

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 309H

API#: 30-045-38207 , **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, 2018UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMNM012374
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☒ Multiple Zone		7. If Unit or CA Agreement, Name and No. NMNM 132981A
2. Name of Operator DJR OPERATING LLC		8. Lease Name and Well No. NAGEEZI UNIT 309H
3a. Address 1700 LINCOLN STREET, SUITE 2800, DENVER, CO 802	3b. Phone No. (include area code) (505) 632-3476	9. API Well No. 30-045-38207
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWNE / 2363 FNL / 2321 FEL / LAT 36.271333 / LONG -107.757943 At proposed prod. zone SESE / 559 FSL / 673 FEL / LAT 36.250529 / LONG -107.734461		10. Field and Pool, or Exploratory BASIN MANCOS Nageezi Unit Mancos
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) 2321 feet	16. No of acres in lease 2240	17. Spacing Unit dedicated to this well 642.95
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 20 feet	19. Proposed Depth 5280 feet / 15102 feet	20. BLM/BIA Bond No. in file FED: NMB001464
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. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be requested by the BLM. |

25. Signature (Electronic Submission)	Name (Printed/Typed) SHAW N / Ph: (505) 632-3476	Date 04/15/2020
Title Regulatory Specialist		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) RICHARD FIELDS / Ph: (505) 564-7612	Date 11/19/2020
Title Field Manager		
Office Farmington Field Office		

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

Conditions of approval, if any, are attached.

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



(Continued on page 2)

*(Instructions on page 2)

AV

DISTRICT I1626 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 383-6161 Fax: (575) 383-0720**DISTRICT II**611 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-0720**DISTRICT III**1000 Rio Hondo Rd., Aztec, N.M. 87410
Phone: (505) 934-6178 Fax: (505) 934-6170**DISTRICT IV**1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 478-9480 Fax: (505) 478-9482State of New Mexico
Energy, Minerals & Natural Resources DepartmentForm C-102
Revised August 1, 2011OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505Submit one copy to appropriate
District Office☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-38207	² Pool Code 98080	³ Pool Name NAGEEZI UNIT MANCOS OIL POOL
⁴ Property Code 325268	⁵ Property Name NAGEEZI UNIT	⁶ Well Number 309H
⁷ OGRID 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		2363'	NORTH	2321'	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
P	1	23N	9W		559'	SOUTH	673'	EAST	SAN JUAN

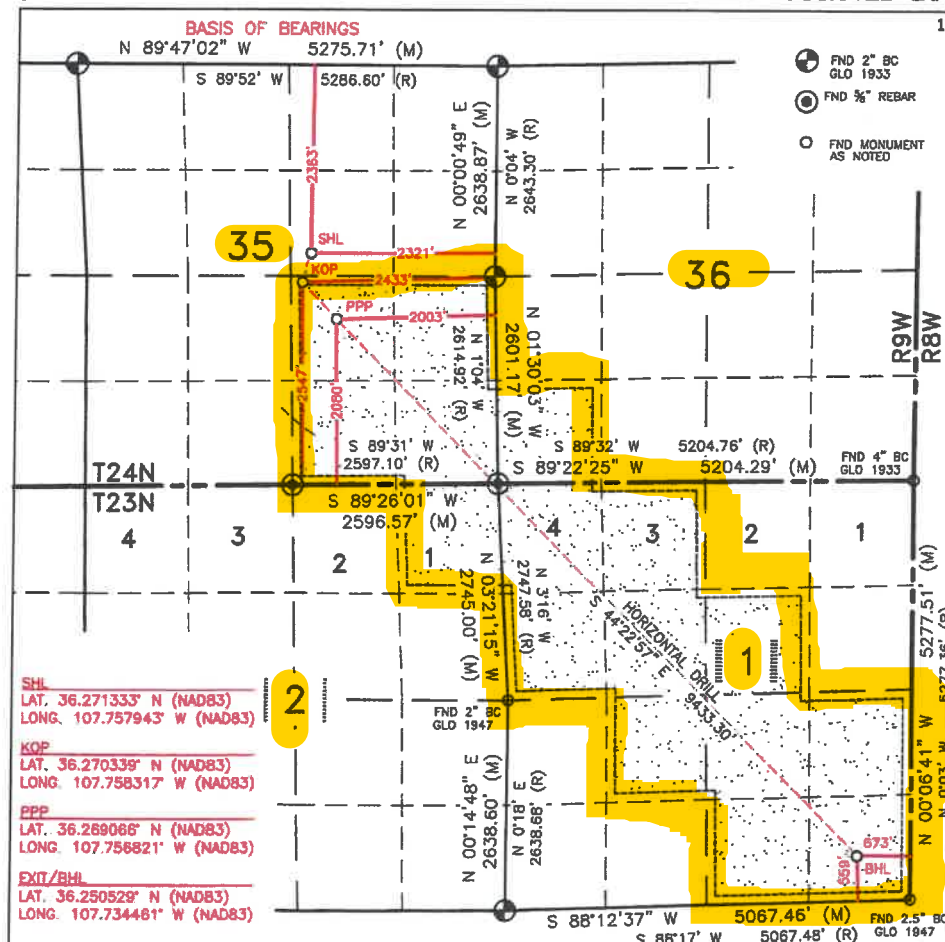
¹² Dedicated Acres **PENETRATED SPACING UNIT;**
SEC 35: SE/4 (180 AC.); SEC 36: SW/4 (40 AC.); SEC 2: NE/NE (41.15 AC.); SEC 1: NW/4, SW/NE, NE/SW & SE/4 (401.80 AC.) = 642.95 ACRES

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

16



DISTRICT I

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

DISTRICT II

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

DISTRICT III

1000 Rio Brazos Rd., Artesia, N.M. 87410
Phone: (505) 834-8178 Fax: (505) 834-8170

DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3480 Fax: (505) 476-3482

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

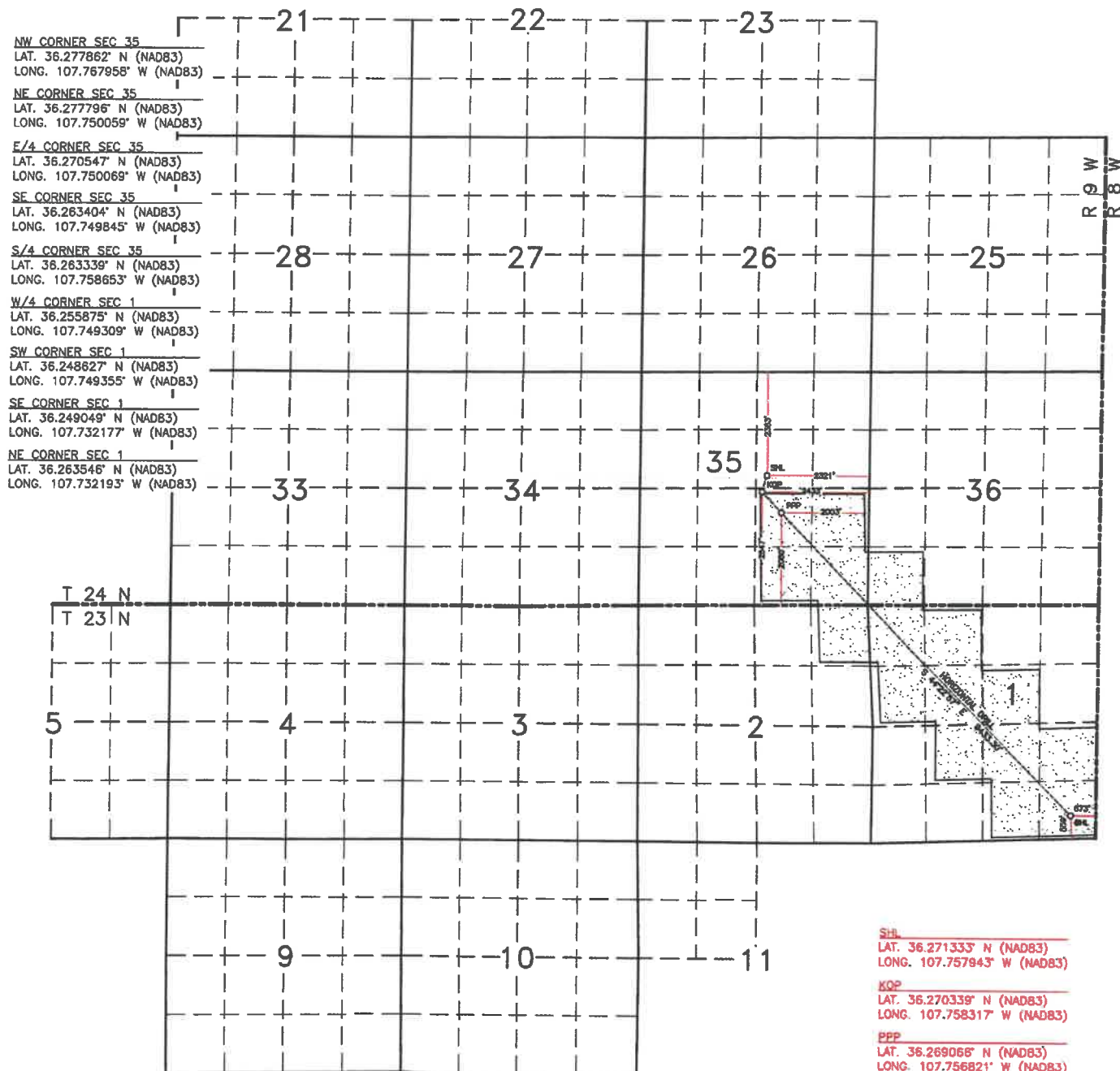
OIL CONSERVATION DIVISION

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

Submit one copy to appropriate
District Office

☐ AMENDED REPORT

DJR OPERATING, LLC
NAGEEZI UNIT #309H



PENETRATED SPACING UNIT:
SEC 35: SE/4 (160 AC.); SEC 36: SW/SW (40 AC.);
SEC 2: NE/NE (41.15 AC.); SEC 1: NW/4, SW/NE,
NE/SW & SE/4 (401.80 AC.) = 642.95 ACRES
TOTAL 10,415.12 ACRES: T24N R9W, SEC. 21-23 (5/2), 25-28, 33-36, 1-4,
9-10 (ALL); T23N R9W, SEC. 5 (W/2), 11 (NW/4) - UNDIVIDED UNIT

Rev 0



DRILLING PLAN Nageezi Unit 309H San Juan County, New Mexico

Surface Location

2321-ft FEL & 2363-ft FNL
Sec 35 T24N R09W
Graded Elevation 6899' MSL
RKB Elevation 6913' (14' KB)

SHL Geographical Coordinates (NAD-83)

Latitude 36.2713330° N
Longitude 107.7579430° W

Kick Off Point for Horizontal Build Curve

4690-ft MD
4673-ft TVD

Local Coordinates (from SHL)

362-ft South
110-ft West

Heel Location (Pay zone entry)

2003-ft FEL & 2080-ft FSL
Sec 35 T24N R09W

Heel Geographical Coordinates (NAD-83)

Latitude 36.2690656° N
Longitude 107.75682100° W

Bottom Hole Location (TD)

673-ft FEL & 559-ft FSL
Sec 1 T23N R09W

BHL Geographical Coordinates (NAD-83)

Latitude 36.2505288° N
Longitude 107.7344613° W

Well objectives

This well is planned as a 9430-ft lateral in the Gallup C R3 sand.

Bottom Hole temperature and pressure

The temperature in the Gallup C R3 horizontal objective is 140°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	821	820	Sd	W	8.3	8.4 – 8.8
Kirtland	905	904	Sh	-	8.3	8.4 – 8.8
Fruitland	1219	1216	C	G	8.3	9.0 - 9.5
Pictured Cliffs	1562	1558	Sd	W	8.3	9.0 - 9.5
Lewis	1658	1653	Sh	-		9.0 - 9.5
Chacra	2349	2342	Sd	-	8.3	9.0 - 9.5
Menefee	3064	3054	Sd, C	G	8.3	9.0 - 9.5
Point Lookout	4042	4028	Sd	-	8.3	9.0 - 9.5
Mancos	4211	4196	Sh	-		9.0 - 9.5
Mancos Silt	4536	4520	Slt	O/G	6.6	9.0 - 9.5
Gallup A	5062	5018	Slt	O/G	6.6	9.0 - 9.5
Gallup B	5115	5060	Sd	O/G	6.6	8.8 -9.0
Gallup C	5298	5179	Sd	O/G	6.6	8.8 -9.0
Target	5669	5280	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	5607	surf	5278	surface
4-1/2"	6-1/8"	11.6	P-110	BTC	5328	15102	5194	5188	5328

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
	BJ Services	BJ Services
Type	III	Poz/G
Planned top	Surface	4190-ft
Density (ppg)	12.30	13.50
Yield (cf/sx)	2.34	1.50
Mix water (gal/sx)	13.26	7.20
Volume (sx)	420	234
Volume (bbls)	175	62
Volume (cu.ft.)	982	350
Excess %	50	50

Rev 0

4-1/2" Production Liner

	BJ Services
Type	Poz/G
Planned top	5328-ft
Density (ppg)	13.3
Yield (cf/sx)	1.56
Mix water (gal/sx)	7.71
Volume (sx)	822
Volume (bbls)	229
Volume (cu.ft)	1285
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 – 5607	9.0 – 9.5	38 – 45	8 – 14	<20
Production	Low solids, non-dispersed	5607 – 15102	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.

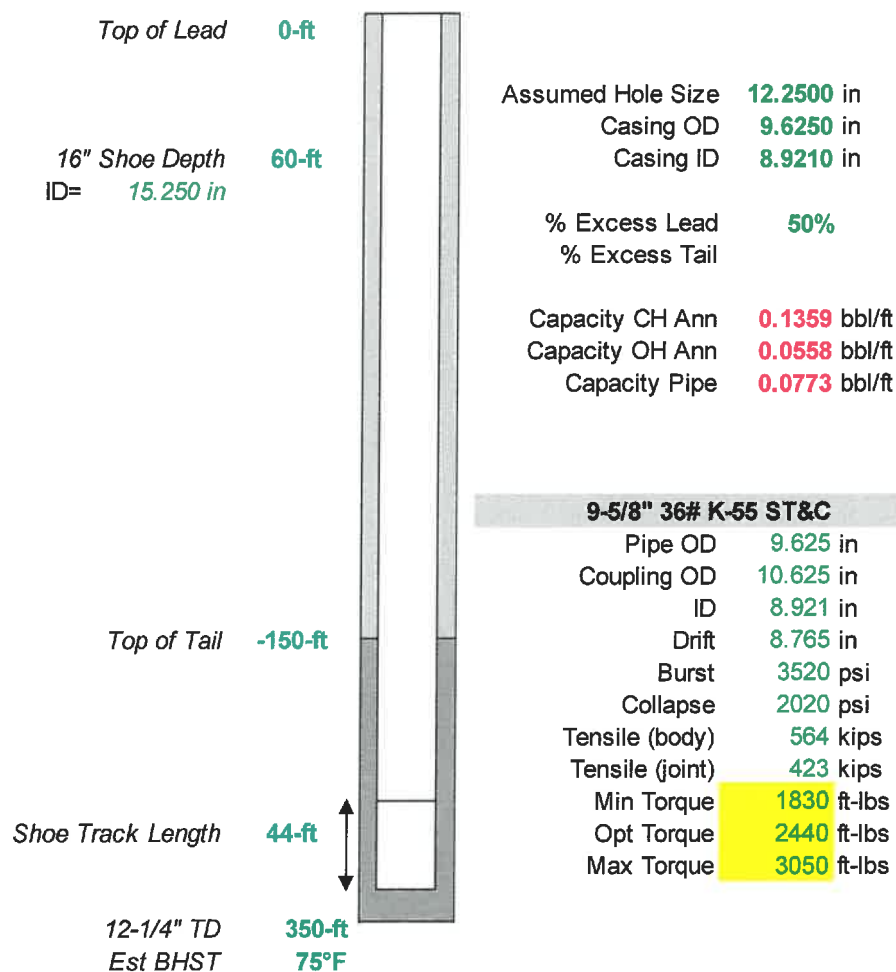
Completion

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

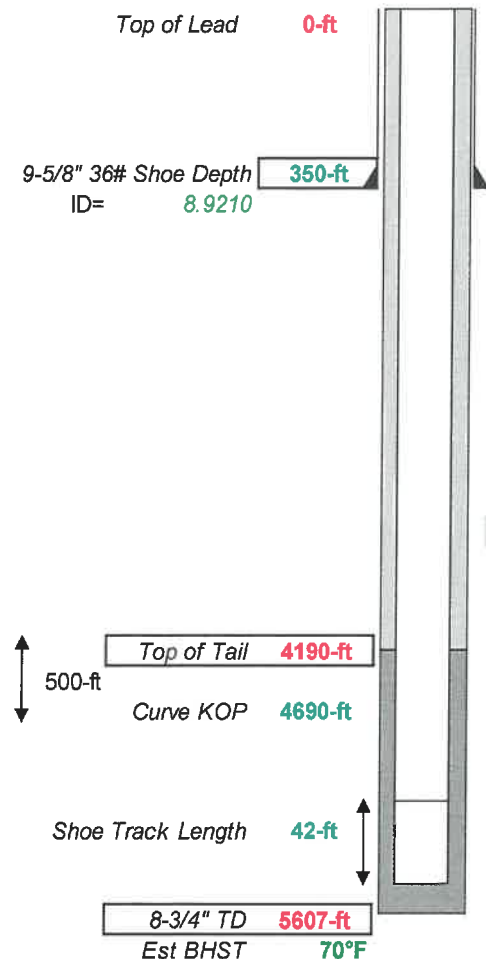
Volumes

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 309H



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

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

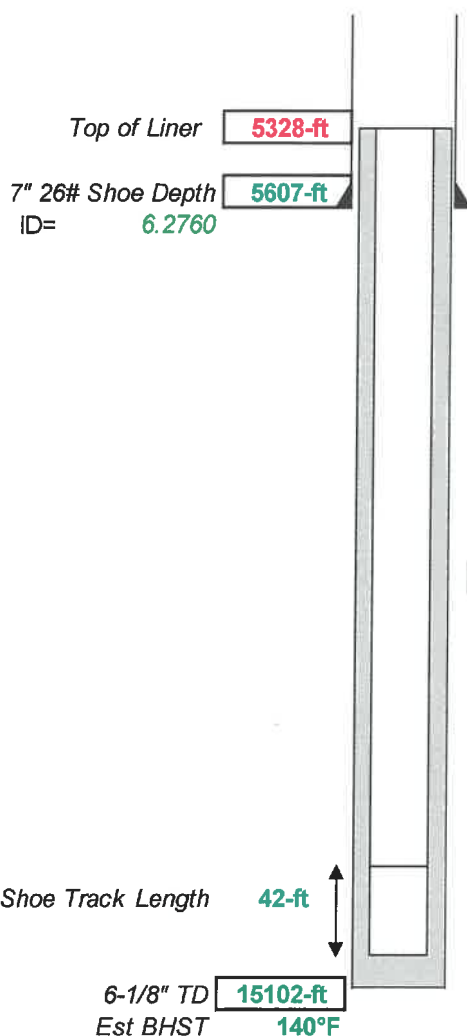
Volumes

Lead Volume	175 bbls	420 sx
Tail Volume	62 bbls	234 sx
Approx Displacement	213 bbls	
Total Volume	450 bbls	

Rev 0



4-1/2" Liner Cementing Nageezi Unit 309H

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

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

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

BJ Lead Slurry

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

Properties

Density **13.30** ppgYield **1.5629** cf/skTotal Mix Fluid **7.70** gal/skThickening Time **6:04** hr:minTime to 50 psi (147°F) **7:15** hr:min24-hr UCA (147°F) **1293** psi

Volumes

Lead Volume **229** bbls **822** sxApprox Displacement **163** bblsTotal Volume **392** bbls

Company: DJR Operating
Project: Nageezi Unit
Site: G35 2409
Well: 309H
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: 309H

GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
+N/S +E/W Northing Easting Longitude
0.00 0.00 1918102.75 2745341.05 -107.7578530 3

Plan: APD (309H/Original Drilling)

Created By: Jamie Collins Date: 8:52, January 09 2020

DESIGN TARGET DETAILS

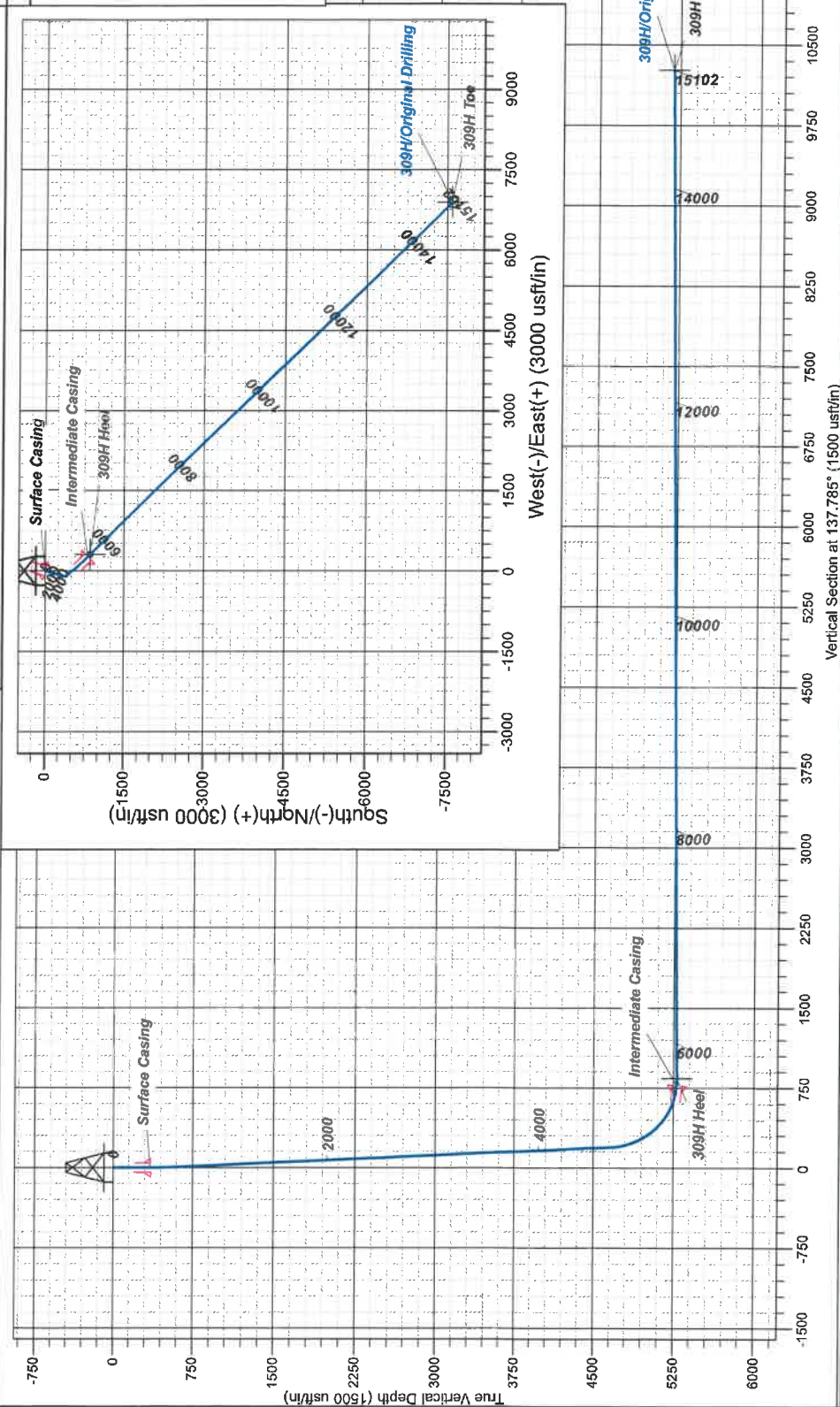
Name	TVD	+N/S	+E/W	Northing	Easting	Latitude	Longitude
309H Heel	5200.00	855.24	304.21	1917247.75	2745645.92	36.2690656	-107.7563210
309H Toe	5188.00	-7602.25	6897.02	1910565.88	2752243.98	36.2505288	-107.7344673

SECTION DETAILS

	MD	Inc	Azi	TVD	+N/S	+E/W	Dleg	TFace	VSecl	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	
	633.82	5.18	196.874	633.82	0.00	-3.40	2.00	198.87	6.02	
	4690.00	5.77	196.874	4690.00	-11.21	-3.40	2.00	198.87	6.02	
	5668.48	90.56	135.662	5280.00	-855.24	304.21	0.00	0.00	184.25	309H Heel
	15102.24	90.56	135.662	5188.00	-7602.25	6897.02	0.00	0.00	10264.65	309H Toe

CASING DETAILS

TVD	MD	Name
350.00	350.00	Surface Casing
5277.75	608.21	Intermediate Casing



FORMATION DETAILS

MDPath	Formation
820.00	Ojo Alamo
904.00	Kirtland
1216.74	Fruitland
1558.00	Pictured Cliffs
1653.00	Lewis
2342.00	Chacra
3054.00	Menefee
4028.00	Point Lookout
4196.00	Mancos
4538.31	Mancos Silt
5018.00	Gallup A
5061.72	Gallup B
5060.00	Gallup C
5179.01	
5298.10	



DJR Operating

Nageezi Unit

G35 2409

309H - Slot 3

Original Drilling

Plan: APD

Standard Planning Report

09 January, 2020



www.scientificdrilling.com



Scientific Drilling, Intl
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 309H - Slot 3
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:	309H	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	309H - Slot 3			
Well Position	+N/-S	29.85 usft	Northing:	1,918,102.75 usft
	+E/-W	26.53 usft	Easting:	2,745,341.05 usft
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	49,429.60000000

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	137.785

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	
634.17	5.18	196.874	633.82	-11.21	-3.40	2.00	2.00	0.00	196.87	
4,690.00	5.18	196.874	4,673.06	-361.86	-109.76	0.00	0.00	0.00	0.00	
5,668.48	90.56	135.662	5,280.00	-855.24	304.21	9.00	8.73	-6.26	-61.27	309H Heel
15,102.24	90.56	135.662	5,188.00	-7,602.25	6,897.02	0.00	0.00	0.00	0.00	309H Toe



Scientific Drilling, Intl
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 309H - Slot 3
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:	309H	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	196.874	400.00	-0.10	-0.03	0.06	2.00	2.00	0.00
500.00	2.50	196.874	499.96	-2.61	-0.79	1.40	2.00	2.00	0.00
600.00	4.50	196.874	599.77	-8.45	-2.56	4.54	2.00	2.00	0.00
634.17	5.18	196.874	633.82	-11.21	-3.40	6.02	2.00	2.00	0.00
700.00	5.18	196.874	699.38	-16.90	-5.13	9.07	0.00	0.00	0.00
800.00	5.18	196.874	798.97	-25.55	-7.75	13.71	0.00	0.00	0.00
900.00	5.18	196.874	898.56	-34.19	-10.37	18.36	0.00	0.00	0.00
1,000.00	5.18	196.874	998.15	-42.84	-12.99	23.00	0.00	0.00	0.00
1,100.00	5.18	196.874	1,097.74	-51.48	-15.62	27.64	0.00	0.00	0.00
1,200.00	5.18	196.874	1,197.33	-60.13	-18.24	32.28	0.00	0.00	0.00
1,300.00	5.18	196.874	1,296.92	-68.78	-20.86	36.92	0.00	0.00	0.00
1,400.00	5.18	196.874	1,396.51	-77.42	-23.48	41.56	0.00	0.00	0.00
1,500.00	5.18	196.874	1,496.10	-86.07	-26.11	46.20	0.00	0.00	0.00
1,600.00	5.18	196.874	1,595.69	-94.71	-28.73	50.84	0.00	0.00	0.00
1,700.00	5.18	196.874	1,695.28	-103.36	-31.35	55.48	0.00	0.00	0.00
1,800.00	5.18	196.874	1,794.88	-112.00	-33.97	60.12	0.00	0.00	0.00
1,900.00	5.18	196.874	1,894.47	-120.65	-36.60	64.77	0.00	0.00	0.00
2,000.00	5.18	196.874	1,994.06	-129.29	-39.22	69.41	0.00	0.00	0.00
2,100.00	5.18	196.874	2,093.65	-137.94	-41.84	74.05	0.00	0.00	0.00
2,200.00	5.18	196.874	2,193.24	-146.58	-44.46	78.69	0.00	0.00	0.00
2,300.00	5.18	196.874	2,292.83	-155.23	-47.09	83.33	0.00	0.00	0.00
2,400.00	5.18	196.874	2,392.42	-163.88	-49.71	87.97	0.00	0.00	0.00
2,500.00	5.18	196.874	2,492.01	-172.52	-52.33	92.61	0.00	0.00	0.00
2,599.99	5.18	196.874	2,591.60	-181.17	-54.95	97.25	0.00	0.00	0.00
2,699.99	5.18	196.874	2,691.19	-189.81	-57.58	101.89	0.00	0.00	0.00
2,799.99	5.18	196.874	2,790.78	-198.46	-60.20	106.53	0.00	0.00	0.00
2,899.99	5.18	196.874	2,890.37	-207.10	-62.82	111.17	0.00	0.00	0.00
2,999.99	5.18	196.874	2,989.97	-215.75	-65.44	115.82	0.00	0.00	0.00
3,099.99	5.18	196.874	3,089.56	-224.39	-68.07	120.46	0.00	0.00	0.00
3,199.99	5.18	196.874	3,189.15	-233.04	-70.69	125.10	0.00	0.00	0.00
3,299.99	5.18	196.874	3,288.74	-241.68	-73.31	129.74	0.00	0.00	0.00
3,399.99	5.18	196.874	3,388.33	-250.33	-75.93	134.38	0.00	0.00	0.00
3,499.99	5.18	196.874	3,487.92	-258.98	-78.56	139.02	0.00	0.00	0.00
3,599.99	5.18	196.874	3,587.51	-267.62	-81.18	143.66	0.00	0.00	0.00
3,699.99	5.18	196.874	3,687.10	-276.27	-83.80	148.30	0.00	0.00	0.00
3,799.99	5.18	196.874	3,786.69	-284.91	-86.42	152.94	0.00	0.00	0.00
3,899.99	5.18	196.874	3,886.28	-293.56	-89.05	157.58	0.00	0.00	0.00
3,999.99	5.18	196.874	3,985.87	-302.20	-91.67	162.23	0.00	0.00	0.00
4,099.99	5.18	196.874	4,085.47	-310.85	-94.29	166.87	0.00	0.00	0.00
4,199.99	5.18	196.874	4,185.06	-319.49	-96.91	171.51	0.00	0.00	0.00
4,299.99	5.18	196.874	4,284.65	-328.14	-99.53	176.15	0.00	0.00	0.00
4,399.99	5.18	196.874	4,384.24	-336.79	-102.16	180.79	0.00	0.00	0.00
4,499.99	5.18	196.874	4,483.83	-345.43	-104.78	185.43	0.00	0.00	0.00
4,599.99	5.18	196.874	4,583.42	-354.08	-107.40	190.07	0.00	0.00	0.00
4,690.00	5.18	196.874	4,673.06	-361.86	-109.76	194.25	0.00	0.00	0.00
4,699.99	5.67	188.870	4,683.01	-362.78	-109.97	194.79	9.00	4.88	-80.13
4,799.99	13.19	155.527	4,781.65	-378.07	-106.00	208.79	9.00	7.52	-33.34



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Project:	Nageezi Unit	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site:	G35 2409	North Reference:	True
Well:	309H	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	21.85	147.137	4,876.93	-404.14	-91.14	238.08	9.00	8.66	-8.39
4,999.99	30.70	143.398	4,966.51	-440.34	-65.77	281.94	9.00	8.85	-3.74
5,099.99	39.61	141.216	5,048.19	-485.78	-30.51	339.29	9.00	8.91	-2.18
5,199.99	48.56	139.730	5,119.95	-539.34	13.78	408.71	9.00	8.94	-1.49
5,299.99	57.51	138.607	5,180.02	-599.70	66.00	488.50	9.00	8.96	-1.12
5,399.99	66.47	137.689	5,226.94	-665.38	124.87	576.70	9.00	8.96	-0.92
5,499.99	75.44	136.889	5,259.53	-734.76	188.94	671.13	9.00	8.97	-0.80
5,599.99	84.41	136.152	5,277.00	-806.12	256.62	769.46	9.00	8.97	-0.74
5,668.48	90.56	135.662	5,280.00	-855.24	304.21	837.82	9.00	8.97	-0.72
5,699.99	90.56	135.662	5,279.69	-877.77	326.23	869.30	0.00	0.00	0.00
5,799.99	90.56	135.662	5,278.72	-949.29	396.12	969.23	0.00	0.00	0.00
5,899.99	90.56	135.662	5,277.74	-1,020.81	466.00	1,069.15	0.00	0.00	0.00
5,999.99	90.56	135.662	5,276.77	-1,092.33	535.89	1,169.08	0.00	0.00	0.00
6,099.99	90.56	135.662	5,275.79	-1,163.85	605.77	1,269.01	0.00	0.00	0.00
6,199.99	90.56	135.662	5,274.82	-1,235.37	675.66	1,368.93	0.00	0.00	0.00
6,299.99	90.56	135.662	5,273.84	-1,306.89	745.54	1,468.86	0.00	0.00	0.00
6,399.99	90.56	135.662	5,272.87	-1,378.41	815.43	1,568.79	0.00	0.00	0.00
6,499.99	90.56	135.662	5,271.89	-1,449.93	885.31	1,668.71	0.00	0.00	0.00
6,599.99	90.56	135.662	5,270.92	-1,521.45	955.20	1,768.64	0.00	0.00	0.00
6,699.99	90.56	135.662	5,269.94	-1,592.97	1,025.08	1,868.57	0.00	0.00	0.00
6,799.99	90.56	135.662	5,268.97	-1,664.49	1,094.97	1,968.49	0.00	0.00	0.00
6,899.99	90.56	135.662	5,267.99	-1,736.01	1,164.85	2,068.42	0.00	0.00	0.00
6,999.99	90.56	135.662	5,267.02	-1,807.53	1,234.74	2,168.34	0.00	0.00	0.00
7,099.99	90.56	135.662	5,266.04	-1,879.05	1,304.62	2,268.27	0.00	0.00	0.00
7,199.99	90.56	135.662	5,265.06	-1,950.57	1,374.51	2,368.20	0.00	0.00	0.00
7,299.99	90.56	135.662	5,264.09	-2,022.09	1,444.39	2,468.12	0.00	0.00	0.00
7,399.99	90.56	135.662	5,263.11	-2,093.61	1,514.28	2,568.05	0.00	0.00	0.00
7,499.99	90.56	135.662	5,262.14	-2,165.13	1,584.17	2,667.98	0.00	0.00	0.00
7,599.98	90.56	135.662	5,261.16	-2,236.65	1,654.05	2,767.90	0.00	0.00	0.00
7,699.98	90.56	135.662	5,260.19	-2,308.17	1,723.94	2,867.83	0.00	0.00	0.00
7,799.98	90.56	135.662	5,259.21	-2,379.69	1,793.82	2,967.76	0.00	0.00	0.00
7,899.98	90.56	135.662	5,258.24	-2,451.21	1,863.71	3,067.68	0.00	0.00	0.00
7,999.98	90.56	135.662	5,257.26	-2,522.73	1,933.59	3,167.61	0.00	0.00	0.00
8,099.98	90.56	135.662	5,256.29	-2,594.24	2,003.48	3,267.54	0.00	0.00	0.00
8,199.98	90.56	135.662	5,255.31	-2,665.76	2,073.36	3,367.46	0.00	0.00	0.00
8,299.98	90.56	135.662	5,254.34	-2,737.28	2,143.25	3,467.39	0.00	0.00	0.00
8,399.98	90.56	135.662	5,253.36	-2,808.80	2,213.13	3,567.32	0.00	0.00	0.00
8,499.98	90.56	135.662	5,252.39	-2,880.32	2,283.02	3,667.24	0.00	0.00	0.00
8,599.98	90.56	135.662	5,251.41	-2,951.84	2,352.90	3,767.17	0.00	0.00	0.00
8,699.98	90.56	135.662	5,250.44	-3,023.36	2,422.79	3,867.09	0.00	0.00	0.00
8,799.98	90.56	135.662	5,249.46	-3,094.88	2,492.67	3,967.02	0.00	0.00	0.00
8,899.98	90.56	135.662	5,248.49	-3,166.40	2,562.56	4,066.95	0.00	0.00	0.00
8,999.98	90.56	135.662	5,247.51	-3,237.92	2,632.45	4,166.87	0.00	0.00	0.00
9,099.98	90.56	135.662	5,246.54	-3,309.44	2,702.33	4,266.80	0.00	0.00	0.00
9,199.98	90.56	135.662	5,245.56	-3,380.96	2,772.22	4,366.73	0.00	0.00	0.00
9,299.98	90.56	135.662	5,244.58	-3,452.48	2,842.10	4,466.65	0.00	0.00	0.00
9,399.98	90.56	135.662	5,243.61	-3,524.00	2,911.99	4,566.58	0.00	0.00	0.00
9,499.98	90.56	135.662	5,242.63	-3,595.52	2,981.87	4,666.51	0.00	0.00	0.00
9,599.98	90.56	135.662	5,241.66	-3,667.04	3,051.76	4,766.43	0.00	0.00	0.00
9,699.98	90.56	135.662	5,240.68	-3,738.56	3,121.64	4,866.36	0.00	0.00	0.00
9,799.98	90.56	135.662	5,239.71	-3,810.08	3,191.53	4,966.29	0.00	0.00	0.00
9,899.98	90.56	135.662	5,238.73	-3,881.60	3,261.41	5,066.21	0.00	0.00	0.00



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Project:	Nageezi Unit	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site:	G35 2409	North Reference:	True
Well:	309H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,999.98	90.56	135.662	5,237.76	-3,953.12	3,331.30	5,166.14	0.00	0.00	0.00
10,099.98	90.56	135.662	5,236.78	-4,024.64	3,401.18	5,266.06	0.00	0.00	0.00
10,199.98	90.56	135.662	5,235.81	-4,096.16	3,471.07	5,365.99	0.00	0.00	0.00
10,299.98	90.56	135.662	5,234.83	-4,167.68	3,540.95	5,465.92	0.00	0.00	0.00
10,399.98	90.56	135.662	5,233.86	-4,239.20	3,610.84	5,565.84	0.00	0.00	0.00
10,499.98	90.56	135.662	5,232.88	-4,310.72	3,680.72	5,665.77	0.00	0.00	0.00
10,599.98	90.56	135.662	5,231.91	-4,382.23	3,750.61	5,765.70	0.00	0.00	0.00
10,699.98	90.56	135.662	5,230.93	-4,453.75	3,820.50	5,865.62	0.00	0.00	0.00
10,799.98	90.56	135.662	5,229.96	-4,525.27	3,890.38	5,965.55	0.00	0.00	0.00
10,899.98	90.56	135.662	5,228.98	-4,596.79	3,960.27	6,065.48	0.00	0.00	0.00
10,999.98	90.56	135.662	5,228.01	-4,668.31	4,030.15	6,165.40	0.00	0.00	0.00
11,099.98	90.56	135.662	5,227.03	-4,739.83	4,100.04	6,265.33	0.00	0.00	0.00
11,199.98	90.56	135.662	5,226.06	-4,811.35	4,169.92	6,365.26	0.00	0.00	0.00
11,299.98	90.56	135.662	5,225.08	-4,882.87	4,239.81	6,465.18	0.00	0.00	0.00
11,399.98	90.56	135.662	5,224.11	-4,954.39	4,309.69	6,565.11	0.00	0.00	0.00
11,499.98	90.56	135.662	5,223.13	-5,025.91	4,379.58	6,665.03	0.00	0.00	0.00
11,599.98	90.56	135.662	5,222.15	-5,097.43	4,449.46	6,764.96	0.00	0.00	0.00
11,699.98	90.56	135.662	5,221.18	-5,168.95	4,519.35	6,864.89	0.00	0.00	0.00
11,799.98	90.56	135.662	5,220.20	-5,240.47	4,589.23	6,964.81	0.00	0.00	0.00
11,899.98	90.56	135.662	5,219.23	-5,311.99	4,659.12	7,064.74	0.00	0.00	0.00
11,999.98	90.56	135.662	5,218.25	-5,383.51	4,729.00	7,164.67	0.00	0.00	0.00
12,099.98	90.56	135.662	5,217.28	-5,455.03	4,798.89	7,264.59	0.00	0.00	0.00
12,199.98	90.56	135.662	5,216.30	-5,526.55	4,868.77	7,364.52	0.00	0.00	0.00
12,299.98	90.56	135.662	5,215.33	-5,598.07	4,938.66	7,464.45	0.00	0.00	0.00
12,399.98	90.56	135.662	5,214.35	-5,669.59	5,008.55	7,564.37	0.00	0.00	0.00
12,499.98	90.56	135.662	5,213.38	-5,741.11	5,078.43	7,664.30	0.00	0.00	0.00
12,599.98	90.56	135.662	5,212.40	-5,812.63	5,148.32	7,764.23	0.00	0.00	0.00
12,699.97	90.56	135.662	5,211.43	-5,884.15	5,218.20	7,864.15	0.00	0.00	0.00
12,799.97	90.56	135.662	5,210.45	-5,955.67	5,288.09	7,964.08	0.00	0.00	0.00
12,899.97	90.56	135.662	5,209.48	-6,027.19	5,357.97	8,064.01	0.00	0.00	0.00
12,999.97	90.56	135.662	5,208.50	-6,098.71	5,427.86	8,163.93	0.00	0.00	0.00
13,099.97	90.56	135.662	5,207.53	-6,170.23	5,497.74	8,263.86	0.00	0.00	0.00
13,199.97	90.56	135.662	5,206.55	-6,241.74	5,567.63	8,363.78	0.00	0.00	0.00
13,299.97	90.56	135.662	5,205.58	-6,313.26	5,637.51	8,463.71	0.00	0.00	0.00
13,399.97	90.56	135.662	5,204.60	-6,384.78	5,707.40	8,563.64	0.00	0.00	0.00
13,499.97	90.56	135.662	5,203.63	-6,456.30	5,777.28	8,663.56	0.00	0.00	0.00
13,599.97	90.56	135.662	5,202.65	-6,527.82	5,847.17	8,763.49	0.00	0.00	0.00
13,699.97	90.56	135.662	5,201.68	-6,599.34	5,917.05	8,863.42	0.00	0.00	0.00
13,799.97	90.56	135.662	5,200.70	-6,670.86	5,986.94	8,963.34	0.00	0.00	0.00
13,899.97	90.56	135.662	5,199.72	-6,742.38	6,056.82	9,063.27	0.00	0.00	0.00
13,999.97	90.56	135.662	5,198.75	-6,813.90	6,126.71	9,163.20	0.00	0.00	0.00
14,099.97	90.56	135.662	5,197.77	-6,885.42	6,196.60	9,263.12	0.00	0.00	0.00
14,199.97	90.56	135.662	5,196.80	-6,956.94	6,266.48	9,363.05	0.00	0.00	0.00
14,299.97	90.56	135.662	5,195.82	-7,028.46	6,336.37	9,462.98	0.00	0.00	0.00
14,399.97	90.56	135.662	5,194.85	-7,099.98	6,406.25	9,562.90	0.00	0.00	0.00
14,499.97	90.56	135.662	5,193.87	-7,171.50	6,476.14	9,662.83	0.00	0.00	0.00
14,599.97	90.56	135.662	5,192.90	-7,243.02	6,546.02	9,762.75	0.00	0.00	0.00
14,699.97	90.56	135.662	5,191.92	-7,314.54	6,615.91	9,862.68	0.00	0.00	0.00
14,799.97	90.56	135.662	5,190.95	-7,386.06	6,685.79	9,962.61	0.00	0.00	0.00
14,899.97	90.56	135.662	5,189.97	-7,457.58	6,755.68	10,062.53	0.00	0.00	0.00
14,999.97	90.56	135.662	5,189.00	-7,529.10	6,825.56	10,162.46	0.00	0.00	0.00
15,099.97	90.56	135.662	5,188.02	-7,600.62	6,895.45	10,262.39	0.00	0.00	0.00



Scientific Drilling, Intl
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 309H - Slot 3
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:	309H	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)
15,102.24	90.56	135.662	5,188.00	-7,602.25	6,897.02	10,264.65	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
309H Toe - plan hits target center - Circle (radius 100.00)	0.00	0.000	5,188.00	-7,602.25	6,897.02	1,910,505.88	2,752,243.99	36.2505288	-107.7344613
309H Heel - plan hits target center - Circle (radius 50.00)	0.00	0.000	5,280.00	-855.24	304.21	1,917,247.75	2,745,645.93	36.2690656	-107.7568210

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
5,608.21	5,277.75	Intermediate Casing	7.00	8.75

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
821.12	820.00	Ojo Alamo		0.00	0.000
905.46	904.00	Kirtland		0.00	0.000
1,218.74	1,216.00	Fruitland		0.00	0.000
1,562.15	1,558.00	Pictured Cliffs		0.00	0.000
1,657.54	1,653.00	Lewis		0.00	0.000
2,349.37	2,342.00	Chacra		0.00	0.000
3,064.29	3,054.00	Menefee		0.00	0.000
4,042.29	4,028.00	Point Lookout		0.00	0.000
4,210.98	4,196.00	Mancos		0.00	0.000
4,536.31	4,520.00	Mancos Silt		0.00	0.000
5,061.72	5,018.00	Gallup A		0.00	0.000
5,115.48	5,060.00	Gallup B		0.00	0.000
5,298.10	5,179.01	Gallup C		0.00	



DJR Operating

Nageezi Unit

G35 2409

309H

Original Drilling

APD

Anticollision Report

09 January, 2020



Scientific Drilling

www.scientificdrilling.com



Scientific Drilling, Intl
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 309H - Slot 3
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:	309H	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	15,102.24	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	300.00	300.00	40.21	38.47	23.079	CC
308H - Original Drilling - APD	400.00	400.00	40.31	37.85	16.420	ES
308H - Original Drilling - APD	4,499.99	4,496.39	270.14	237.41	8.252	SF
310H - Original Drilling - APD	300.00	300.00	20.24	18.50	11.618	CC
310H - Original Drilling - APD	400.00	400.00	20.34	17.88	8.286	ES
310H - Original Drilling - APD	1,000.00	1,001.49	28.04	21.13	4.059	SF
313H - Original Drilling - APD	300.00	300.00	79.87	78.13	45.844	CC
313H - Original Drilling - APD	400.00	399.44	80.05	77.60	32.635	ES
313H - Original Drilling - APD	14,299.97	15,143.96	1,227.08	755.20	2.600	SF
632H - Original Drilling - APD	300.00	300.00	59.90	58.16	34.382	CC
632H - Original Drilling - APD	400.00	400.00	60.00	57.54	24.441	ES
632H - Original Drilling - APD	600.00	595.51	73.91	70.06	19.217	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				Minimum Separation		Separation Factor		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)	Offset Wellbore Centre +E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		
0.00	0.00	0.00	0.00	0.00	0.00	41.29	30.21	26.53	40.21				
100.00	100.00	100.00	100.00	0.15	0.15	41.29	30.21	26.53	40.21	39.90	0.31	130.423	
200.00	200.00	200.00	200.00	0.51	0.51	41.29	30.21	26.53	40.21	39.18	1.03	39.218	
300.00	300.00	300.00	300.00	0.87	0.87	41.29	30.21	26.53	40.21	38.47	1.74	23.079	CC
300.01	300.01	300.01	300.01	0.87	0.87	41.29	30.21	26.53	40.21	38.47	1.74	23.078	
400.00	400.00	400.00	400.00	1.23	1.23	-155.64	30.21	26.53	40.31	37.85	2.45	16.420	ES
500.00	499.96	500.85	500.83	1.58	1.57	-154.98	28.56	27.17	41.88	38.75	3.13	13.370	
600.00	599.77	600.96	600.81	1.91	1.92	-152.62	23.93	28.96	45.20	41.39	3.82	11.843	
700.00	699.38	700.80	700.50	2.27	2.26	-151.52	18.78	30.94	50.75	48.23	4.52	11.230	
800.00	798.97	800.63	800.18	2.64	2.62	-150.76	13.84	32.93	56.50	51.27	5.23	10.799	
900.00	898.56	900.46	899.86	3.03	2.98	-150.13	8.49	34.92	62.25	56.30	5.95	10.458	
1,000.00	998.15	1,000.29	999.54	3.41	3.34	-149.61	3.35	36.90	68.01	61.33	6.68	10.182	
1,100.00	1,097.74	1,100.13	1,099.22	3.80	3.71	-149.18	-1.80	38.89	73.77	66.36	7.41	9.955	
1,200.00	1,197.33	1,199.96	1,198.90	4.19	4.08	-148.80	-6.94	40.88	79.54	71.39	8.14	9.766	

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



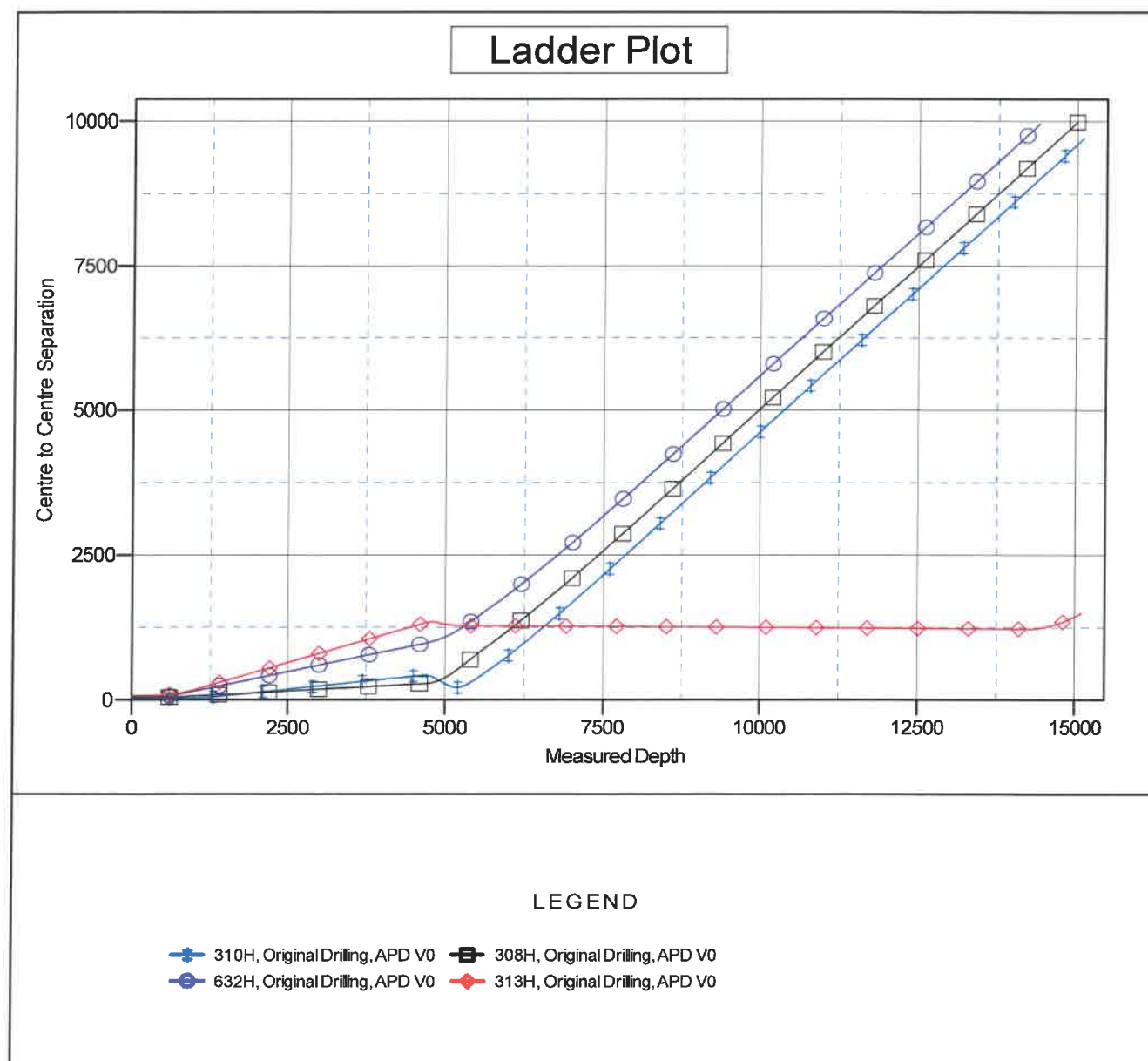
Scientific Drilling, Intl
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 309H - Slot 3
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:	309H	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: 309H - 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 covergent point, SF - min separation factor, ES - min ellipse separation



Scientific Drilling, Intl
Anticollision Report

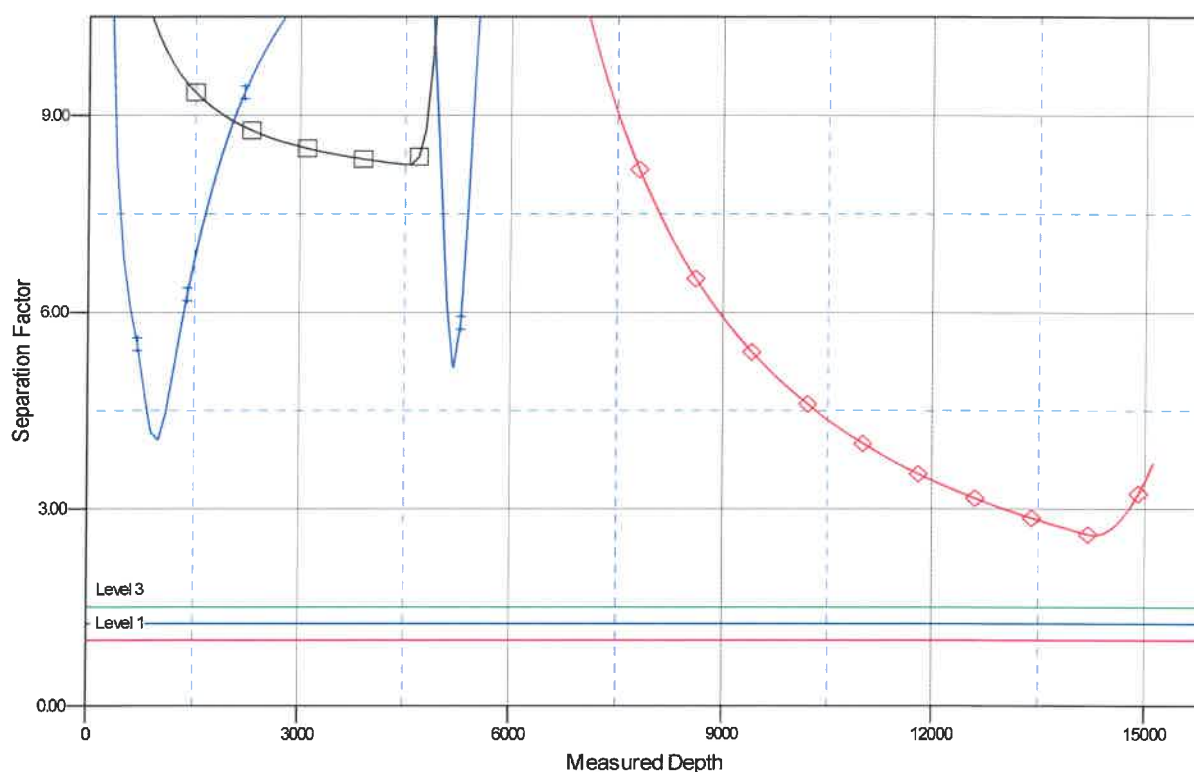


Company:	DJR Operating	Local Co-ordinate Reference:	Well 309H - Slot 3
Project:	Nageezi Unit	TVD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Reference Site:	G35 2409	MD Reference:	GL 6899' & RKB 14' @ 6913.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	309H	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: 309H - Slot 3
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
- 308H, Original Drilling, APD V0
- 632H, 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

G35-2409

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 16779

COMMENTS

Operator: DJR OPERATING, LLC 1 Road 3263 Aztec, NM87410			OGRID: 371838	Action Number: 16779	Action Type: FORM 3160-3
Created By	Comment			Comment Date	
ahvermersch	Also see attached NMOCD COA's			02/03/2021	

District I

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

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1000 Rio Brazos Rd., Aztec, NM 87410
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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 16779

CONDITIONS OF APPROVAL

Operator:			OGRID:	Action Number:	Action Type:
DJR OPERATING, LLC	1 Road 3263	Aztec, NM87410	371838	16779	FORM 3160-3

OCD Reviewer	Condition
ahvermersch	Notify OCD 24 hours prior to casing & cement
ahvermersch	Will require a File As Drilled C-102 and a Directional Survey with the C-104
ahvermersch	Cement is required to circulate on both surface and production strings of casing
ahvermersch	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 fresh water zone or zones and shall immediately set in cement the water protection string