-lbs
Opt Torque	ft-lbs
Max Torque	ft-lbs

BJ Lead Slurry

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

Properties

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

BJ Tail Slurry

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

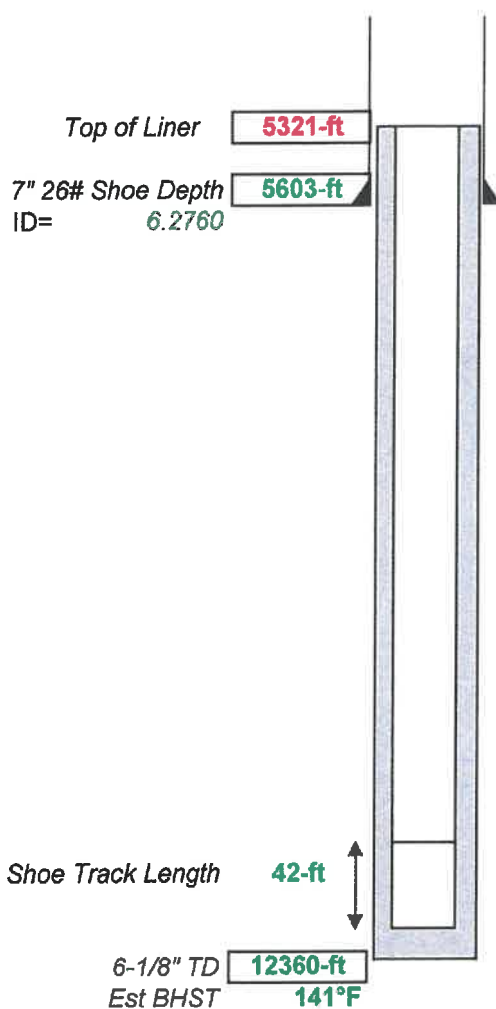
Properties

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

Volumes

Lead Volume	176 bbls	423 sx
Tail Volume	61 bbls	228 sx
Approx Displacement	213 bbls	
Total Volume	450 bbls	

4-1/2" Liner Cementing Nageezi Unit 315H

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

4-1/2" 11.6# P-110 LT&C

Pipe OD **4.500** inWeight **11.6** lbs/ftGrade **P-110**Coupling **LTC**Coupling OD **5.000** inID **4.000** inDrift **3.875** inBurst **10690** psiCollapse **7580** psiTensile (body) **367** kipsTensile (joint) **279** kipsMin Torque **ft-lbs**Opt Torque **ft-lbs**Max Torque **ft-lbs**

BJ Lead Slurry

G+Pozz 50:50
 BA-90 3 lb/sx
 GW-86 0.10%
 R-3 0.40%
 FP-25 30.00%
 FL-24 0.40%
 Gel 4.00%

Properties

Density **13.30** ppg
 Yield **1.5629** cf/sk
 Total Mix Fluid **7.70** gal/sk
 Thickening Time **6:04** hr:min
 Time to 50 psi (147°F) **7:15** hr:min
 24-hr UCA (147°F) **1293** psi

Volumes

Lead Volume **165** bbls **591** sxApprox Displacement **134** bblsTotal Volume **298** bbls



Company: DJR Operating
Project: Nageezi Unit
Site: M35 2409
Well: 315H
Wellbore: Original Drilling
Design: APD

PROJECT DETAILS: Nageezi Unit

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

WELL DETAILS: 315H

GL 6864' & RKb 14' @ 6878.00usft (Aztec 920)

	+N/-S	+E/-W	Northing	Easting	Longitude
	0.00	0.00	1915171.21	2742795.37	-107.7664960

Plan: APD (315H/Original Drilling)

Created By: Janie Collins Date: 9:05, January 08 2020

DESIGN TARGET DETAILS

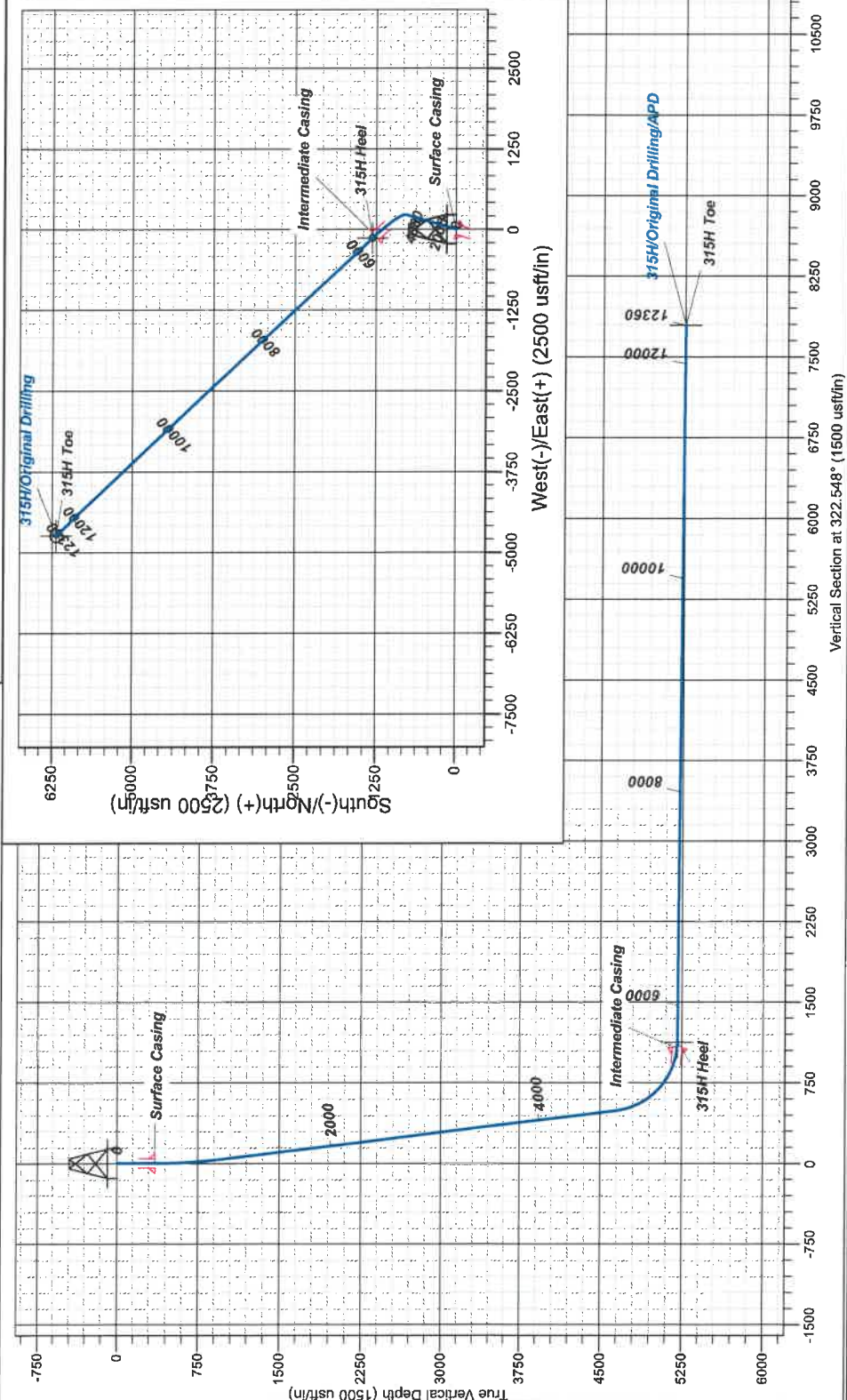
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
315H Heel	5206.00	1314.42	-134.02	1916485.54	2742660.45	36.2699778	-107.7659506
315H Toe	5251.00	6186.84	-4739.11	1921354.78	2739051.99	36.2803616	-107.7625751

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Diag	TFace	Vsect	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
375.00	0.00	0.000	375.00	0.00	0.00	0.00	0.00	0.00	
954.21	11.66	15.978	954.21	56.88	16.29	2.00	15.98	35.25	
4725.49	11.66	15.978	4643.67	769.12	225.95	0.00	0.00	489.05	
5565.98	89.62	316.816	5206.00	1314.42	-134.02	9.00	-68.85	1124.96	315H Heel
12360.01	89.62	316.816	5251.00	6186.84	-4739.11	0.00	0.00	7793.34	315H Toe

CASING DETAILS

TVD	MD	Name
350.00	350.00	Surface Casing
5203.55	603.49	Intermediate Casing



FORMATION DETAILS

MDPath	Formation
727.00	Ojo Alamo
880.00	Kirtland
1149.00	Fruitland
1499.00	Pictured Cliffs
1607.00	Lewis
2284.00	Chacra
3014.00	Manefee
3951.00	Point Lookout
4116.00	Mancos
4445.00	Mancos Silt
4945.00	Gallup A
4986.00	Gallup B
5103.00	Gallup C



DJR Operating

Nageezi Unit

M35 2409

315H - Slot 3

Original Drilling

Plan: APD

Standard Planning Report

08 January, 2020



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Scientific Drilling, Intl Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 315H - Slot 3
Company:	DJR Operating	TVD Reference:	GL 6864' & Rkb 14' @ 6878.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6864' & Rkb 14' @ 6878.00usft (Aztec 920)
Site:	M35 2409	North Reference:	True
Well:	315H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

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

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

Well	315H - Slot 3		
Well Position	+N/-S	-59.34 usft	Northing: 1,915,171.21 usft
	+E/-W	6.49 usft	Easting: 2,742,795.37 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	Latitude: 36.2633670
		Ground Level:	6,864.00 usft

Wellbore	Original Drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	12/20/2019	8.78	62.78	49,423.30000000

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	322.548

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
375.00	0.00	0.000	375.00	0.00	0.00	0.00	0.00	0.00	0.00	
958.23	11.66	15.978	954.21	56.88	16.29	2.00	2.00	0.00	15.98	
4,725.49	11.66	15.978	4,643.67	789.12	225.95	0.00	0.00	0.00	0.00	
5,655.58	89.62	316.616	5,206.00	1,314.42	-134.02	9.00	8.38	-6.38	-59.95	315H Heel
12,360.01	89.62	316.616	5,251.00	6,186.84	-4,739.11	0.00	0.00	0.00	0.00	315H Toe



Scientific Drilling, Intl
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 315H - Slot 3
Company:	DJR Operating	TVD Reference:	GL 6864' & RKb 14' @ 6878.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6864' & RKb 14' @ 6878.00usft (Aztec 920)
Site:	M35 2409	North Reference:	True
Well:	315H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00
375.00	0.00	0.000	375.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.50	15.978	400.00	0.10	0.03	0.06	2.00	2.00	0.00
500.00	2.50	15.978	499.96	2.62	0.75	1.62	2.00	2.00	0.00
600.00	4.50	15.978	599.77	8.49	2.43	5.26	2.00	2.00	0.00
700.00	6.50	15.978	699.30	17.70	5.07	10.97	2.00	2.00	0.00
800.00	8.50	15.978	798.44	30.25	8.66	18.75	2.00	2.00	0.00
900.00	10.50	15.978	897.06	46.12	13.21	28.58	2.00	2.00	0.00
958.23	11.66	15.978	954.21	56.88	16.29	35.25	2.00	2.00	0.00
1,000.00	11.66	15.978	995.11	65.00	18.61	40.28	0.00	0.00	0.00
1,100.00	11.66	15.978	1,093.05	84.43	24.18	52.33	0.00	0.00	0.00
1,200.00	11.66	15.978	1,190.98	103.87	29.74	64.37	0.00	0.00	0.00
1,300.00	11.66	15.978	1,288.92	123.31	35.31	76.42	0.00	0.00	0.00
1,400.00	11.66	15.978	1,386.85	142.74	40.87	88.47	0.00	0.00	0.00
1,500.00	11.66	15.978	1,484.79	162.18	46.44	100.51	0.00	0.00	0.00
1,600.00	11.66	15.978	1,582.72	181.62	52.00	112.56	0.00	0.00	0.00
1,700.00	11.66	15.978	1,680.66	201.06	57.57	124.60	0.00	0.00	0.00
1,800.00	11.66	15.978	1,778.59	220.49	63.14	136.65	0.00	0.00	0.00
1,900.00	11.66	15.978	1,876.53	239.93	68.70	148.69	0.00	0.00	0.00
2,000.00	11.66	15.978	1,974.46	259.37	74.27	160.74	0.00	0.00	0.00
2,100.00	11.66	15.978	2,072.40	278.80	79.83	172.79	0.00	0.00	0.00
2,200.00	11.66	15.978	2,170.33	298.24	85.40	184.83	0.00	0.00	0.00
2,300.00	11.66	15.978	2,268.26	317.68	90.96	196.88	0.00	0.00	0.00
2,400.00	11.66	15.978	2,366.20	337.12	96.53	208.92	0.00	0.00	0.00
2,500.00	11.66	15.978	2,464.13	356.55	102.09	220.97	0.00	0.00	0.00
2,599.99	11.66	15.978	2,562.07	375.99	107.66	233.02	0.00	0.00	0.00
2,699.99	11.66	15.978	2,660.00	395.43	113.22	245.06	0.00	0.00	0.00
2,799.99	11.66	15.978	2,757.94	414.86	118.79	257.11	0.00	0.00	0.00
2,899.99	11.66	15.978	2,855.87	434.30	124.36	269.15	0.00	0.00	0.00
2,999.99	11.66	15.978	2,953.81	453.74	129.92	281.20	0.00	0.00	0.00
3,099.99	11.66	15.978	3,051.74	473.17	135.49	293.25	0.00	0.00	0.00
3,199.99	11.66	15.978	3,149.68	492.61	141.05	305.29	0.00	0.00	0.00
3,299.99	11.66	15.978	3,247.61	512.05	146.62	317.34	0.00	0.00	0.00
3,399.99	11.66	15.978	3,345.55	531.49	152.18	329.38	0.00	0.00	0.00
3,499.99	11.66	15.978	3,443.48	550.92	157.75	341.43	0.00	0.00	0.00
3,599.99	11.66	15.978	3,541.41	570.36	163.31	353.48	0.00	0.00	0.00
3,699.99	11.66	15.978	3,639.35	589.80	168.88	365.52	0.00	0.00	0.00
3,799.99	11.66	15.978	3,737.28	609.23	174.45	377.57	0.00	0.00	0.00
3,899.99	11.66	15.978	3,835.22	628.67	180.01	389.61	0.00	0.00	0.00
3,999.99	11.66	15.978	3,933.15	648.11	185.58	401.66	0.00	0.00	0.00
4,099.99	11.66	15.978	4,031.09	667.55	191.14	413.71	0.00	0.00	0.00
4,199.99	11.66	15.978	4,129.02	686.98	196.71	425.75	0.00	0.00	0.00
4,299.99	11.66	15.978	4,226.96	706.42	202.27	437.80	0.00	0.00	0.00
4,399.99	11.66	15.978	4,324.89	725.86	207.84	449.84	0.00	0.00	0.00
4,499.99	11.66	15.978	4,422.83	745.29	213.40	461.89	0.00	0.00	0.00
4,599.99	11.66	15.978	4,520.76	764.73	218.97	473.94	0.00	0.00	0.00
4,699.99	11.66	15.978	4,618.70	784.17	224.54	485.98	0.00	0.00	0.00
4,725.49	11.66	15.978	4,643.67	789.12	225.95	489.05	0.00	0.00	0.00
4,799.99	16.09	354.591	4,716.02	806.66	227.06	502.31	9.00	5.94	-28.71



Scientific Drilling, Intl Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 315H - Slot 3
Company:	DJR Operating	TVD Reference:	GL 6864' & RKb 14' @ 6878.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6864' & RKb 14' @ 6878.00usft (Aztec 920)
Site:	M35 2409	North Reference:	True
Well:	315H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,899.99	23.74	340.387	4,810.03	839.49	218.98	533.28	9.00	7.65	-14.20
4,999.99	32.07	333.028	4,898.35	882.19	200.14	578.64	9.00	8.33	-7.36
5,099.99	40.66	328.489	4,978.81	933.74	171.01	637.27	9.00	8.59	-4.54
5,199.99	49.38	325.316	5,049.43	992.84	132.31	707.73	9.00	8.72	-3.17
5,299.99	58.17	322.883	5,108.48	1,058.06	84.98	788.28	9.00	8.78	-2.43
5,399.99	66.99	320.877	5,154.49	1,127.78	30.19	876.94	9.00	8.82	-2.01
5,499.99	75.83	319.119	5,186.34	1,200.29	-30.70	971.53	9.00	8.84	-1.76
5,599.99	84.69	317.494	5,203.24	1,273.79	-96.20	1,069.72	9.00	8.86	-1.63
5,655.58	89.62	316.616	5,206.00	1,314.42	-134.02	1,124.96	9.00	8.86	-1.58
5,699.99	89.62	316.616	5,206.30	1,346.70	-164.52	1,169.14	0.00	0.00	0.00
5,799.99	89.62	316.616	5,206.97	1,419.37	-233.21	1,268.60	0.00	0.00	0.00
5,899.99	89.62	316.616	5,207.64	1,492.04	-301.90	1,368.06	0.00	0.00	0.00
5,999.99	89.62	316.616	5,208.31	1,564.72	-370.58	1,467.52	0.00	0.00	0.00
6,099.99	89.62	316.616	5,208.98	1,637.39	-439.27	1,566.98	0.00	0.00	0.00
6,199.99	89.62	316.616	5,209.65	1,710.07	-507.96	1,666.45	0.00	0.00	0.00
6,299.99	89.62	316.616	5,210.33	1,782.74	-576.64	1,765.91	0.00	0.00	0.00
6,399.99	89.62	316.616	5,211.00	1,855.42	-645.33	1,865.37	0.00	0.00	0.00
6,499.99	89.62	316.616	5,211.67	1,928.09	-714.02	1,964.83	0.00	0.00	0.00
6,599.99	89.62	316.616	5,212.34	2,000.77	-782.71	2,064.29	0.00	0.00	0.00
6,699.99	89.62	316.616	5,213.01	2,073.44	-851.39	2,163.76	0.00	0.00	0.00
6,799.99	89.62	316.616	5,213.68	2,146.11	-920.08	2,263.22	0.00	0.00	0.00
6,899.99	89.62	316.616	5,214.35	2,218.79	-988.77	2,362.68	0.00	0.00	0.00
6,999.99	89.62	316.616	5,215.02	2,291.46	-1,057.46	2,462.14	0.00	0.00	0.00
7,099.99	89.62	316.616	5,215.69	2,364.14	-1,126.14	2,561.60	0.00	0.00	0.00
7,199.99	89.62	316.616	5,216.37	2,436.81	-1,194.83	2,661.07	0.00	0.00	0.00
7,299.99	89.62	316.616	5,217.04	2,509.49	-1,263.52	2,760.53	0.00	0.00	0.00
7,399.99	89.62	316.616	5,217.71	2,582.16	-1,332.20	2,859.99	0.00	0.00	0.00
7,499.99	89.62	316.616	5,218.38	2,654.84	-1,400.89	2,959.45	0.00	0.00	0.00
7,599.98	89.62	316.616	5,219.05	2,727.51	-1,469.58	3,058.91	0.00	0.00	0.00
7,699.98	89.62	316.616	5,219.72	2,800.18	-1,538.27	3,158.38	0.00	0.00	0.00
7,799.98	89.62	316.616	5,220.39	2,872.86	-1,606.95	3,257.84	0.00	0.00	0.00
7,899.98	89.62	316.616	5,221.06	2,945.53	-1,675.64	3,357.30	0.00	0.00	0.00
7,999.98	89.62	316.616	5,221.74	3,018.21	-1,744.33	3,456.76	0.00	0.00	0.00
8,099.98	89.62	316.616	5,222.41	3,090.88	-1,813.01	3,556.22	0.00	0.00	0.00
8,199.98	89.62	316.616	5,223.08	3,163.56	-1,881.70	3,655.69	0.00	0.00	0.00
8,299.98	89.62	316.616	5,223.75	3,236.23	-1,950.39	3,755.15	0.00	0.00	0.00
8,399.98	89.62	316.616	5,224.42	3,308.91	-2,019.08	3,854.61	0.00	0.00	0.00
8,499.98	89.62	316.616	5,225.09	3,381.58	-2,087.76	3,954.07	0.00	0.00	0.00
8,599.98	89.62	316.616	5,225.76	3,454.26	-2,156.45	4,053.53	0.00	0.00	0.00
8,699.98	89.62	316.616	5,226.43	3,526.93	-2,225.14	4,153.00	0.00	0.00	0.00
8,799.98	89.62	316.616	5,227.11	3,599.60	-2,293.82	4,252.46	0.00	0.00	0.00
8,899.98	89.62	316.616	5,227.78	3,672.28	-2,362.51	4,351.92	0.00	0.00	0.00
8,999.98	89.62	316.616	5,228.45	3,744.95	-2,431.20	4,451.38	0.00	0.00	0.00
9,099.98	89.62	316.616	5,229.12	3,817.63	-2,499.89	4,550.85	0.00	0.00	0.00
9,199.98	89.62	316.616	5,229.79	3,890.30	-2,568.57	4,650.31	0.00	0.00	0.00
9,299.98	89.62	316.616	5,230.46	3,962.98	-2,637.26	4,749.77	0.00	0.00	0.00
9,399.98	89.62	316.616	5,231.13	4,035.65	-2,705.95	4,849.23	0.00	0.00	0.00
9,499.98	89.62	316.616	5,231.80	4,108.33	-2,774.63	4,948.69	0.00	0.00	0.00
9,599.98	89.62	316.616	5,232.47	4,181.00	-2,843.32	5,048.16	0.00	0.00	0.00
9,699.98	89.62	316.616	5,233.15	4,253.67	-2,912.01	5,147.62	0.00	0.00	0.00
9,799.98	89.62	316.616	5,233.82	4,326.35	-2,980.70	5,247.08	0.00	0.00	0.00
9,899.98	89.62	316.616	5,234.49	4,399.02	-3,049.38	5,346.54	0.00	0.00	0.00



Scientific Drilling, Intl
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 315H - Slot 3
Company:	DJR Operating	TVD Reference:	GL 6864' & Rkb 14' @ 6878.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6864' & Rkb 14' @ 6878.00usft (Aztec 920)
Site:	M35 2409	North Reference:	True
Well:	315H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,999.98	89.62	316.616	5,235.16	4,471.70	-3,118.07	5,446.00	0.00	0.00	0.00
10,099.98	89.62	316.616	5,235.83	4,544.37	-3,186.76	5,545.47	0.00	0.00	0.00
10,199.98	89.62	316.616	5,236.50	4,617.05	-3,255.45	5,644.93	0.00	0.00	0.00
10,299.98	89.62	316.616	5,237.17	4,689.72	-3,324.13	5,744.39	0.00	0.00	0.00
10,399.98	89.62	316.616	5,237.84	4,762.40	-3,392.82	5,843.85	0.00	0.00	0.00
10,499.98	89.62	316.616	5,238.52	4,835.07	-3,461.51	5,943.31	0.00	0.00	0.00
10,599.98	89.62	316.616	5,239.19	4,907.74	-3,530.19	6,042.78	0.00	0.00	0.00
10,699.98	89.62	316.616	5,239.86	4,980.42	-3,598.88	6,142.24	0.00	0.00	0.00
10,799.98	89.62	316.616	5,240.53	5,053.09	-3,667.57	6,241.70	0.00	0.00	0.00
10,899.98	89.62	316.616	5,241.20	5,125.77	-3,736.26	6,341.16	0.00	0.00	0.00
10,999.98	89.62	316.616	5,241.87	5,198.44	-3,804.94	6,440.62	0.00	0.00	0.00
11,099.98	89.62	316.616	5,242.54	5,271.12	-3,873.63	6,540.09	0.00	0.00	0.00
11,199.98	89.62	316.616	5,243.21	5,343.79	-3,942.32	6,639.55	0.00	0.00	0.00
11,299.98	89.62	316.616	5,243.89	5,416.47	-4,011.00	6,739.01	0.00	0.00	0.00
11,399.98	89.62	316.616	5,244.56	5,489.14	-4,079.69	6,838.47	0.00	0.00	0.00
11,499.98	89.62	316.616	5,245.23	5,561.81	-4,148.38	6,937.93	0.00	0.00	0.00
11,599.98	89.62	316.616	5,245.90	5,634.49	-4,217.07	7,037.40	0.00	0.00	0.00
11,699.98	89.62	316.616	5,246.57	5,707.16	-4,285.75	7,136.86	0.00	0.00	0.00
11,799.98	89.62	316.616	5,247.24	5,779.84	-4,354.44	7,236.32	0.00	0.00	0.00
11,899.98	89.62	316.616	5,247.91	5,852.51	-4,423.13	7,335.78	0.00	0.00	0.00
11,999.98	89.62	316.616	5,248.58	5,925.19	-4,491.81	7,435.24	0.00	0.00	0.00
12,099.98	89.62	316.616	5,249.25	5,997.86	-4,560.50	7,534.71	0.00	0.00	0.00
12,199.98	89.62	316.616	5,249.93	6,070.54	-4,629.19	7,634.17	0.00	0.00	0.00
12,299.98	89.62	316.616	5,250.60	6,143.21	-4,697.88	7,733.63	0.00	0.00	0.00
12,360.01	89.62	316.616	5,251.00	6,186.84	-4,739.11	7,793.34	0.00	0.00	0.00

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
315H Heel - plan hits target center - Circle (radius 50.00)	0.00	0.000	5,206.00	1,314.42	-134.02	1,916,485.54	2,742,660.45	36.2669778	-107.7669506
315H Toe - plan hits target center - Circle (radius 100.00)	0.00	0.000	5,251.00	6,186.84	-4,739.11	1,921,354.78	2,738,051.99	36.2803616	-107.7825751

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
5,603.49	5,203.55	Intermediate Casing	7.00	8.75



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Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 315H - Slot 3
Company:	DJR Operating	TVD Reference:	GL 6864' & RKb 14' @ 6878.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6864' & RKb 14' @ 6878.00usft (Aztec 920)
Site:	M35 2409	North Reference:	True
Well:	315H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
727.89	727.00	Ojo Alamo		0.00	0.000	
882.65	880.00	Kirtland		0.00	0.000	
1,157.13	1,149.00	Fruitland		0.00	0.000	
1,514.51	1,499.00	Pictured Cliffs		0.00	0.000	
1,624.79	1,607.00	Lewis		0.00	0.000	
2,316.06	2,284.00	Chacra		0.00	0.000	
3,061.46	3,014.00	Menefee		0.00	0.000	
4,018.22	3,951.00	Point Lookout		0.00	0.000	
4,186.69	4,116.00	Mancos		0.00	0.000	
4,522.63	4,445.00	Mancos Silt		0.00	0.000	
5,056.61	4,945.00	Gallup A		0.00	0.000	
5,109.53	4,986.00	Gallup B		0.00	0.000	
5,289.73	5,103.00	Gallup C		0.00	0.000	



DJR Operating

**Nageezi Unit
M35 2409
315H**

**Original Drilling
APD**

Anticollision Report

08 January, 2020



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Scientific Drilling, Intl

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 315H - Slot 3
Project:	Nageezi Unit	TVD Reference:	GL 6864' & RKb 14' @ 6878.00usft (Aztec 920)
Reference Site:	M35 2409	MD Reference:	GL 6864' & RKb 14' @ 6878.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	315H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

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

Survey Tool Program		Date	1/8/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	12,360.01	APD (Original Drilling)	MWD+IGRF	OWSG MWD + IGRF or WMM	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
M35 2409						
314H - Original Drilling - APD	398.29	397.97	39.60	37.15	16.191	CC
314H - Original Drilling - APD	700.00	695.52	41.06	36.47	8.941	ES
314H - Original Drilling - APD	4,900.00	5,075.83	223.30	182.54	5.478	SF
316H - Original Drilling - APD	927.09	924.11	16.44	10.14	2.610	CC
316H - Original Drilling - APD	1,000.00	996.67	16.45	9.57	2.391	ES, SF
318H - Original Drilling - APD	300.00	300.00	20.13	18.38	11.553	CC
318H - Original Drilling - APD	400.00	400.00	20.23	17.77	8.226	ES
318H - Original Drilling - APD	500.00	500.07	22.38	19.21	7.061	SF
319H - Original Drilling - APD	300.00	300.00	40.25	38.51	23.106	CC
319H - Original Drilling - APD	400.00	399.66	40.46	38.01	16.489	ES
319H - Original Drilling - APD	11,000.00	11,591.23	1,324.10	1,012.09	4.244	SF

Offset Design	M35 2409 - 314H - Original Drilling - APD											Offset Site Error:	0.00 usft
Survey Program:	0-MWD+IGRF											Offset Well Error:	0.00 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-5.95	39.68	-4.13	39.90				
100.00	100.00	100.00	100.00	0.15	0.15	-5.95	39.68	-4.13	39.90	39.59	0.31	129.417	
200.00	200.00	200.00	200.00	0.51	0.51	-5.95	39.68	-4.13	39.90	38.87	1.03	38.918	
300.00	300.00	300.00	300.00	0.87	0.87	-5.95	39.68	-4.13	39.90	38.16	1.74	22.901	
398.29	398.29	397.97	397.97	1.22	1.22	-22.13	39.77	-4.13	39.60	37.15	2.45	16.191	CC
400.00	400.00	399.66	399.66	1.23	1.23	-21.96	39.79	-4.13	39.90	37.45	2.46	16.235	
500.00	499.98	498.29	498.28	1.59	1.58	-22.86	42.33	-4.06	40.04	36.87	3.17	12.632	
600.00	599.77	596.92	596.70	1.95	1.94	-24.92	48.27	-3.89	40.40	36.52	3.88	10.410	
700.00	699.30	695.52	694.85	2.32	2.31	-28.09	57.59	-3.62	41.08	36.47	4.59	8.941	ES
800.00	798.44	794.09	792.60	2.72	2.69	-32.21	70.27	-3.25	42.16	36.85	5.31	7.935	
900.00	897.07	892.62	889.81	3.13	3.10	-37.09	86.30	-2.79	43.85	37.80	6.06	7.238	
1,000.00	995.12	991.11	986.37	3.58	3.55	-42.22	105.65	-2.24	48.52	39.67	6.85	6.795	
1,100.00	1,093.05	1,089.46	1,082.08	4.05	4.03	-45.22	128.28	-1.59	52.02	44.36	7.87	6.786	
1,200.00	1,190.99	1,187.46	1,176.62	4.53	4.55	-45.87	154.07	-0.85	60.52	52.03	8.49	7.128	
1,300.00	1,288.92	1,284.89	1,268.67	5.02	5.11	-44.93	182.91	-0.02	71.91	62.60	9.30	7.728	

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



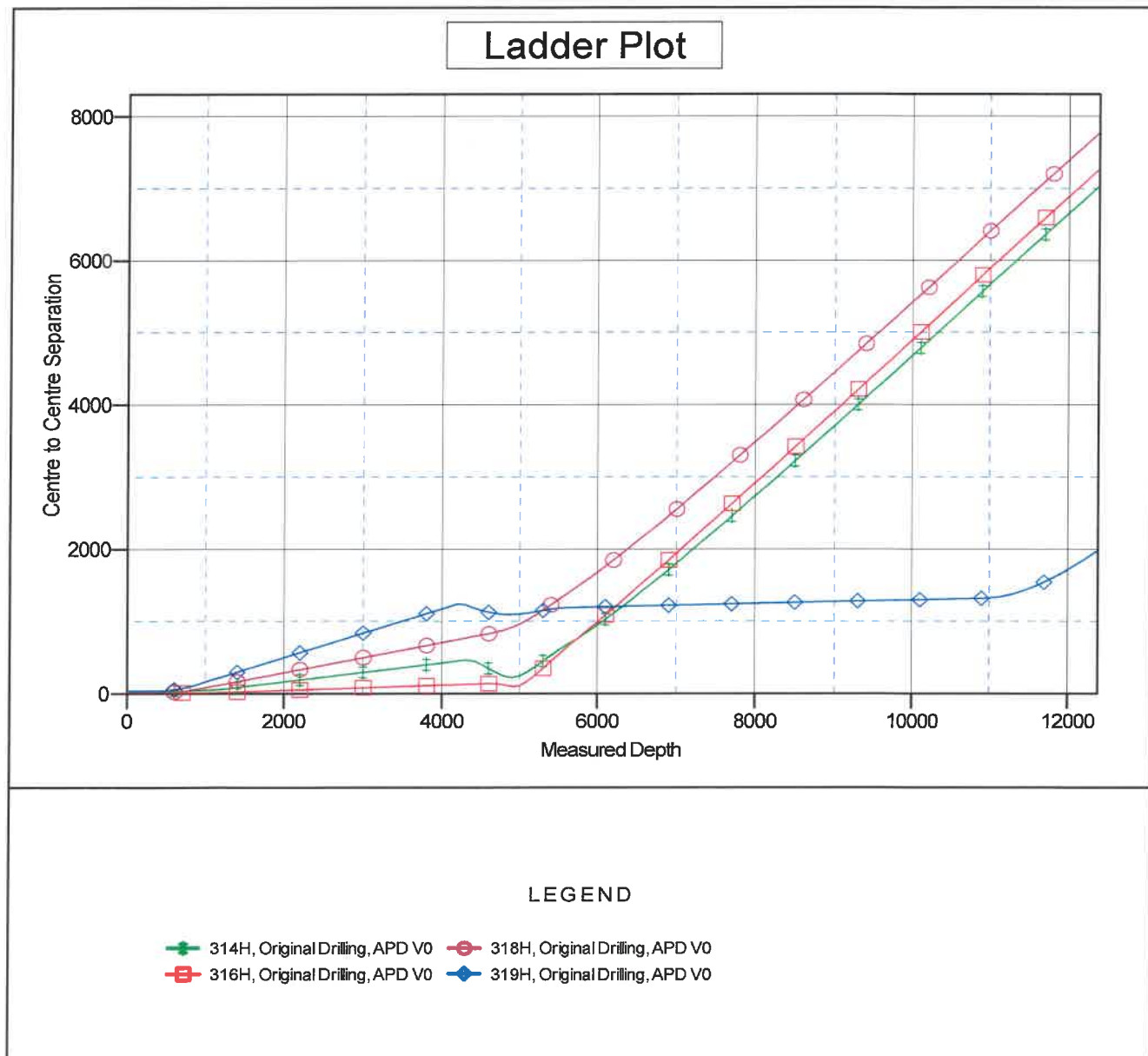
Scientific Drilling, Intl
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 315H - Slot 3
Project:	Nageezi Unit	TVD Reference:	GL 6864' & RKb 14' @ 6878.00usft (Aztec 920)
Reference Site:	M35 2409	MD Reference:	GL 6864' & RKb 14' @ 6878.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	315H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

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

Coordinates are relative to: 315H - Slot 3
Coordinate System is US State Plane 1983, New Mexico Western Zone
Grid Convergence at Surface is: 0.04°



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

1/6/2020 9:05:07AM

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COMPASS 5000.15 Build 91D



Scientific Drilling, Intl

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 315H - Slot 3
Project:	Nageezi Unit	TVD Reference:	GL 6864' & RKb 14' @ 6878.00usft (Aztec 920)
Reference Site:	M35 2409	MD Reference:	GL 6864' & RKb 14' @ 6878.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	315H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 6864' & RKb 14' @ 6878.00usft (A)

Offset Depths are relative to Offset Datum

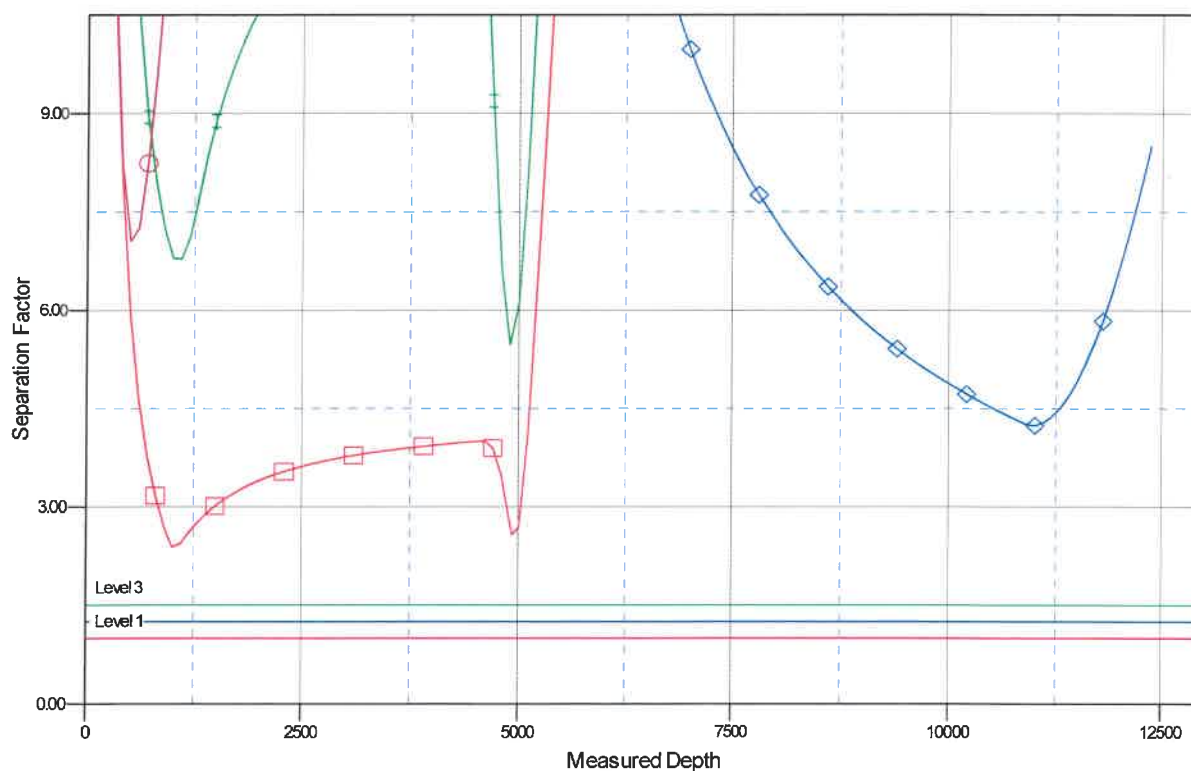
Central Meridian is -107.8333334

Coordinates are relative to: 315H - Slot 3

Coordinate System is US State Plane 1983, New Mexico Western Zone

Grid Convergence at Surface is: 0.04°

Separation Factor Plot



LEGEND

- 314H, Original Drilling, APD V0
- 316H, Original Drilling, APD V0
- 318H, Original Drilling, APD V0
- 319H, Original Drilling, APD V0

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

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

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

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 2/4/2020

☒ Original

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

☐ Amended - Reason for Amendment: _____

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

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

Well(s)/Production Facility – Name of facility

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

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

Gathering System and Pipeline Notification

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

Flowback Strategy

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

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

Alternatives to Reduce Flaring

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

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

District I

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

District II

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

District III

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

District IV

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

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

COMMENTS

Action 19285

COMMENTS

Operator:				OGRID:		Action Number:		Action Type:	
	DJR OPERATING, LLC	1 Road 3263	Aztec, NM87410		371838		19285		FORM 3160-3

Created By	Comment	Comment Date
ahvermersch	Additional COA's added to Cover letter of APD.	03/01/2021

District I
1625 N. French Dr., Hobbs, NM 88240
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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 19285

CONDITIONS OF APPROVAL

Operator:	DJR OPERATING, LLC	1 Road 3263	Aztec, NM87410	OGRID:	371838	Action Number:	19285	Action Type:	FORM 3160-3
OCD Reviewer	Condition								
ahvermersch	Notify OCD 24 hours prior to casing & cement								