

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd E. Leahy, JD, PhD
Deputy Secretary

Adrienne Sandoval, Division Director
Oil Conservation Division



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

Operator Signature Date: 3/24/2020

Operator: DJR **Well Name and Number:** Nageezi Unit 622H

API#: 30-045-38203 , **Section:** 2, **Township:** 23N, **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

12/4/2020
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 622H
3a. Address 1700 LINCOLN STREET, SUITE 2800, DENVER, CO 802	3b. Phone No. (include area code) (505) 632-3476	9. API Well No. 30-045-38203
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NWNE / 57 FNL / 1485 FEL / LAT 36.263208 / LONG -107.754866 At proposed prod. zone SWSE / 342 FSL / 1342 FEL / LAT 36.249876 / LONG -107.73673		10. Field and Pool, or Exploratory NAGEEZI UNIT HZ OIL POOL/NAGEEZI
11. Sec., T. R. M. or Blk. and Survey or Area SEC 2/T23N/R9W/NMP		
14. Distance in miles and direction from nearest town or post office* 38 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) 57 feet	16. No of acres in lease 2240	17. Spacing Unit dedicated to this well 563.25
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 20 feet	19. Proposed Depth 4967 feet / 12535 feet	20. BLM/BIA Bond No. in file FED: NMB001464
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6982 feet	22. Approximate date work will start* 07/22/2020	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 03/24/2020
Title Regulatory Specialist		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) RICHARD FIELDS / Ph: (505) 564-7612	Date 11/13/2020
Title Field Manager		
Office Farmington Field Office		

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

Conditions of approval, if any, are attached.

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



(Continued on page 2)

*(Instructions on page 2)

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 398-6161 Fax: (575) 398-0720

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

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

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3468

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-38203		² Pool Code 98080	³ Pool Name NAGEEZI UNIT MANCOS OIL POOL
⁴ Property Code 325268	⁵ Property Name NAGEEZI UNIT		⁶ Well Number 622H
⁷ OGRID No. 371838	⁸ Operator Name DJR OPERATING, LLC		⁹ Elevation 6982'

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
B	2	23N	9W	2	57'	NORTH	1485'	EAST	SAN JUAN

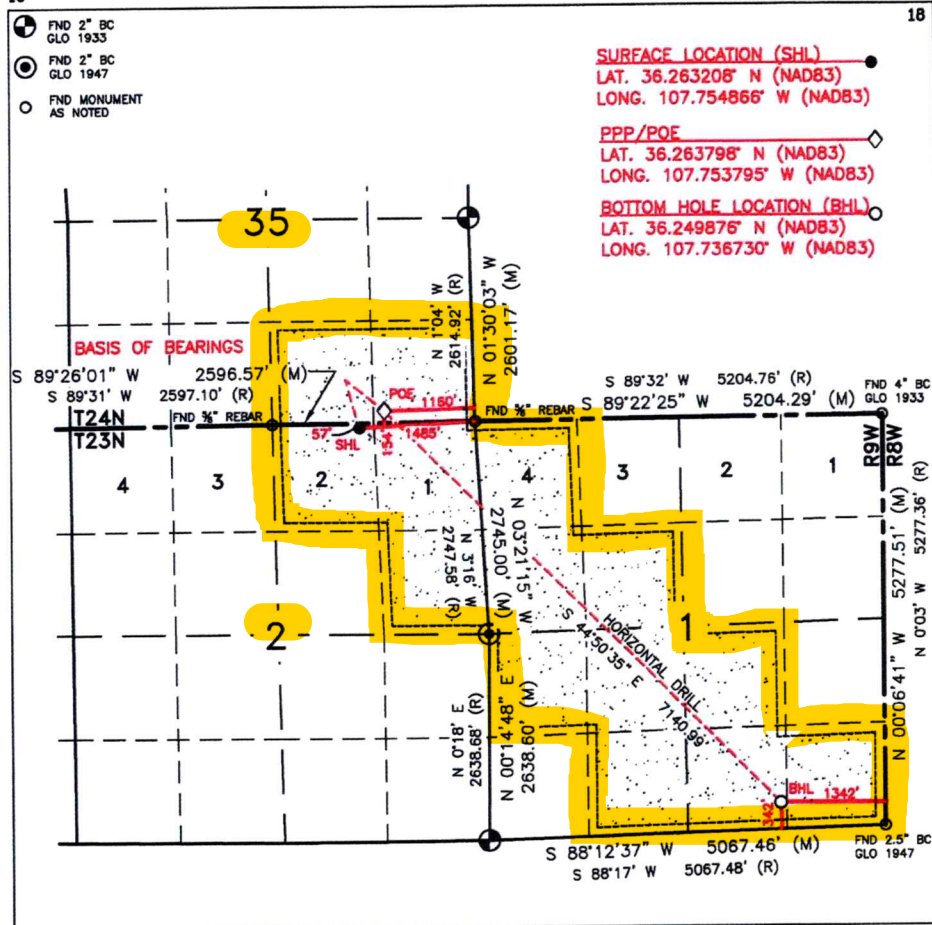
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	1	23N	9W		342'	SOUTH	1342'	EAST	SAN JUAN

¹² Dedicated Acres SEC 35: SW/SE & SE/SE (80 AC.); SEC 2: NW/NE, NE/NE & SE/NE (122.20 AC.); SEC 1: NW/NW, SW/NW, SE/NW, NW/SW, NE/SW, SE/SW, NW/SE, SW/SE & SE/SE (381.05 AC.) = 563.25 ACRES TOTAL	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-13856 R-13856A
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16



17 OPERATOR CERTIFICATION

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

Shaw-Marie Ford 6/16/20
Signature Date

Shaw-Marie Ford
Printed Name
sford@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.
JULY 2, 2019

Date of Survey
Signature and Seal of Professional Surveyor:



Certificate Number 11393

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DISTRICT III

1000 Eio Brasos Rd., Aztec, N.M. 87410
Phone: (505) 394-6178 Fax: (505) 394-6170

DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 478-3460 Fax: (505) 478-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

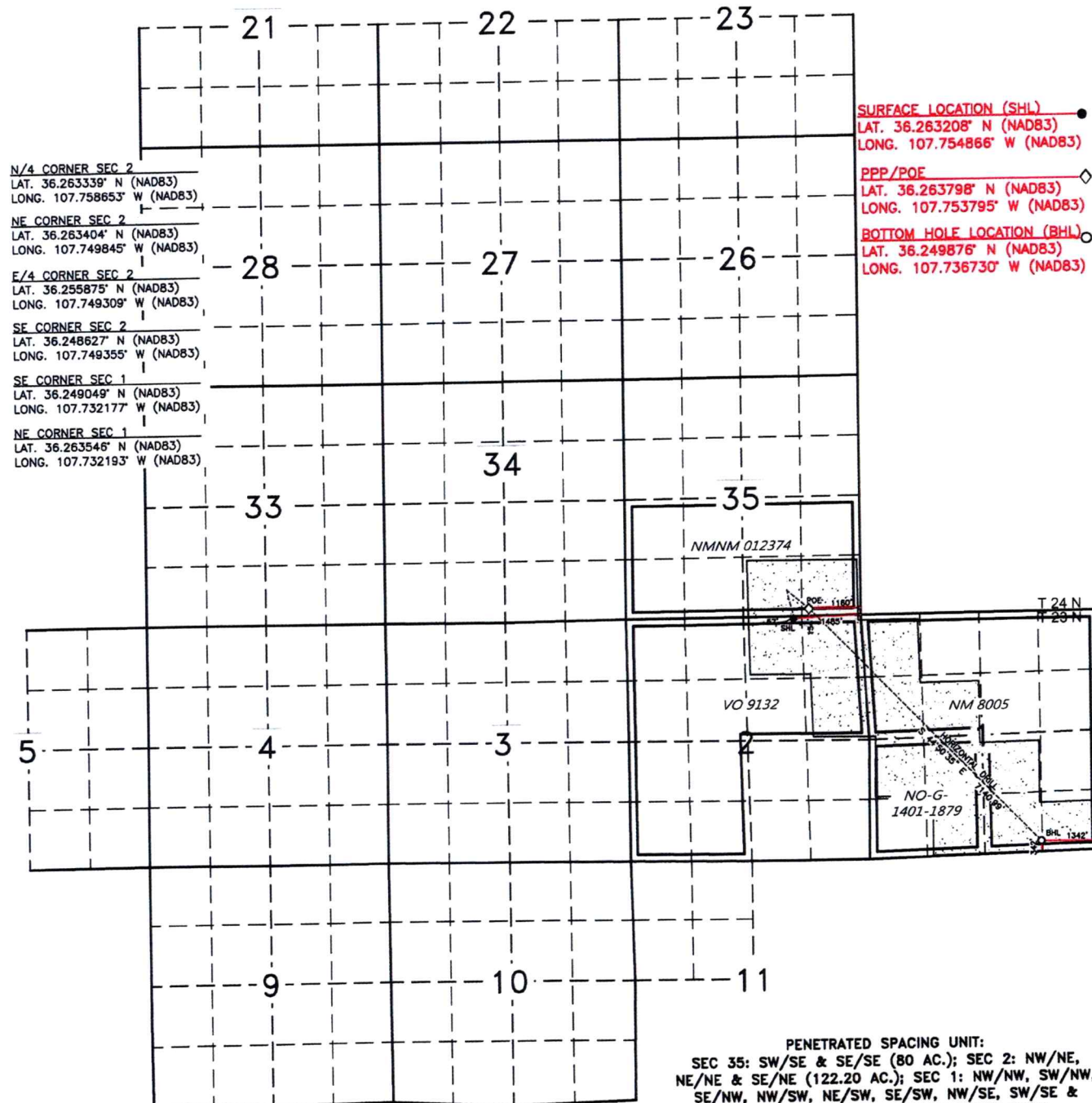
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☐ AMENDED REPORT

DJR OPERATING, LLC
NAGEEZI UNIT #622H



DISTRICT I
1626 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

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811 S. First St., Artesia, N.M. 88210
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OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

☐ AMENDED REPORT

NAGEEZI UNIT #622H

215.14 LINEAR FEET OF WELLBORE WITHIN
NMNM 012374
LOCATED IN THE SE/SE OF SECTION 35,
T24N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	154	FSL	1160	FEL	36.263798° N	107.753795° W
TO	0	FSL	1013	FEL	36.263379° N	107.753280° W

1526.80 LINEAR FEET OF WELLBORE WITHIN
VO 9132
LOCATED IN THE NE/NE (LOT 1) OF SECTION 2,
T23N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	0	FNL	1013	FEL	36.263379° N	107.753280° W
TO	1094	FNL	0	FEL	36.260402° N	107.749631° W

2257.68 LINEAR FEET OF WELLBORE WITHIN
NM 8005
LOCATED IN THE NW/NW (LOT 4), SW/NW &
SE/NW OF SECTION 1,
T23N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	1094	FNL	0	FWL	36.260402° N	107.749631° W
TO	2711	FNL	1496	FWL	36.256001° N	107.744236° W

1420.55 LINEAR FEET OF WELLBORE WITHIN
NO-G-1401-1879
LOCATED IN THE NE/SW OF SECTION 1,
T23N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	2711	FNL	1496	FWL	36.256001° N	107.744236° W
TO	1599	FSL	2554	FEL	36.253231° N	107.740842° W

1720.82 LINEAR FEET OF WELLBORE WITHIN
NM 8005
LOCATED IN THE NW/SW & SW/SW OF SECTION 1,
T23N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	1599	FSL	2554	FEL	36.253231° N	107.740842° W
TO	342	FSL	1342	FEL	36.249876° N	107.736730° W

Rev 0



DRILLING PLAN

Nageezi Unit 622H

San Juan County, New Mexico

Surface Location

1485-ft FEL & 57-ft FNL
 Sec 2 T23N R09W
 Graded Elevation 6982' MSL
 RKB Elevation 6996' (14' KB)

SHL Geographical Coordinates (NAD-83)

Latitude 36.2632080° N
 Longitude 107.7548660° W

Kick Off Point for Horizontal Build Curve

4288-ft MD
 4231-ft TVD

Local Coordinates (from SHL)

620-ft North
 177-ft West

Heel Location (Pay zone entry)

1160-ft FEL & 154-ft FEL
 Sec 35 T24N R9W

Heel Geographical Coordinates (NAD-83)

Latitude 36.2637979° N
 Longitude 107.75379460° W

Bottom Hole Location (TD)

1342-ft FEL & 342-ft FSL
 Sec 1 T23N R9W

BHL Geographical Coordinates (NAD-83)

Latitude 36.2498762° N
 Longitude 107.7367303° W

Well objectives

This well is planned as a 7140-ft lateral in the Mancos Silt sand.

Bottom Hole temperature and pressure

The temperature in the Mancos Silt horizontal objective is 136°F. Bottom hole pressure in the Mancos Silt is forecast to be 1985 psi.

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

Name	MD (ft)	TVD (ft)	Lithology	Pore fluid	Expected Pore Pressure (ppg)	Planned Mud Weight (ppg)
Ojo Alamo	881	880	Sd	W	8.3	8.4 – 8.8
Kirtland	963	959	Sh	-	8.3	8.4 – 8.8
Fruitland	1280	1271	C	G	8.3	9.0 - 9.5
Pictured Cliffs	1627	1613	Sd	W	8.3	9.0 - 9.5
Lewis	1724	1708	Sh	-		9.0 - 9.5
Chacra	2424	2397	Sd	-	8.3	9.0 - 9.5
Menefee	3147	3109	Sd, C	G	8.3	9.0 - 9.5
Point Lookout	4137	4083	Sd	-	8.3	9.0 - 9.5
Mancos	4308	4251	Sh	-		9.0 - 9.5
Mancos Silt	4640	4575	Slt	O/G	6.6	9.0 - 9.5
Gallup A	NP	NP	Slt	O/G	6.6	9.0 - 9.5
Gallup B	NP	NP	Sd	O/G	6.6	8.8 - 9.0
Gallup C	NP	NP	Sd	O/G	6.6	8.8 - 9.0
Target	5393	4964	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	5331	surf	4962	surface
4-1/2"	6-1/8"	11.6	P-110	BTC	5052	12535	4878	4892	5052

Note: all casing will be new

Rev 0



Casing Design Load Cases

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

Note

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

Casing Design Factors

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

Cement Design

9-5/8" Surface Casing

	<u>Lead</u>
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

	<u>Lead</u>	<u>Tail</u>
	BJ Services	BJ Services
Type	III	Poz/G
Planned top	Surface	3788-ft
Density (ppg)	12.30	13.50
Yield (cf/sx)	2.34	1.50
Mix water (gal/sx)	13.26	7.20
Volume (sx)	378	254
Volume (bbls)	158	68
Volume (cu.ft.)	885	380
Excess %	50	50



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4-1/2" Production Liner

	BJ Services
Type	Poz/G
Planned top	5052-ft
Density (ppg)	13.3
Yield (cf/sx)	1.56
Mix water (gal/sx)	7.71
Volume (sx)	629
Volume (bbls)	175
Volume (cu.ft)	983
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 – 5331	9.0 – 9.5	38 – 45	8 – 14	<20
Production	Low solids, non-dispersed	5331 – 12535	8.8 – 9.2	34 – 38	6 – 8	6 – 8

Cores, tests and logs

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

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

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

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

Cuttings and drilling fluids management

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

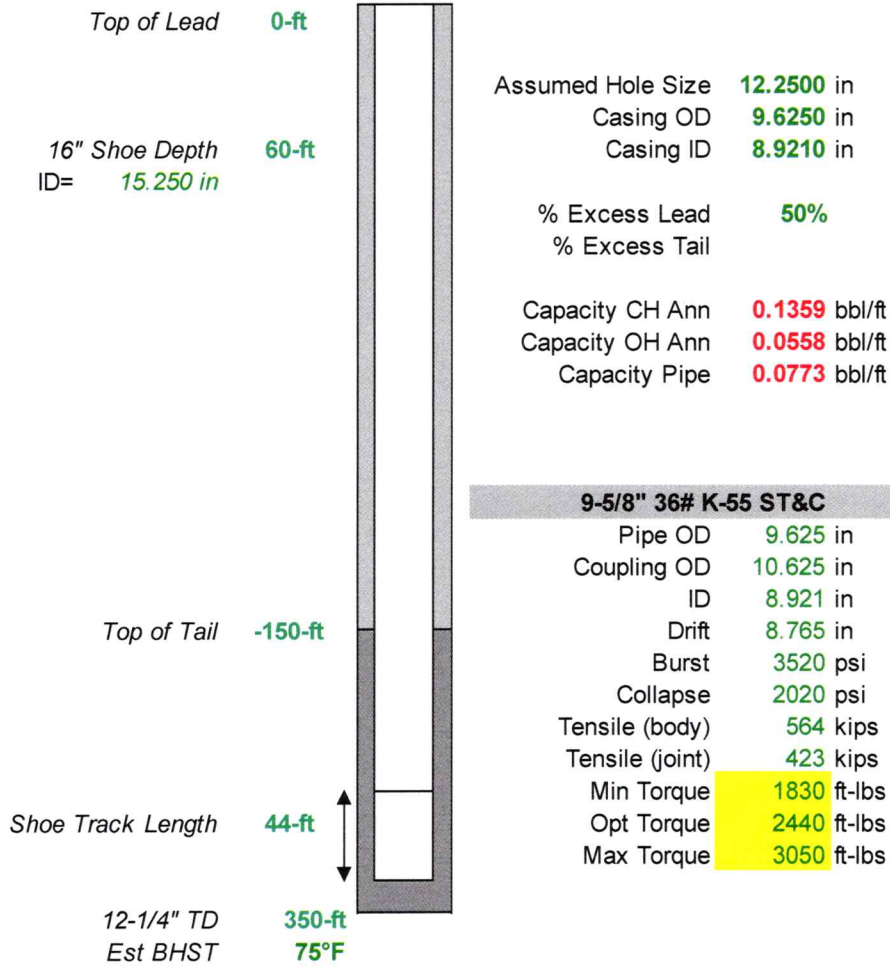
Completion

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

Rev 0



9-5/8" Surface Casing & Cementing



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

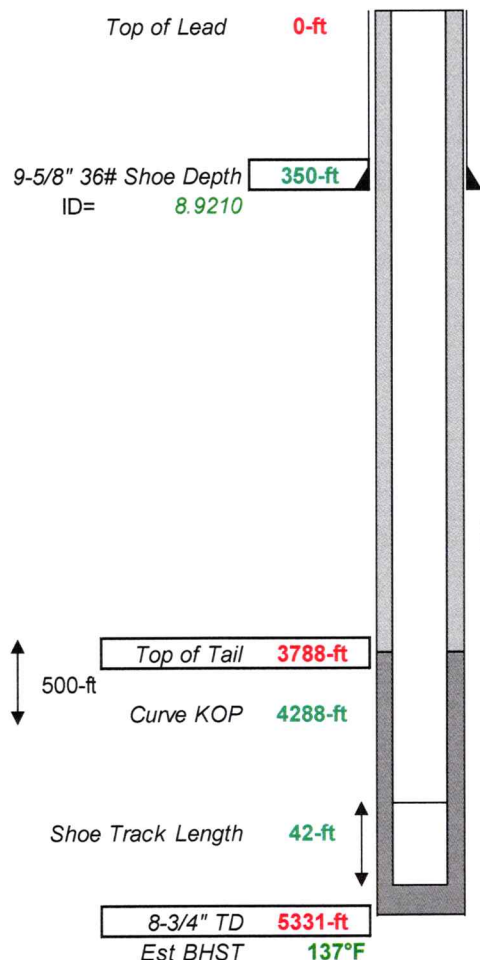
Tail Slurry		Properties	
None		Density	ppg
		Yield	cf/sk
		Total Mix Fluid	gal/sk
		Est pump time (70Bc)	
		50 psi strength in	
		24/72 hr strength	psi

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

Rev 0



7" Intermediate Casing & Cementing Nageezi Unit 622H



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

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

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

7" 26# K-55 LT&C

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

BJ Lead Slurry

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

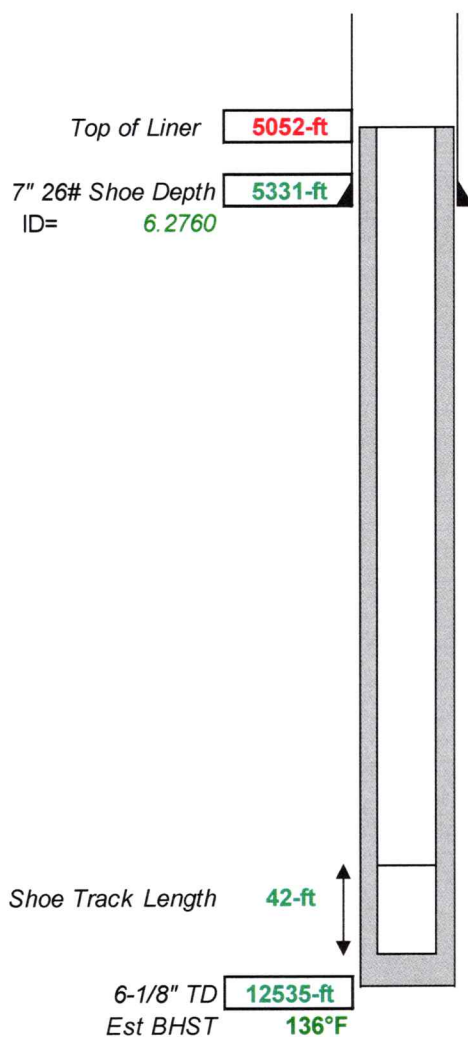
Volumes

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

Rev 0



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

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

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

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

BJ Lead Slurry

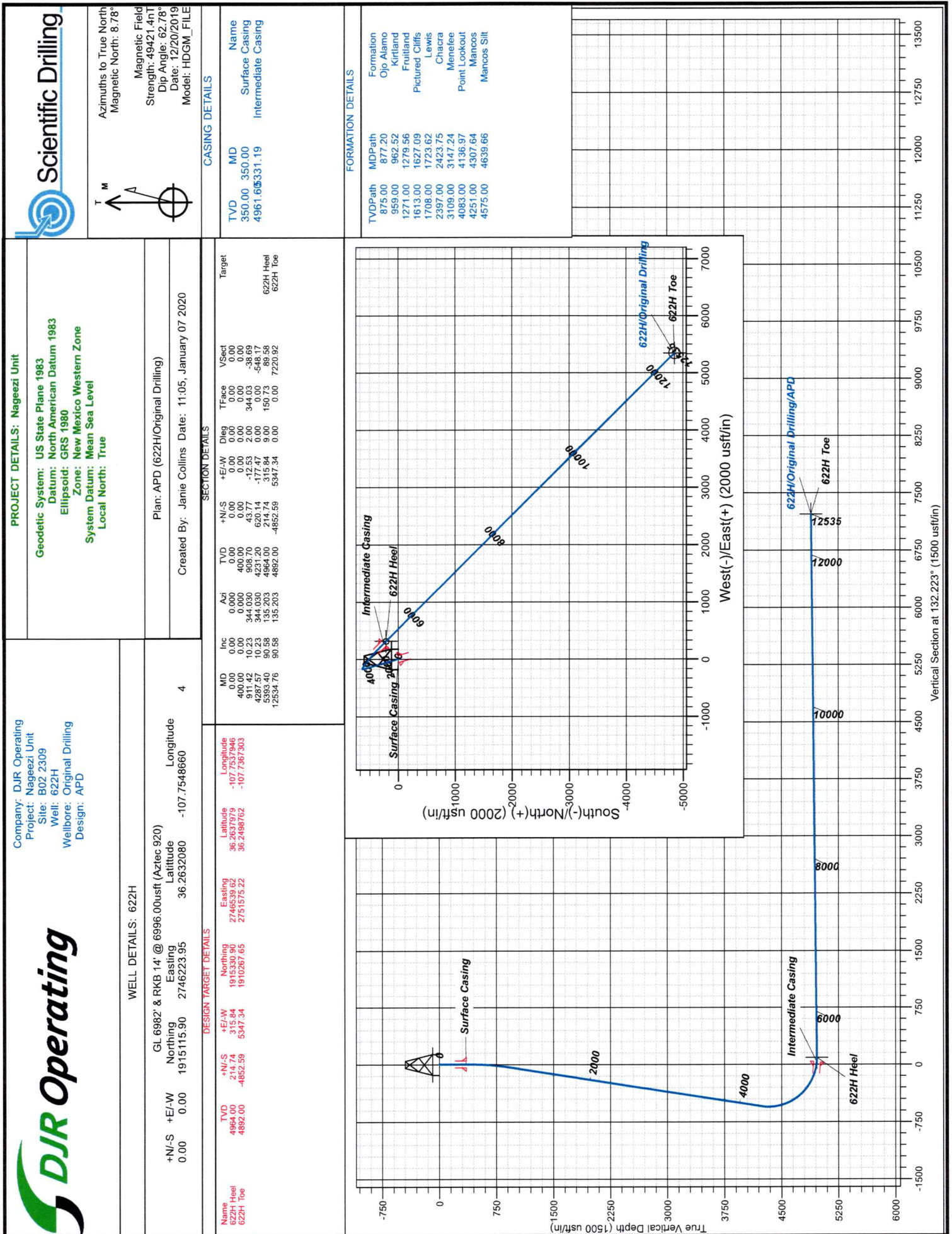
G+Pozz **50:50**
 BA-90 **3 lb/sx**
 GW-86 **0.10%**
 R-3 **0.40%**
 FP-25 **30.00%**
 FL-24 **0.40%**
 Gel **4.00%**

Properties

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

Volumes

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





DJR Operating

Nageezi Unit

B02 2309

622H - Slot 4

Original Drilling

Plan: APD

Standard Planning Report

07 January, 2020



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Scientific Drilling, Intl
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 622H - Slot 4
Company:	DJR Operating	TVD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Site:	B02 2309	North Reference:	True
Well:	622H	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		B02 2309			
Site Position:		Northing:	1,915,079.49 usft	Latitude:	36.2631080
From:	Map	Easting:	2,746,207.76 usft	Longitude:	-107.7549210
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.05 °

Well	622H - Slot 4					
Well Position	+N/-S	36.40 usft	Northing:	1,915,115.90 usft	Latitude:	36.2632080
	+E/-W	16.22 usft	Easting:	2,746,223.95 usft	Longitude:	-107.7548660
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	6,982.00 usft

Wellbore	Original Drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	12/20/2019	8.78	62.78	49,421.40000000

Design	APD			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	132.223

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
911.42	10.23	344.030	908.70	43.77	-12.53	2.00	2.00	0.00	344.03	
4,287.57	10.23	344.030	4,231.20	620.14	-177.47	0.00	0.00	0.00	0.00	
5,393.40	90.58	135.203	4,964.00	214.74	315.84	9.00	7.27	13.67	150.73	622H Heel
12,534.76	90.58	135.203	4,892.00	-4,852.59	5,347.34	0.00	0.00	0.00	0.00	622H Toe



Scientific Drilling, Intl
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 622H - Slot 4
Company:	DJR Operating	TVD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Site:	B02 2309	North Reference:	True
Well:	622H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	2.00	344.030	499.98	1.68	-0.48	-1.48	2.00	2.00	0.00
600.00	4.00	344.030	599.84	6.71	-1.92	-5.93	2.00	2.00	0.00
700.00	6.00	344.030	699.45	15.09	-4.32	-13.34	2.00	2.00	0.00
800.00	8.00	344.030	798.70	26.80	-7.67	-23.69	2.00	2.00	0.00
900.00	10.00	344.030	897.47	41.84	-11.97	-36.99	2.00	2.00	0.00
911.42	10.23	344.030	908.70	43.77	-12.53	-38.69	2.00	2.00	0.00
1,000.00	10.23	344.030	995.88	58.89	-16.85	-52.06	0.00	0.00	0.00
1,100.00	10.23	344.030	1,094.29	75.97	-21.74	-67.15	0.00	0.00	0.00
1,200.00	10.23	344.030	1,192.70	93.04	-26.62	-82.24	0.00	0.00	0.00
1,300.00	10.23	344.030	1,291.11	110.11	-31.51	-97.33	0.00	0.00	0.00
1,400.00	10.23	344.030	1,389.52	127.18	-36.40	-112.42	0.00	0.00	0.00
1,500.00	10.23	344.030	1,487.93	144.25	-41.28	-127.51	0.00	0.00	0.00
1,600.00	10.23	344.030	1,586.34	161.32	-46.17	-142.60	0.00	0.00	0.00
1,700.00	10.23	344.030	1,684.76	178.40	-51.05	-157.69	0.00	0.00	0.00
1,800.00	10.23	344.030	1,783.17	195.47	-55.94	-172.78	0.00	0.00	0.00
1,900.00	10.23	344.030	1,881.58	212.54	-60.82	-187.87	0.00	0.00	0.00
2,000.00	10.23	344.030	1,979.99	229.61	-65.71	-202.96	0.00	0.00	0.00
2,100.00	10.23	344.030	2,078.40	246.68	-70.59	-218.05	0.00	0.00	0.00
2,200.00	10.23	344.030	2,176.81	263.76	-75.48	-233.14	0.00	0.00	0.00
2,300.00	10.23	344.030	2,275.22	280.83	-80.36	-248.23	0.00	0.00	0.00
2,400.00	10.23	344.030	2,373.63	297.90	-85.25	-263.33	0.00	0.00	0.00
2,500.00	10.23	344.030	2,472.04	314.97	-90.14	-278.42	0.00	0.00	0.00
2,600.00	10.23	344.030	2,570.45	332.04	-95.02	-293.51	0.00	0.00	0.00
2,700.00	10.23	344.030	2,668.86	349.12	-99.91	-308.60	0.00	0.00	0.00
2,800.00	10.23	344.030	2,767.27	366.19	-104.79	-323.69	0.00	0.00	0.00
2,900.00	10.23	344.030	2,865.69	383.26	-109.68	-338.78	0.00	0.00	0.00
3,000.00	10.23	344.030	2,964.10	400.33	-114.56	-353.87	0.00	0.00	0.00
3,100.00	10.23	344.030	3,062.51	417.40	-119.45	-368.96	0.00	0.00	0.00
3,200.00	10.23	344.030	3,160.92	434.48	-124.33	-384.05	0.00	0.00	0.00
3,300.00	10.23	344.030	3,259.33	451.55	-129.22	-399.14	0.00	0.00	0.00
3,400.00	10.23	344.030	3,357.74	468.62	-134.10	-414.23	0.00	0.00	0.00
3,500.00	10.23	344.030	3,456.15	485.69	-138.99	-429.32	0.00	0.00	0.00
3,600.00	10.23	344.030	3,554.56	502.76	-143.88	-444.41	0.00	0.00	0.00
3,700.00	10.23	344.030	3,652.97	519.83	-148.76	-459.50	0.00	0.00	0.00
3,800.00	10.23	344.030	3,751.38	536.91	-153.65	-474.59	0.00	0.00	0.00
3,900.00	10.23	344.030	3,849.79	553.98	-158.53	-489.68	0.00	0.00	0.00
4,000.00	10.23	344.030	3,948.20	571.05	-163.42	-504.77	0.00	0.00	0.00
4,100.00	10.23	344.030	4,046.61	588.12	-168.30	-519.86	0.00	0.00	0.00
4,200.00	10.23	344.030	4,145.03	605.19	-173.19	-534.95	0.00	0.00	0.00
4,287.57	10.23	344.030	4,231.20	620.14	-177.47	-548.17	0.00	0.00	0.00
4,300.00	9.27	347.428	4,243.45	622.18	-177.99	-549.92	9.00	-7.72	27.33
4,400.00	5.12	58.430	4,342.81	632.40	-175.94	-555.27	9.00	-4.15	71.00
4,500.00	11.32	109.337	4,441.84	631.48	-162.85	-544.97	9.00	6.20	50.91
4,600.00	19.79	121.135	4,538.11	619.46	-139.06	-519.27	9.00	8.47	11.80
4,700.00	28.57	125.946	4,629.26	596.62	-105.14	-478.80	9.00	8.79	4.81
4,800.00	37.46	128.622	4,713.03	563.53	-61.94	-424.57	9.00	8.88	2.68
4,900.00	46.38	130.390	4,787.37	521.01	-10.50	-357.90	9.00	8.92	1.77



Scientific Drilling, Intl Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 622H - Slot 4
Company:	DJR Operating	TVD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Site:	B02 2309	North Reference:	True
Well:	622H	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)
5,000.00	55.32	131.697	4,850.44	470.10	47.89	-280.45	9.00	8.94	1.31
5,100.00	64.28	132.747	4,900.69	412.05	111.80	-194.11	9.00	8.95	1.05
5,200.00	73.24	133.649	4,936.88	348.30	179.67	-101.01	9.00	8.96	0.90
5,300.00	82.20	134.469	4,958.13	280.41	249.80	-3.45	9.00	8.96	0.82
5,393.40	90.58	135.203	4,964.00	214.74	315.84	89.58	9.00	8.97	0.79
5,400.00	90.58	135.203	4,963.93	210.06	320.49	96.17	0.00	0.00	0.00
5,500.00	90.58	135.203	4,962.93	139.10	390.95	196.03	0.00	0.00	0.00
5,600.00	90.58	135.203	4,961.92	68.14	461.40	295.89	0.00	0.00	0.00
5,700.00	90.58	135.203	4,960.91	-2.81	531.86	395.75	0.00	0.00	0.00
5,800.00	90.58	135.203	4,959.90	-73.77	602.32	495.61	0.00	0.00	0.00
5,900.00	90.58	135.203	4,958.89	-144.73	672.77	595.47	0.00	0.00	0.00
6,000.00	90.58	135.203	4,957.88	-215.69	743.23	695.33	0.00	0.00	0.00
6,100.00	90.58	135.203	4,956.88	-286.64	813.68	795.19	0.00	0.00	0.00
6,200.00	90.58	135.203	4,955.87	-357.60	884.14	895.05	0.00	0.00	0.00
6,300.00	90.58	135.203	4,954.86	-428.56	954.59	994.91	0.00	0.00	0.00
6,400.00	90.58	135.203	4,953.85	-499.52	1,025.05	1,094.77	0.00	0.00	0.00
6,500.00	90.58	135.203	4,952.84	-570.47	1,095.51	1,194.63	0.00	0.00	0.00
6,600.00	90.58	135.203	4,951.84	-641.43	1,165.96	1,294.49	0.00	0.00	0.00
6,700.00	90.58	135.203	4,950.83	-712.39	1,236.42	1,394.35	0.00	0.00	0.00
6,800.00	90.58	135.203	4,949.82	-783.35	1,306.87	1,494.21	0.00	0.00	0.00
6,900.00	90.58	135.203	4,948.81	-854.30	1,377.33	1,594.07	0.00	0.00	0.00
7,000.00	90.58	135.203	4,947.80	-925.26	1,447.78	1,693.93	0.00	0.00	0.00
7,100.00	90.58	135.203	4,946.79	-996.22	1,518.24	1,793.79	0.00	0.00	0.00
7,200.00	90.58	135.203	4,945.79	-1,067.18	1,588.70	1,893.65	0.00	0.00	0.00
7,300.00	90.58	135.203	4,944.78	-1,138.13	1,659.15	1,993.51	0.00	0.00	0.00
7,400.00	90.58	135.203	4,943.77	-1,209.09	1,729.61	2,093.37	0.00	0.00	0.00
7,500.00	90.58	135.203	4,942.76	-1,280.05	1,800.06	2,193.23	0.00	0.00	0.00
7,600.00	90.58	135.203	4,941.75	-1,351.01	1,870.52	2,293.09	0.00	0.00	0.00
7,700.00	90.58	135.203	4,940.74	-1,421.97	1,940.97	2,392.94	0.00	0.00	0.00
7,800.00	90.58	135.203	4,939.74	-1,492.92	2,011.43	2,492.80	0.00	0.00	0.00
7,900.00	90.58	135.203	4,938.73	-1,563.88	2,081.89	2,592.66	0.00	0.00	0.00
8,000.00	90.58	135.203	4,937.72	-1,634.84	2,152.34	2,692.52	0.00	0.00	0.00
8,100.00	90.58	135.203	4,936.71	-1,705.80	2,222.80	2,792.38	0.00	0.00	0.00
8,200.00	90.58	135.203	4,935.70	-1,776.75	2,293.25	2,892.24	0.00	0.00	0.00
8,300.00	90.58	135.203	4,934.70	-1,847.71	2,363.71	2,992.10	0.00	0.00	0.00
8,400.00	90.58	135.203	4,933.69	-1,918.67	2,434.16	3,091.96	0.00	0.00	0.00
8,500.00	90.58	135.203	4,932.68	-1,989.63	2,504.62	3,191.82	0.00	0.00	0.00
8,600.00	90.58	135.203	4,931.67	-2,060.58	2,575.08	3,291.68	0.00	0.00	0.00
8,700.00	90.58	135.203	4,930.66	-2,131.54	2,645.53	3,391.54	0.00	0.00	0.00
8,800.00	90.58	135.203	4,929.65	-2,202.50	2,715.99	3,491.40	0.00	0.00	0.00
8,900.00	90.58	135.203	4,928.65	-2,273.46	2,786.44	3,591.26	0.00	0.00	0.00
9,000.00	90.58	135.203	4,927.64	-2,344.41	2,856.90	3,691.12	0.00	0.00	0.00
9,100.00	90.58	135.203	4,926.63	-2,415.37	2,927.35	3,790.98	0.00	0.00	0.00
9,200.00	90.58	135.203	4,925.62	-2,486.33	2,997.81	3,890.84	0.00	0.00	0.00
9,300.00	90.58	135.203	4,924.61	-2,557.29	3,068.27	3,990.70	0.00	0.00	0.00
9,400.00	90.58	135.203	4,923.61	-2,628.24	3,138.72	4,090.56	0.00	0.00	0.00
9,500.00	90.58	135.203	4,922.60	-2,699.20	3,209.18	4,190.42	0.00	0.00	0.00
9,600.00	90.58	135.203	4,921.59	-2,770.16	3,279.63	4,290.28	0.00	0.00	0.00
9,700.00	90.58	135.203	4,920.58	-2,841.12	3,350.09	4,390.14	0.00	0.00	0.00
9,800.00	90.58	135.203	4,919.57	-2,912.07	3,420.54	4,490.00	0.00	0.00	0.00
9,900.00	90.58	135.203	4,918.56	-2,983.03	3,491.00	4,589.86	0.00	0.00	0.00
10,000.00	90.58	135.203	4,917.56	-3,053.99	3,561.46	4,689.72	0.00	0.00	0.00



Scientific Drilling, Intl Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 622H - Slot 4
Company:	DJR Operating	TVD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Site:	B02 2309	North Reference:	True
Well:	622H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,100.00	90.58	135.203	4,916.55	-3,124.95	3,631.91	4,789.58	0.00	0.00	0.00
10,200.00	90.58	135.203	4,915.54	-3,195.90	3,702.37	4,889.44	0.00	0.00	0.00
10,300.00	90.58	135.203	4,914.53	-3,266.86	3,772.82	4,989.30	0.00	0.00	0.00
10,400.00	90.58	135.203	4,913.52	-3,337.82	3,843.28	5,089.16	0.00	0.00	0.00
10,500.00	90.58	135.203	4,912.51	-3,408.78	3,913.73	5,189.02	0.00	0.00	0.00
10,600.00	90.58	135.203	4,911.51	-3,479.73	3,984.19	5,288.88	0.00	0.00	0.00
10,700.00	90.58	135.203	4,910.50	-3,550.69	4,054.65	5,388.74	0.00	0.00	0.00
10,800.00	90.58	135.203	4,909.49	-3,621.65	4,125.10	5,488.59	0.00	0.00	0.00
10,900.00	90.58	135.203	4,908.48	-3,692.61	4,195.56	5,588.45	0.00	0.00	0.00
11,000.00	90.58	135.203	4,907.47	-3,763.56	4,266.01	5,688.31	0.00	0.00	0.00
11,100.00	90.58	135.203	4,906.47	-3,834.52	4,336.47	5,788.17	0.00	0.00	0.00
11,200.00	90.58	135.203	4,905.46	-3,905.48	4,406.92	5,888.03	0.00	0.00	0.00
11,300.00	90.58	135.203	4,904.45	-3,976.44	4,477.38	5,987.89	0.00	0.00	0.00
11,400.00	90.58	135.203	4,903.44	-4,047.40	4,547.84	6,087.75	0.00	0.00	0.00
11,500.00	90.58	135.203	4,902.43	-4,118.35	4,618.29	6,187.61	0.00	0.00	0.00
11,600.00	90.58	135.203	4,901.42	-4,189.31	4,688.75	6,287.47	0.00	0.00	0.00
11,700.00	90.58	135.203	4,900.42	-4,260.27	4,759.20	6,387.33	0.00	0.00	0.00
11,800.00	90.58	135.203	4,899.41	-4,331.23	4,829.66	6,487.19	0.00	0.00	0.00
11,900.00	90.58	135.203	4,898.40	-4,402.18	4,900.11	6,587.05	0.00	0.00	0.00
12,000.00	90.58	135.203	4,897.39	-4,473.14	4,970.57	6,686.91	0.00	0.00	0.00
12,100.00	90.58	135.203	4,896.38	-4,544.10	5,041.03	6,786.77	0.00	0.00	0.00
12,200.00	90.58	135.203	4,895.38	-4,615.06	5,111.48	6,886.63	0.00	0.00	0.00
12,300.00	90.58	135.203	4,894.37	-4,686.01	5,181.94	6,986.49	0.00	0.00	0.00
12,400.00	90.58	135.203	4,893.36	-4,756.97	5,252.39	7,086.35	0.00	0.00	0.00
12,500.00	90.58	135.203	4,892.35	-4,827.93	5,322.85	7,186.21	0.00	0.00	0.00
12,534.76	90.58	135.203	4,892.00	-4,852.59	5,347.34	7,220.92	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
622H Toe - plan hits target center - Circle (radius 100.00)	0.00	0.000	4,892.00	-4,852.59	5,347.34	1,910,267.65	2,751,575.22	36.2498762	-107.7367303
622H Heel - plan hits target center - Circle (radius 50.00)	0.00	0.000	4,964.00	214.74	315.84	1,915,330.90	2,746,539.62	36.2637979	-107.7537946

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
5,331.19	4,961.60	Intermediate Casing	7.00	8.75



Scientific Drilling, Intl
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 622H - Slot 4
Company:	DJR Operating	TVD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Site:	B02 2309	North Reference:	True
Well:	622H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
877.20	875.00	Ojo Alamo		0.00	0.000
962.52	959.00	Kirtland		0.00	0.000
1,279.56	1,271.00	Fruitland		0.00	0.000
1,627.09	1,613.00	Pictured Cliffs		0.00	0.000
1,723.62	1,708.00	Lewis		0.00	0.000
2,423.75	2,397.00	Chacra		0.00	0.000
3,147.24	3,109.00	Menefee		0.00	0.000
4,136.97	4,083.00	Point Lookout		0.00	0.000
4,307.64	4,251.00	Mancos		0.00	0.000
4,639.66	4,575.00	Mancos Silt		0.00	0.000



DJR Operating

Nageezi Unit
B02 2309
622H

Original Drilling
APD

Anticollision Report

07 January, 2020



www.scientificdrilling.com



Scientific Drilling, Intl

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 622H - Slot 4
Project:	Nageezi Unit	TVD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Reference Site:	B02 2309	MD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	622H	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	1/7/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	12,534.76	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						
B02 2309						
305H - Original Drilling - APD	305.56	305.56	39.85	38.07	22.361 CC	
305H - Original Drilling - APD	400.00	399.69	39.95	37.49	16.280 ES	
305H - Original Drilling - APD	500.00	498.27	43.69	40.55	13.902 SF	
306H - Original Drilling - APD	400.00	400.00	19.99	17.53	8.128 CC, ES	
306H - Original Drilling - APD	12,016.34	12,055.18	599.54	315.03	2.107 SF	
307H - Original Drilling - APD	949.04	947.00	15.37	8.79	2.336 CC, ES	
307H - Original Drilling - APD	1,000.00	997.71	16.16	9.18	2.315 SF	

Offset Design B02 2309 - 305H - Original Drilling - APD													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+IGRF													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-155.98	-36.40	-16.22	39.85				
100.00	100.00	100.00	100.00	0.15	0.15	-155.98	-36.40	-16.22	39.85	39.54	0.31	129.254	
200.00	200.00	200.00	200.00	0.51	0.51	-155.98	-36.40	-16.22	39.85	38.82	1.03	38.867	
300.00	300.00	300.00	300.00	0.87	0.87	-155.98	-36.40	-16.22	39.85	38.11	1.74	22.872	
305.56	305.56	305.56	305.56	0.89	0.89	-155.98	-36.40	-16.22	39.85	38.07	1.78	22.361 CC	
400.00	400.00	399.69	399.69	1.23	1.22	-156.04	-36.50	-16.22	39.95	37.49	2.45	16.280 ES	
500.00	499.98	498.27	498.23	1.59	1.55	-142.86	-39.05	-16.20	43.69	40.55	3.14	13.902 SF	
600.00	599.84	596.07	595.85	1.95	1.89	-148.40	-44.92	-16.16	53.71	49.86	3.85	13.966	
700.00	699.45	693.60	692.99	2.32	2.25	-153.94	-53.66	-16.09	70.05	65.50	4.55	15.389	
800.00	798.70	791.32	790.27	2.70	2.61	-158.24	-62.82	-16.02	90.40	85.14	5.26	17.179	
900.00	897.47	888.23	886.76	3.11	2.98	-161.46	-71.90	-15.96	114.31	108.34	5.97	19.138	
1,000.00	995.88	984.62	982.72	3.55	3.36	-163.92	-80.93	-15.89	140.44	133.76	6.68	21.025	
1,100.00	1,094.29	1,080.99	1,078.67	4.00	3.73	-165.61	-89.96	-15.82	166.76	159.38	7.38	22.596	
1,200.00	1,192.70	1,177.37	1,174.62	4.45	4.11	-166.85	-98.99	-15.76	193.18	185.09	8.09	23.892	
1,300.00	1,291.11	1,273.74	1,270.58	4.91	4.49	-167.79	-108.02	-15.69	219.66	210.87	8.79	24.981	
1,400.00	1,389.52	1,370.12	1,366.53	5.38	4.87	-168.52	-117.04	-15.62	246.18	236.68	9.50	25.908	
1,500.00	1,487.93	1,466.49	1,462.48	5.85	5.25	-169.12	-126.07	-15.56	272.74	262.53	10.21	26.705	
1,600.00	1,586.34	1,562.87	1,558.43	6.32	5.64	-169.61	-135.10	-15.49	299.32	288.39	10.93	27.396	

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



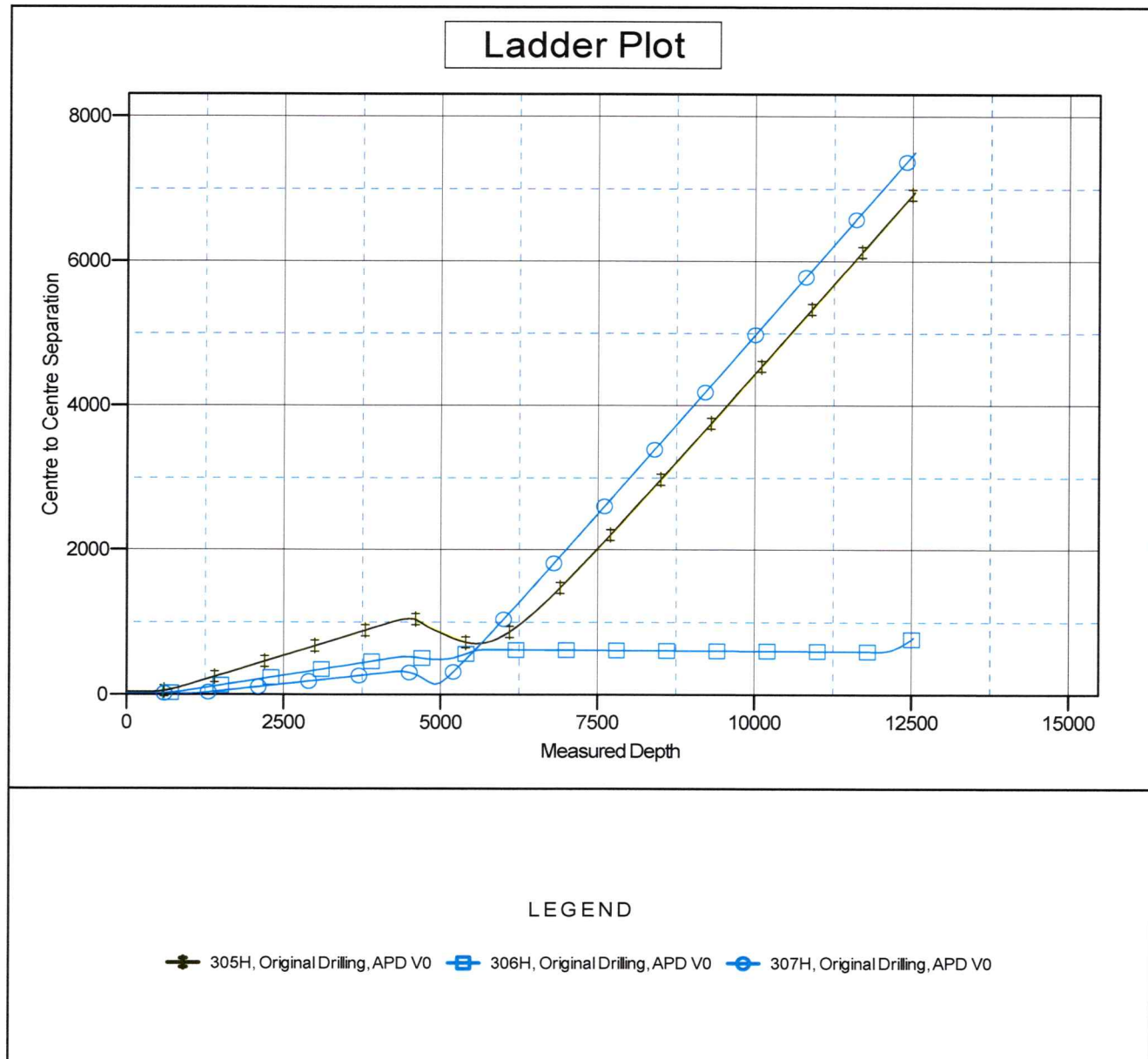
Scientific Drilling, Intl
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 622H - Slot 4
Project:	Nageezi Unit	TVD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Reference Site:	B02 2309	MD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	622H	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 6982' & RKB 14' @ 6996.00usft (A)
Offset Depths are relative to Offset Datum
Central Meridian is -107.8333334

Coordinates are relative to: 622H - Slot 4
Coordinate System is US State Plane 1983, New Mexico Western Zone
Grid Convergence at Surface is: 0.05°



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



Scientific Drilling, Intl Anticollision Report

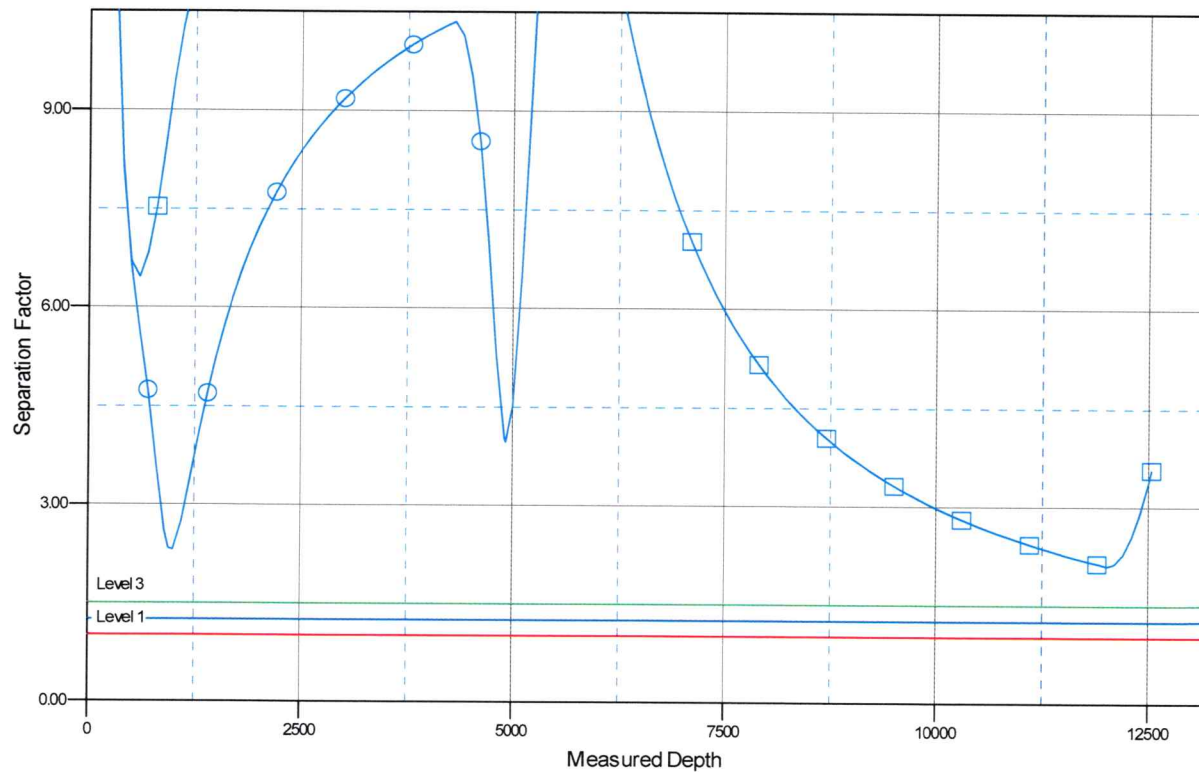


Company:	DJR Operating	Local Co-ordinate Reference:	Well 622H - Slot 4
Project:	Nageezi Unit	TVD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Reference Site:	B02 2309	MD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	622H	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 6982' & RKB 14' @ 6996.00usft (A)
Offset Depths are relative to Offset Datum
Central Meridian is -107.8333334

Coordinates are relative to: 622H - Slot 4
Coordinate System is US State Plane 1983, New Mexico Western Zone
Grid Convergence at Surface is: 0.05°

Separation Factor Plot



LEGEND

305H, Original Drilling, APD V0
 306H, Original Drilling, APD V0
 307H, Original Drilling, APD V0

District I
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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 305H	Pending	NWNE, Section 2, T23N, R9W	93' FNL, 1503' FEL	975	Flared	
Nageezi Unit 306H	Pending	NWNE, Section 2, T23N, R9W	75' FNL, 1494' FEL	650	Flared	
Nageezi Unit 307H	Pending	NWNE, Section 2, T23N, R9W	38' FNL, 1476' FEL	850	Flared	
Nageezi Unit 622H	Pending	NWNE, Section 2, T23N, R9W	57' FNL, 1485' FEL	644	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 11,322' 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

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 622H
3a. Address 1700 LINCOLN STREET, SUITE 2800, DENVER, CO 802	3b. Phone No. (include area code) (505) 632-3476	9. API Well No.
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NWNE / 57 FNL / 1485 FEL / LAT 36.263208 / LONG -107.754866 At proposed prod. zone SWSE / 342 FSL / 1342 FEL / LAT 36.249876 / LONG -107.73673		10. Field and Pool, or Exploratory NAGEEZI UNIT HZ OIL POOL/NAGEEZI
11. Sec., T. R. M. or Blk. and Survey or Area SEC 2/T23N/R9W/NMP		
14. Distance in miles and direction from nearest town or post office* 38 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) 57 feet	16. No of acres in lease 2240	17. Spacing Unit dedicated to this well 563.25
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 20 feet	19. Proposed Depth 4967 feet / 12535 feet	20. BLM/BIA Bond No. in file FED: NMB001464
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6982 feet	22. Approximate date work will start* 07/22/2020	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 03/24/2020
Title Regulatory Specialist		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) RICHARD FIELDS / Ph: (505) 564-7612	Date 11/13/2020
Title Field Manager		
Office Farmington Field Office		

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

Conditions of approval, if any, are attached.

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



(Continued on page 2)

*(Instructions on page 2)

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 398-6161 Fax: (575) 398-0720

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

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

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3468

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number		² Pool Code 98080		³ Pool Name NAGEEZI UNIT MANCOS OIL POOL	
⁴ Property Code		⁵ Property Name NAGEEZI UNIT			⁶ Well Number 622H
⁷ OGRID No. 371838		⁸ Operator Name DJR OPERATING, LLC			⁹ Elevation 6982'

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
B	2	23N	9W	2	57'	NORTH	1485'	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
0	1	23N	9W		342'	SOUTH	1342'	EAST	SAN JUAN

¹² Dedicated Acres SEC 35: SW/SE & SE/SE (80 AC.); SEC 2: NW/NE, NE/NE & SE/NE (122.20 AC.); SEC 1: NW/NW, SW/NW, SE/NW, NW/SW, NE/SW, SE/SW, NW/SE, SW/SE & SE/SE (381.05 AC.) = 563.25 ACRES TOTAL	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ 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

☐ FND 2" BC
GLO 1933
☐ FND 2" BC
GLO 1947
☐ FND MONUMENT
AS NOTED

SURFACE LOCATION (SHL)
LAT. 36.263208° N (NAD83)
LONG. 107.754866° W (NAD83)

POE
LAT. 36.263798° N (NAD83)
LONG. 107.753795° W (NAD83)

BOTTOM HOLE LOCATION (BHL)
LAT. 36.249876° N (NAD83)
LONG. 107.736730° W (NAD83)

17 OPERATOR CERTIFICATION

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

Shaw-Marie Ford 6/16/20
Signature Date

Shaw-Marie Ford
Printed Name
sford@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.

JULY 2, 2019

Date of Survey
Signature and Seal of Professional Surveyor:

Certificate Number 11393

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DISTRICT IV

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Phone: (505) 478-3460 Fax: (505) 478-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

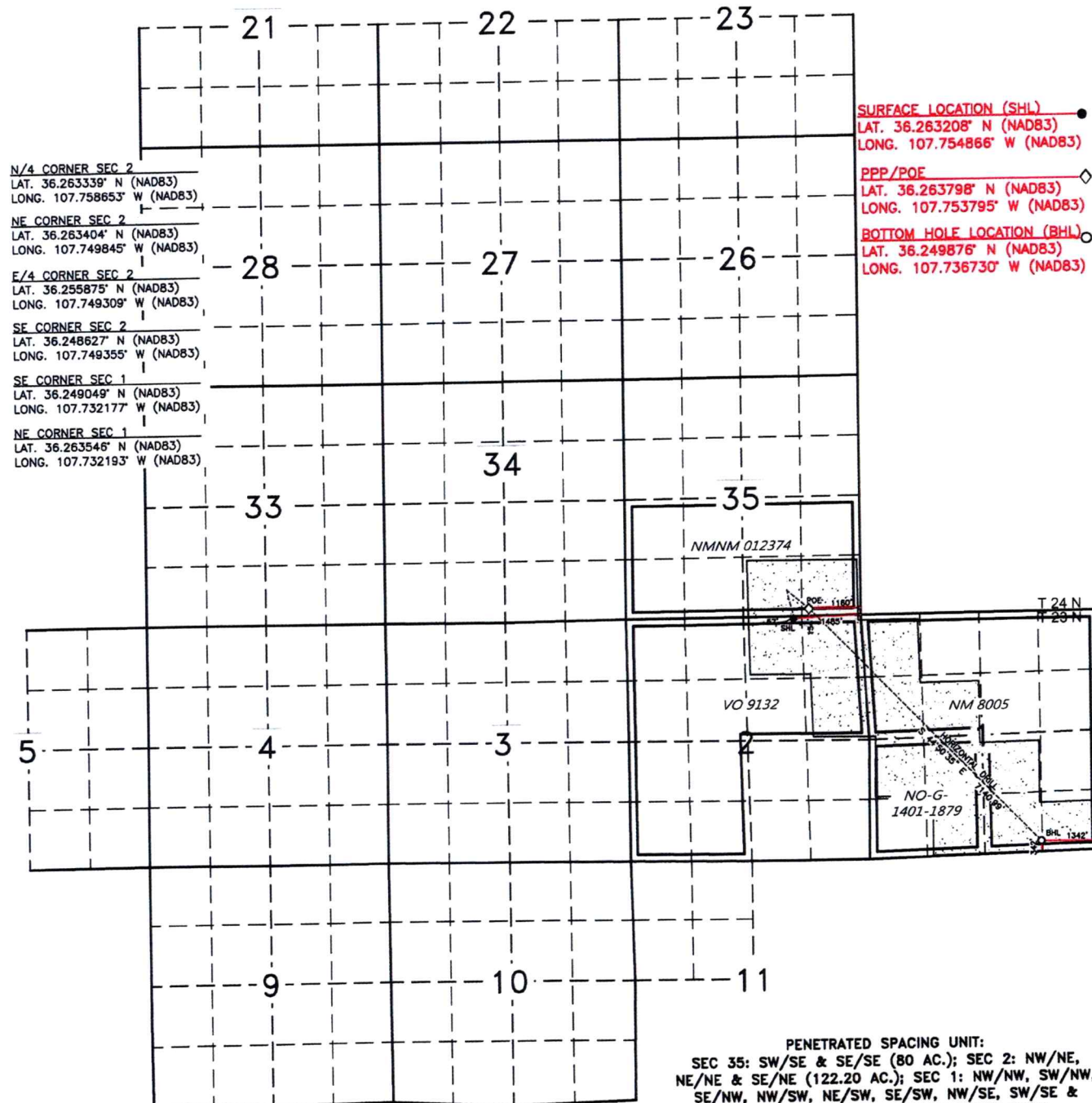
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1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011

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District Office

☐ AMENDED REPORT

DJR OPERATING, LLC
NAGEEZI UNIT #622H



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Santa Fe, NM 87505

☐ AMENDED REPORT

NAGEEZI UNIT #622H

215.14 LINEAR FEET OF WELLBORE WITHIN
NMNM 012374
LOCATED IN THE SE/SE OF SECTION 35,
T24N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	154	FSL	1160	FEL	36.263798° N	107.753795° W
TO	0	FSL	1013	FEL	36.263379° N	107.753280° W

1526.80 LINEAR FEET OF WELLBORE WITHIN
VO 9132
LOCATED IN THE NE/NE (LOT 1) OF SECTION 2,
T23N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	0	FNL	1013	FEL	36.263379° N	107.753280° W
TO	1094	FNL	0	FEL	36.260402° N	107.749631° W

2257.68 LINEAR FEET OF WELLBORE WITHIN
NM 8005
LOCATED IN THE NW/NW (LOT 4), SW/NW &
SE/NW OF SECTION 1,
T23N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	1094	FNL	0	FWL	36.260402° N	107.749631° W
TO	2711	FNL	1496	FWL	36.256001° N	107.744236° W

1420.55 LINEAR FEET OF WELLBORE WITHIN
NO-G-1401-1879
LOCATED IN THE NE/SW OF SECTION 1,
T23N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	2711	FNL	1496	FWL	36.256001° N	107.744236° W
TO	1599	FSL	2554	FEL	36.253231° N	107.740842° W

1720.82 LINEAR FEET OF WELLBORE WITHIN
NM 8005
LOCATED IN THE NW/SW & SW/SW OF SECTION 1,
T23N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	1599	FSL	2554	FEL	36.253231° N	107.740842° W
TO	342	FSL	1342	FEL	36.249876° N	107.736730° W

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DRILLING PLAN Nageezi Unit 622H San Juan County, New Mexico

Surface Location

1485-ft FEL & 57-ft FNL
Sec 2 T23N R09W
Graded Elevation 6982' MSL
RKB Elevation 6996' (14' KB)

SHL Geographical Coordinates (NAD-83)

Latitude 36.2632080° N
Longitude 107.7548660° W

Kick Off Point for Horizontal Build Curve

4288-ft MD
4231-ft TVD

Local Coordinates (from SHL)

620-ft North
177-ft West

Heel Location (Pay zone entry)

1160-ft FEL & 154-ft FEL
Sec 35 T24N R9W

Heel Geographical Coordinates (NAD-83)

Latitude 36.2637979° N
Longitude 107.75379460° W

Bottom Hole Location (TD)

1342-ft FEL & 342-ft FSL
Sec 1 T23N R9W

BHL Geographical Coordinates (NAD-83)

Latitude 36.2498762° N
Longitude 107.7367303° W

Well objectives

This well is planned as a 7140-ft lateral in the Mancos Silt sand.

Bottom Hole temperature and pressure

The temperature in the Mancos Silt horizontal objective is 136°F. Bottom hole pressure in the Mancos Silt is forecast to be 1985 psi.

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

Name	MD (ft)	TVD (ft)	Lithology	Pore fluid	Expected Pore Pressure (ppg)	Planned Mud Weight (ppg)
Ojo Alamo	881	880	Sd	W	8.3	8.4 – 8.8
Kirtland	963	959	Sh	-	8.3	8.4 – 8.8
Fruitland	1280	1271	C	G	8.3	9.0 - 9.5
Pictured Cliffs	1627	1613	Sd	W	8.3	9.0 - 9.5
Lewis	1724	1708	Sh	-		9.0 - 9.5
Chacra	2424	2397	Sd	-	8.3	9.0 - 9.5
Menefee	3147	3109	Sd, C	G	8.3	9.0 - 9.5
Point Lookout	4137	4083	Sd	-	8.3	9.0 - 9.5
Mancos	4308	4251	Sh	-		9.0 - 9.5
Mancos Silt	4640	4575	Slt	O/G	6.6	9.0 - 9.5
Gallup A	NP	NP	Slt	O/G	6.6	9.0 - 9.5
Gallup B	NP	NP	Sd	O/G	6.6	8.8 - 9.0
Gallup C	NP	NP	Sd	O/G	6.6	8.8 - 9.0
Target	5393	4964	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	5331	surf	4962	surface
4-1/2"	6-1/8"	11.6	P-110	BTC	5052	12535	4878	4892	5052

Note: all casing will be new

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Casing Design Load Cases

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

Note

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

Casing Design Factors

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

Cement Design

9-5/8" Surface Casing

	<u>Lead</u>
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

	<u>Lead</u>	<u>Tail</u>
	BJ Services	BJ Services
Type	III	Poz/G
Planned top	Surface	3788-ft
Density (ppg)	12.30	13.50
Yield (cf/sx)	2.34	1.50
Mix water (gal/sx)	13.26	7.20
Volume (sx)	378	254
Volume (bbls)	158	68
Volume (cu.ft.)	885	380
Excess %	50	50



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4-1/2" Production Liner

	BJ Services
Type	Poz/G
Planned top	5052-ft
Density (ppg)	13.3
Yield (cf/sx)	1.56
Mix water (gal/sx)	7.71
Volume (sx)	629
Volume (bbls)	175
Volume (cu.ft)	983
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 – 5331	9.0 – 9.5	38 – 45	8 – 14	<20
Production	Low solids, non-dispersed	5331 – 12535	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.

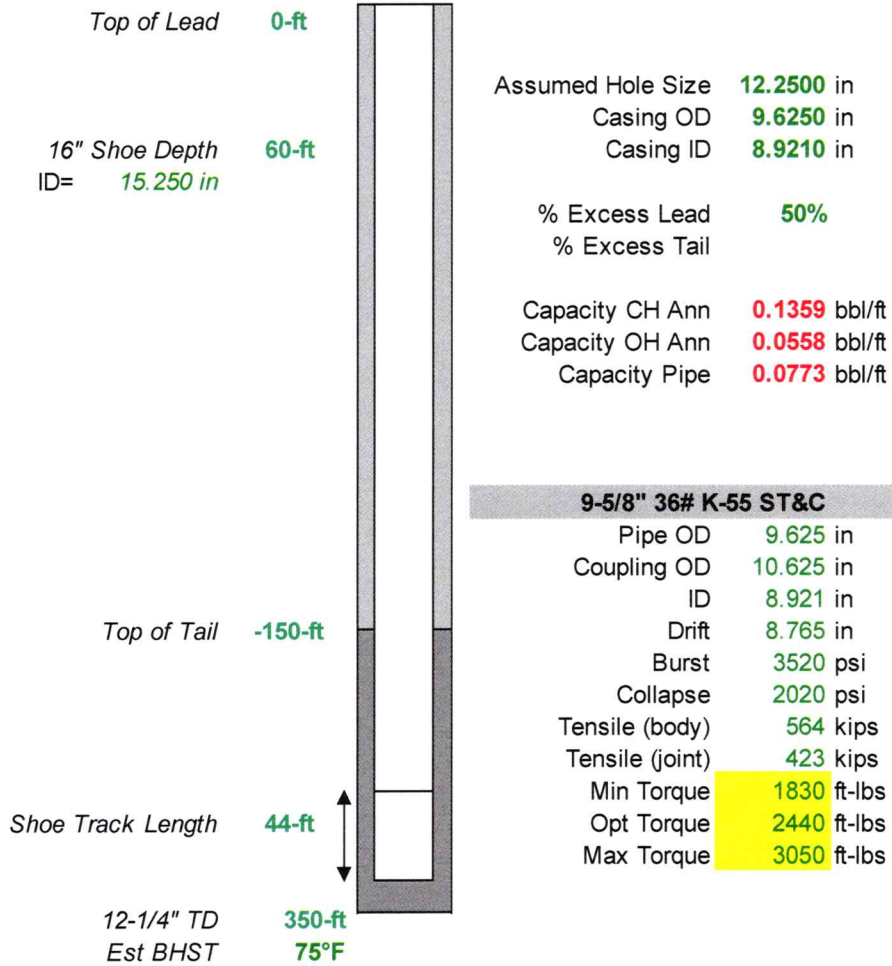
Completion

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.

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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

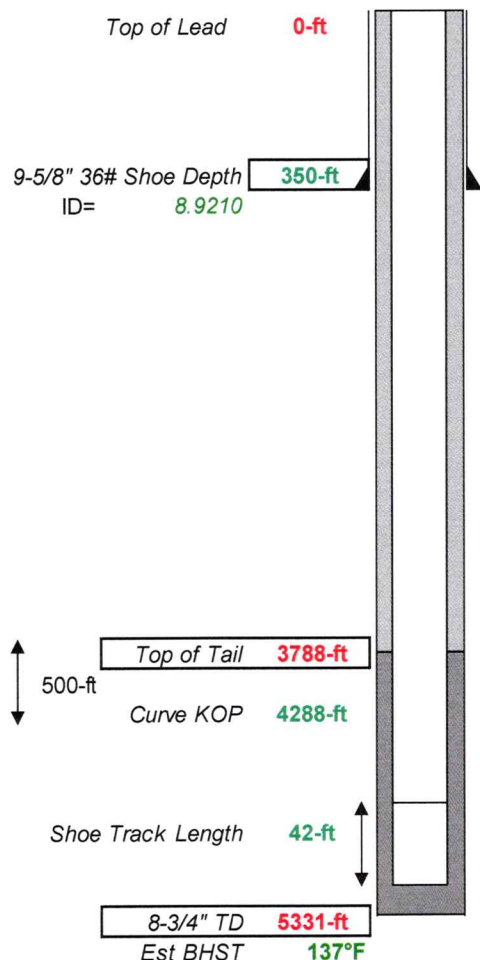
Tail Slurry		Properties	
None		Density	ppg
		Yield	cf/sk
		Total Mix Fluid	gal/sk
		Est pump time (70Bc)	
		50 psi strength in	
		24/72 hr strength	psi

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

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7" Intermediate Casing & Cementing Nageezi Unit 622H



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

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

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

7" 26# K-55 LT&C

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

BJ Lead Slurry

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

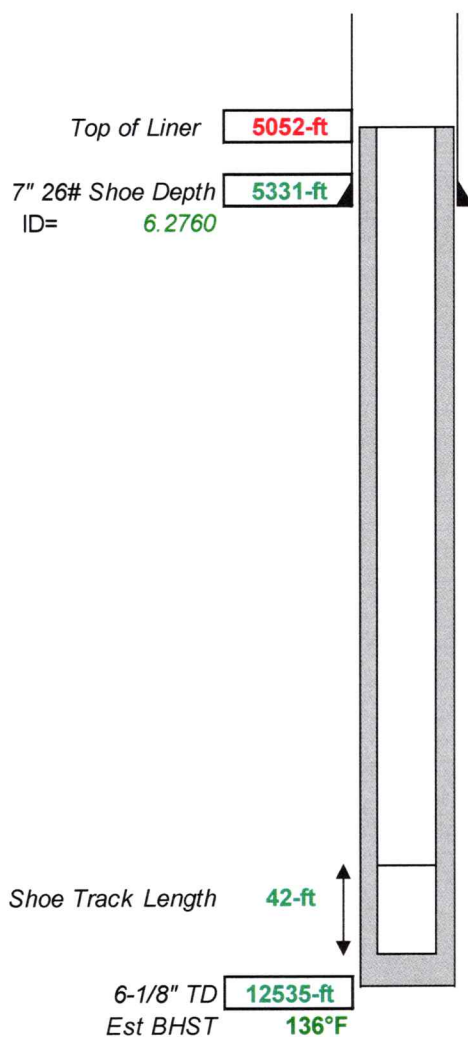
Volumes

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

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

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

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

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

BJ Lead Slurry

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

Properties

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

Volumes

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

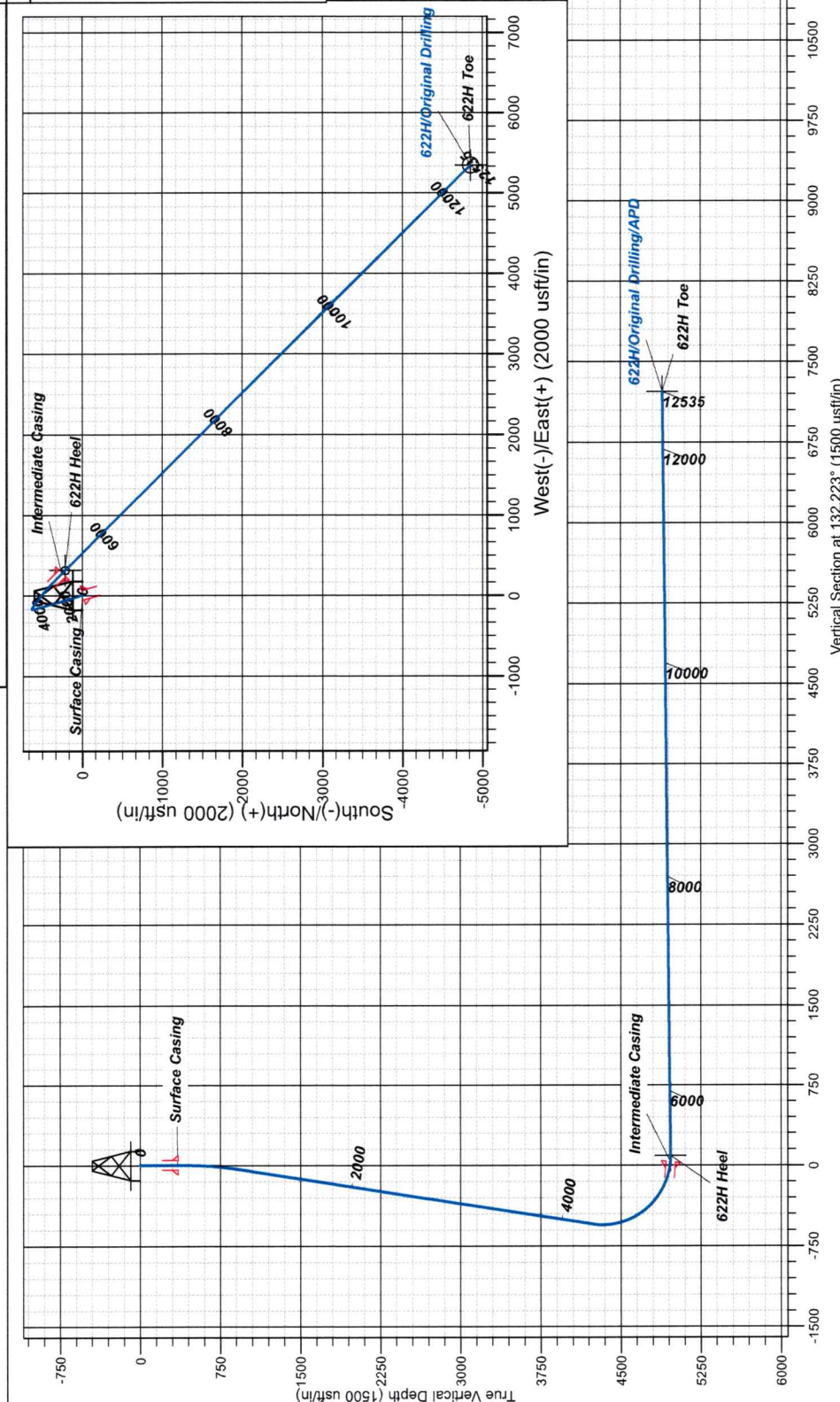
Azimuths to True North
 Magnetic North: 8.78°
 Magnetic Field
 Strength: 49421.4nT
 Dip Angle: 62.78°
 Date: 12/20/2019
 Model: HDGM FILE

CASING DETAILS		
TVD	MD	Name
350.00	350.00	Surface Casing
4961.60	5331.19	Intermediate Casing

FORMATION DETAILS	
MDPath	Formation
7875.00	Ojo Alamo
867.20	Kirtland
959.00	Fruitland
1271.00	Pictured Cliffs
1613.00	Lewis
1727.09	Chacra
1708.00	Menefee
2397.00	Point Lookout
2423.75	Mancos
3109.00	Mancos Silt
3147.24	
4083.00	
4136.97	
4251.00	
4307.64	
4575.00	
4639.86	

SECTION DETAILS									
MD	Inc	Azi	TVD	+N-S	+E/W	Dleg	TFace	Vsect	Target
0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.00	
400.00	0.000	0.000	400.00	0.00	0.00	0.00	0.00	0.00	
911.42	10.23	344.030	908.70	43.77	-17.53	2.00	344.03	-38.89	
5383.40	90.58	135.203	4964.00	614.77	-117.53	2.00	538.97	-54.97	
5383.40	90.58	135.203	4964.00	214.74	315.84	0.00	150.73	-89.58	622H Heel
2534.76	90.58	135.203	4892.00	-4852.59	5347.34	0.00	0.00	7220.92	622H Toe

DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude Longitude
622H Heel	4964.00	214.74	315.84	1915330.90	2748639.62	-107.7537946
622H Toe	4892.00	-4852.59	5347.34	1910267.65	27151575.22	-107.7367303





DJR Operating

Nageezi Unit

B02 2309

622H - Slot 4

Original Drilling

Plan: APD

Standard Planning Report

07 January, 2020



www.scientificdrilling.com



Scientific Drilling, Intl
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 622H - Slot 4
Company:	DJR Operating	TVD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Site:	B02 2309	North Reference:	True
Well:	622H	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		B02 2309			
Site Position:		Northing:	1,915,079.49 usft	Latitude:	36.2631080
From:	Map	Easting:	2,746,207.76 usft	Longitude:	-107.7549210
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.05 °

Well	622H - Slot 4					
Well Position	+N/-S	36.40 usft	Northing:	1,915,115.90 usft	Latitude:	36.2632080
	+E/-W	16.22 usft	Easting:	2,746,223.95 usft	Longitude:	-107.7548660
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	6,982.00 usft

Wellbore	Original Drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	12/20/2019	8.78	62.78	49,421.40000000

Design	APD			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	132.223

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
911.42	10.23	344.030	908.70	43.77	-12.53	2.00	2.00	0.00	344.03	
4,287.57	10.23	344.030	4,231.20	620.14	-177.47	0.00	0.00	0.00	0.00	
5,393.40	90.58	135.203	4,964.00	214.74	315.84	9.00	7.27	13.67	150.73	622H Heel
12,534.76	90.58	135.203	4,892.00	-4,852.59	5,347.34	0.00	0.00	0.00	0.00	622H Toe



Scientific Drilling, Intl
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 622H - Slot 4
Company:	DJR Operating	TVD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Site:	B02 2309	North Reference:	True
Well:	622H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	2.00	344.030	499.98	1.68	-0.48	-1.48	2.00	2.00	0.00
600.00	4.00	344.030	599.84	6.71	-1.92	-5.93	2.00	2.00	0.00
700.00	6.00	344.030	699.45	15.09	-4.32	-13.34	2.00	2.00	0.00
800.00	8.00	344.030	798.70	26.80	-7.67	-23.69	2.00	2.00	0.00
900.00	10.00	344.030	897.47	41.84	-11.97	-36.99	2.00	2.00	0.00
911.42	10.23	344.030	908.70	43.77	-12.53	-38.69	2.00	2.00	0.00
1,000.00	10.23	344.030	995.88	58.89	-16.85	-52.06	0.00	0.00	0.00
1,100.00	10.23	344.030	1,094.29	75.97	-21.74	-67.15	0.00	0.00	0.00
1,200.00	10.23	344.030	1,192.70	93.04	-26.62	-82.24	0.00	0.00	0.00
1,300.00	10.23	344.030	1,291.11	110.11	-31.51	-97.33	0.00	0.00	0.00
1,400.00	10.23	344.030	1,389.52	127.18	-36.40	-112.42	0.00	0.00	0.00
1,500.00	10.23	344.030	1,487.93	144.25	-41.28	-127.51	0.00	0.00	0.00
1,600.00	10.23	344.030	1,586.34	161.32	-46.17	-142.60	0.00	0.00	0.00
1,700.00	10.23	344.030	1,684.76	178.40	-51.05	-157.69	0.00	0.00	0.00
1,800.00	10.23	344.030	1,783.17	195.47	-55.94	-172.78	0.00	0.00	0.00
1,900.00	10.23	344.030	1,881.58	212.54	-60.82	-187.87	0.00	0.00	0.00
2,000.00	10.23	344.030	1,979.99	229.61	-65.71	-202.96	0.00	0.00	0.00
2,100.00	10.23	344.030	2,078.40	246.68	-70.59	-218.05	0.00	0.00	0.00
2,200.00	10.23	344.030	2,176.81	263.76	-75.48	-233.14	0.00	0.00	0.00
2,300.00	10.23	344.030	2,275.22	280.83	-80.36	-248.23	0.00	0.00	0.00
2,400.00	10.23	344.030	2,373.63	297.90	-85.25	-263.33	0.00	0.00	0.00
2,500.00	10.23	344.030	2,472.04	314.97	-90.14	-278.42	0.00	0.00	0.00
2,600.00	10.23	344.030	2,570.45	332.04	-95.02	-293.51	0.00	0.00	0.00
2,700.00	10.23	344.030	2,668.86	349.12	-99.91	-308.60	0.00	0.00	0.00
2,800.00	10.23	344.030	2,767.27	366.19	-104.79	-323.69	0.00	0.00	0.00
2,900.00	10.23	344.030	2,865.69	383.26	-109.68	-338.78	0.00	0.00	0.00
3,000.00	10.23	344.030	2,964.10	400.33	-114.56	-353.87	0.00	0.00	0.00
3,100.00	10.23	344.030	3,062.51	417.40	-119.45	-368.96	0.00	0.00	0.00
3,200.00	10.23	344.030	3,160.92	434.48	-124.33	-384.05	0.00	0.00	0.00
3,300.00	10.23	344.030	3,259.33	451.55	-129.22	-399.14	0.00	0.00	0.00
3,400.00	10.23	344.030	3,357.74	468.62	-134.10	-414.23	0.00	0.00	0.00
3,500.00	10.23	344.030	3,456.15	485.69	-138.99	-429.32	0.00	0.00	0.00
3,600.00	10.23	344.030	3,554.56	502.76	-143.88	-444.41	0.00	0.00	0.00
3,700.00	10.23	344.030	3,652.97	519.83	-148.76	-459.50	0.00	0.00	0.00
3,800.00	10.23	344.030	3,751.38	536.91	-153.65	-474.59	0.00	0.00	0.00
3,900.00	10.23	344.030	3,849.79	553.98	-158.53	-489.68	0.00	0.00	0.00
4,000.00	10.23	344.030	3,948.20	571.05	-163.42	-504.77	0.00	0.00	0.00
4,100.00	10.23	344.030	4,046.61	588.12	-168.30	-519.86	0.00	0.00	0.00
4,200.00	10.23	344.030	4,145.03	605.19	-173.19	-534.95	0.00	0.00	0.00
4,287.57	10.23	344.030	4,231.20	620.14	-177.47	-548.17	0.00	0.00	0.00
4,300.00	9.27	347.428	4,243.45	622.18	-177.99	-549.92	9.00	-7.72	27.33
4,400.00	5.12	58.430	4,342.81	632.40	-175.94	-555.27	9.00	-4.15	71.00
4,500.00	11.32	109.337	4,441.84	631.48	-162.85	-544.97	9.00	6.20	50.91
4,600.00	19.79	121.135	4,538.11	619.46	-139.06	-519.27	9.00	8.47	11.80
4,700.00	28.57	125.946	4,629.26	596.62	-105.14	-478.80	9.00	8.79	4.81
4,800.00	37.46	128.622	4,713.03	563.53	-61.94	-424.57	9.00	8.88	2.68
4,900.00	46.38	130.390	4,787.37	521.01	-10.50	-357.90	9.00	8.92	1.77



Scientific Drilling, Intl Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 622H - Slot 4
Company:	DJR Operating	TVD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Site:	B02 2309	North Reference:	True
Well:	622H	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)
5,000.00	55.32	131.697	4,850.44	470.10	47.89	-280.45	9.00	8.94	1.31
5,100.00	64.28	132.747	4,900.69	412.05	111.80	-194.11	9.00	8.95	1.05
5,200.00	73.24	133.649	4,936.88	348.30	179.67	-101.01	9.00	8.96	0.90
5,300.00	82.20	134.469	4,958.13	280.41	249.80	-3.45	9.00	8.96	0.82
5,393.40	90.58	135.203	4,964.00	214.74	315.84	89.58	9.00	8.97	0.79
5,400.00	90.58	135.203	4,963.93	210.06	320.49	96.17	0.00	0.00	0.00
5,500.00	90.58	135.203	4,962.93	139.10	390.95	196.03	0.00	0.00	0.00
5,600.00	90.58	135.203	4,961.92	68.14	461.40	295.89	0.00	0.00	0.00
5,700.00	90.58	135.203	4,960.91	-2.81	531.86	395.75	0.00	0.00	0.00
5,800.00	90.58	135.203	4,959.90	-73.77	602.32	495.61	0.00	0.00	0.00
5,900.00	90.58	135.203	4,958.89	-144.73	672.77	595.47	0.00	0.00	0.00
6,000.00	90.58	135.203	4,957.88	-215.69	743.23	695.33	0.00	0.00	0.00
6,100.00	90.58	135.203	4,956.88	-286.64	813.68	795.19	0.00	0.00	0.00
6,200.00	90.58	135.203	4,955.87	-357.60	884.14	895.05	0.00	0.00	0.00
6,300.00	90.58	135.203	4,954.86	-428.56	954.59	994.91	0.00	0.00	0.00
6,400.00	90.58	135.203	4,953.85	-499.52	1,025.05	1,094.77	0.00	0.00	0.00
6,500.00	90.58	135.203	4,952.84	-570.47	1,095.51	1,194.63	0.00	0.00	0.00
6,600.00	90.58	135.203	4,951.84	-641.43	1,165.96	1,294.49	0.00	0.00	0.00
6,700.00	90.58	135.203	4,950.83	-712.39	1,236.42	1,394.35	0.00	0.00	0.00
6,800.00	90.58	135.203	4,949.82	-783.35	1,306.87	1,494.21	0.00	0.00	0.00
6,900.00	90.58	135.203	4,948.81	-854.30	1,377.33	1,594.07	0.00	0.00	0.00
7,000.00	90.58	135.203	4,947.80	-925.26	1,447.78	1,693.93	0.00	0.00	0.00
7,100.00	90.58	135.203	4,946.79	-996.22	1,518.24	1,793.79	0.00	0.00	0.00
7,200.00	90.58	135.203	4,945.79	-1,067.18	1,588.70	1,893.65	0.00	0.00	0.00
7,300.00	90.58	135.203	4,944.78	-1,138.13	1,659.15	1,993.51	0.00	0.00	0.00
7,400.00	90.58	135.203	4,943.77	-1,209.09	1,729.61	2,093.37	0.00	0.00	0.00
7,500.00	90.58	135.203	4,942.76	-1,280.05	1,800.06	2,193.23	0.00	0.00	0.00
7,600.00	90.58	135.203	4,941.75	-1,351.01	1,870.52	2,293.09	0.00	0.00	0.00
7,700.00	90.58	135.203	4,940.74	-1,421.97	1,940.97	2,392.94	0.00	0.00	0.00
7,800.00	90.58	135.203	4,939.74	-1,492.92	2,011.43	2,492.80	0.00	0.00	0.00
7,900.00	90.58	135.203	4,938.73	-1,563.88	2,081.89	2,592.66	0.00	0.00	0.00
8,000.00	90.58	135.203	4,937.72	-1,634.84	2,152.34	2,692.52	0.00	0.00	0.00
8,100.00	90.58	135.203	4,936.71	-1,705.80	2,222.80	2,792.38	0.00	0.00	0.00
8,200.00	90.58	135.203	4,935.70	-1,776.75	2,293.25	2,892.24	0.00	0.00	0.00
8,300.00	90.58	135.203	4,934.70	-1,847.71	2,363.71	2,992.10	0.00	0.00	0.00
8,400.00	90.58	135.203	4,933.69	-1,918.67	2,434.16	3,091.96	0.00	0.00	0.00
8,500.00	90.58	135.203	4,932.68	-1,989.63	2,504.62	3,191.82	0.00	0.00	0.00
8,600.00	90.58	135.203	4,931.67	-2,060.58	2,575.08	3,291.68	0.00	0.00	0.00
8,700.00	90.58	135.203	4,930.66	-2,131.54	2,645.53	3,391.54	0.00	0.00	0.00
8,800.00	90.58	135.203	4,929.65	-2,202.50	2,715.99	3,491.40	0.00	0.00	0.00
8,900.00	90.58	135.203	4,928.65	-2,273.46	2,786.44	3,591.26	0.00	0.00	0.00
9,000.00	90.58	135.203	4,927.64	-2,344.41	2,856.90	3,691.12	0.00	0.00	0.00
9,100.00	90.58	135.203	4,926.63	-2,415.37	2,927.35	3,790.98	0.00	0.00	0.00
9,200.00	90.58	135.203	4,925.62	-2,486.33	2,997.81	3,890.84	0.00	0.00	0.00
9,300.00	90.58	135.203	4,924.61	-2,557.29	3,068.27	3,990.70	0.00	0.00	0.00
9,400.00	90.58	135.203	4,923.61	-2,628.24	3,138.72	4,090.56	0.00	0.00	0.00
9,500.00	90.58	135.203	4,922.60	-2,699.20	3,209.18	4,190.42	0.00	0.00	0.00
9,600.00	90.58	135.203	4,921.59	-2,770.16	3,279.63	4,290.28	0.00	0.00	0.00
9,700.00	90.58	135.203	4,920.58	-2,841.12	3,350.09	4,390.14	0.00	0.00	0.00
9,800.00	90.58	135.203	4,919.57	-2,912.07	3,420.54	4,490.00	0.00	0.00	0.00
9,900.00	90.58	135.203	4,918.56	-2,983.03	3,491.00	4,589.86	0.00	0.00	0.00
10,000.00	90.58	135.203	4,917.56	-3,053.99	3,561.46	4,689.72	0.00	0.00	0.00



Scientific Drilling, Intl Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 622H - Slot 4
Company:	DJR Operating	TVD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Site:	B02 2309	North Reference:	True
Well:	622H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,100.00	90.58	135.203	4,916.55	-3,124.95	3,631.91	4,789.58	0.00	0.00	0.00
10,200.00	90.58	135.203	4,915.54	-3,195.90	3,702.37	4,889.44	0.00	0.00	0.00
10,300.00	90.58	135.203	4,914.53	-3,266.86	3,772.82	4,989.30	0.00	0.00	0.00
10,400.00	90.58	135.203	4,913.52	-3,337.82	3,843.28	5,089.16	0.00	0.00	0.00
10,500.00	90.58	135.203	4,912.51	-3,408.78	3,913.73	5,189.02	0.00	0.00	0.00
10,600.00	90.58	135.203	4,911.51	-3,479.73	3,984.19	5,288.88	0.00	0.00	0.00
10,700.00	90.58	135.203	4,910.50	-3,550.69	4,054.65	5,388.74	0.00	0.00	0.00
10,800.00	90.58	135.203	4,909.49	-3,621.65	4,125.10	5,488.59	0.00	0.00	0.00
10,900.00	90.58	135.203	4,908.48	-3,692.61	4,195.56	5,588.45	0.00	0.00	0.00
11,000.00	90.58	135.203	4,907.47	-3,763.56	4,266.01	5,688.31	0.00	0.00	0.00
11,100.00	90.58	135.203	4,906.47	-3,834.52	4,336.47	5,788.17	0.00	0.00	0.00
11,200.00	90.58	135.203	4,905.46	-3,905.48	4,406.92	5,888.03	0.00	0.00	0.00
11,300.00	90.58	135.203	4,904.45	-3,976.44	4,477.38	5,987.89	0.00	0.00	0.00
11,400.00	90.58	135.203	4,903.44	-4,047.40	4,547.84	6,087.75	0.00	0.00	0.00
11,500.00	90.58	135.203	4,902.43	-4,118.35	4,618.29	6,187.61	0.00	0.00	0.00
11,600.00	90.58	135.203	4,901.42	-4,189.31	4,688.75	6,287.47	0.00	0.00	0.00
11,700.00	90.58	135.203	4,900.42	-4,260.27	4,759.20	6,387.33	0.00	0.00	0.00
11,800.00	90.58	135.203	4,899.41	-4,331.23	4,829.66	6,487.19	0.00	0.00	0.00
11,900.00	90.58	135.203	4,898.40	-4,402.18	4,900.11	6,587.05	0.00	0.00	0.00
12,000.00	90.58	135.203	4,897.39	-4,473.14	4,970.57	6,686.91	0.00	0.00	0.00
12,100.00	90.58	135.203	4,896.38	-4,544.10	5,041.03	6,786.77	0.00	0.00	0.00
12,200.00	90.58	135.203	4,895.38	-4,615.06	5,111.48	6,886.63	0.00	0.00	0.00
12,300.00	90.58	135.203	4,894.37	-4,686.01	5,181.94	6,986.49	0.00	0.00	0.00
12,400.00	90.58	135.203	4,893.36	-4,756.97	5,252.39	7,086.35	0.00	0.00	0.00
12,500.00	90.58	135.203	4,892.35	-4,827.93	5,322.85	7,186.21	0.00	0.00	0.00
12,534.76	90.58	135.203	4,892.00	-4,852.59	5,347.34	7,220.92	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
622H Toe - plan hits target center - Circle (radius 100.00)	0.00	0.000	4,892.00	-4,852.59	5,347.34	1,910,267.65	2,751,575.22	36.2498762	-107.7367303
622H Heel - plan hits target center - Circle (radius 50.00)	0.00	0.000	4,964.00	214.74	315.84	1,915,330.90	2,746,539.62	36.2637979	-107.7537946

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
5,331.19	4,961.60	Intermediate Casing	7.00	8.75



Scientific Drilling, Intl
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well 622H - Slot 4
Company:	DJR Operating	TVD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Project:	Nageezi Unit	MD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Site:	B02 2309	North Reference:	True
Well:	622H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
877.20	875.00	Ojo Alamo		0.00	0.000
962.52	959.00	Kirtland		0.00	0.000
1,279.56	1,271.00	Fruitland		0.00	0.000
1,627.09	1,613.00	Pictured Cliffs		0.00	0.000
1,723.62	1,708.00	Lewis		0.00	0.000
2,423.75	2,397.00	Chacra		0.00	0.000
3,147.24	3,109.00	Menefee		0.00	0.000
4,136.97	4,083.00	Point Lookout		0.00	0.000
4,307.64	4,251.00	Mancos		0.00	0.000
4,639.66	4,575.00	Mancos Silt		0.00	0.000



DJR Operating

Nageezi Unit
B02 2309
622H

Original Drilling
APD

Anticollision Report

07 January, 2020



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Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 622H - Slot 4
Project:	Nageezi Unit	TVD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Reference Site:	B02 2309	MD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	622H	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	1/7/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	12,534.76	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						
B02 2309						
305H - Original Drilling - APD	305.56	305.56	39.85	38.07	22.361	CC
305H - Original Drilling - APD	400.00	399.69	39.95	37.49	16.280	ES
305H - Original Drilling - APD	500.00	498.27	43.69	40.55	13.902	SF
306H - Original Drilling - APD	400.00	400.00	19.99	17.53	8.128	CC, ES
306H - Original Drilling - APD	12,016.34	12,055.18	599.54	315.03	2.107	SF
307H - Original Drilling - APD	949.04	947.00	15.37	8.79	2.336	CC, ES
307H - Original Drilling - APD	1,000.00	997.71	16.16	9.18	2.315	SF

Offset Design B02 2309 - 305H - Original Drilling - APD													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+IGRF													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-155.98	-36.40	-16.22	39.85				
100.00	100.00	100.00	100.00	0.15	0.15	-155.98	-36.40	-16.22	39.85	39.54	0.31	129.254	
200.00	200.00	200.00	200.00	0.51	0.51	-155.98	-36.40	-16.22	39.85	38.82	1.03	38.867	
300.00	300.00	300.00	300.00	0.87	0.87	-155.98	-36.40	-16.22	39.85	38.11	1.74	22.872	
305.56	305.56	305.56	305.56	0.89	0.89	-155.98	-36.40	-16.22	39.85	38.07	1.78	22.361	CC
400.00	400.00	399.69	399.69	1.23	1.22	-156.04	-36.50	-16.22	39.95	37.49	2.45	16.280	ES
500.00	499.98	498.27	498.23	1.59	1.55	-142.86	-39.05	-16.20	43.69	40.55	3.14	13.902	SF
600.00	599.84	596.07	595.85	1.95	1.89	-148.40	-44.92	-16.16	53.71	49.86	3.85	13.966	
700.00	699.45	693.60	692.99	2.32	2.25	-153.94	-53.66	-16.09	70.05	65.50	4.55	15.389	
800.00	798.70	791.32	790.27	2.70	2.61	-158.24	-62.82	-16.02	90.40	85.14	5.26	17.179	
900.00	897.47	888.23	886.76	3.11	2.98	-161.46	-71.90	-15.96	114.31	108.34	5.97	19.138	
1,000.00	995.88	984.62	982.72	3.55	3.36	-163.92	-80.93	-15.89	140.44	133.76	6.68	21.025	
1,100.00	1,094.29	1,080.99	1,078.67	4.00	3.73	-165.61	-89.96	-15.82	166.76	159.38	7.38	22.596	
1,200.00	1,192.70	1,177.37	1,174.62	4.45	4.11	-166.85	-98.99	-15.76	193.18	185.09	8.09	23.892	
1,300.00	1,291.11	1,273.74	1,270.58	4.91	4.49	-167.79	-108.02	-15.69	219.66	210.87	8.79	24.981	
1,400.00	1,389.52	1,370.12	1,366.53	5.38	4.87	-168.52	-117.04	-15.62	246.18	236.68	9.50	25.908	
1,500.00	1,487.93	1,466.49	1,462.48	5.85	5.25	-169.12	-126.07	-15.56	272.74	262.53	10.21	26.705	
1,600.00	1,586.34	1,562.87	1,558.43	6.32	5.64	-169.61	-135.10	-15.49	299.32	288.39	10.93	27.396	

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



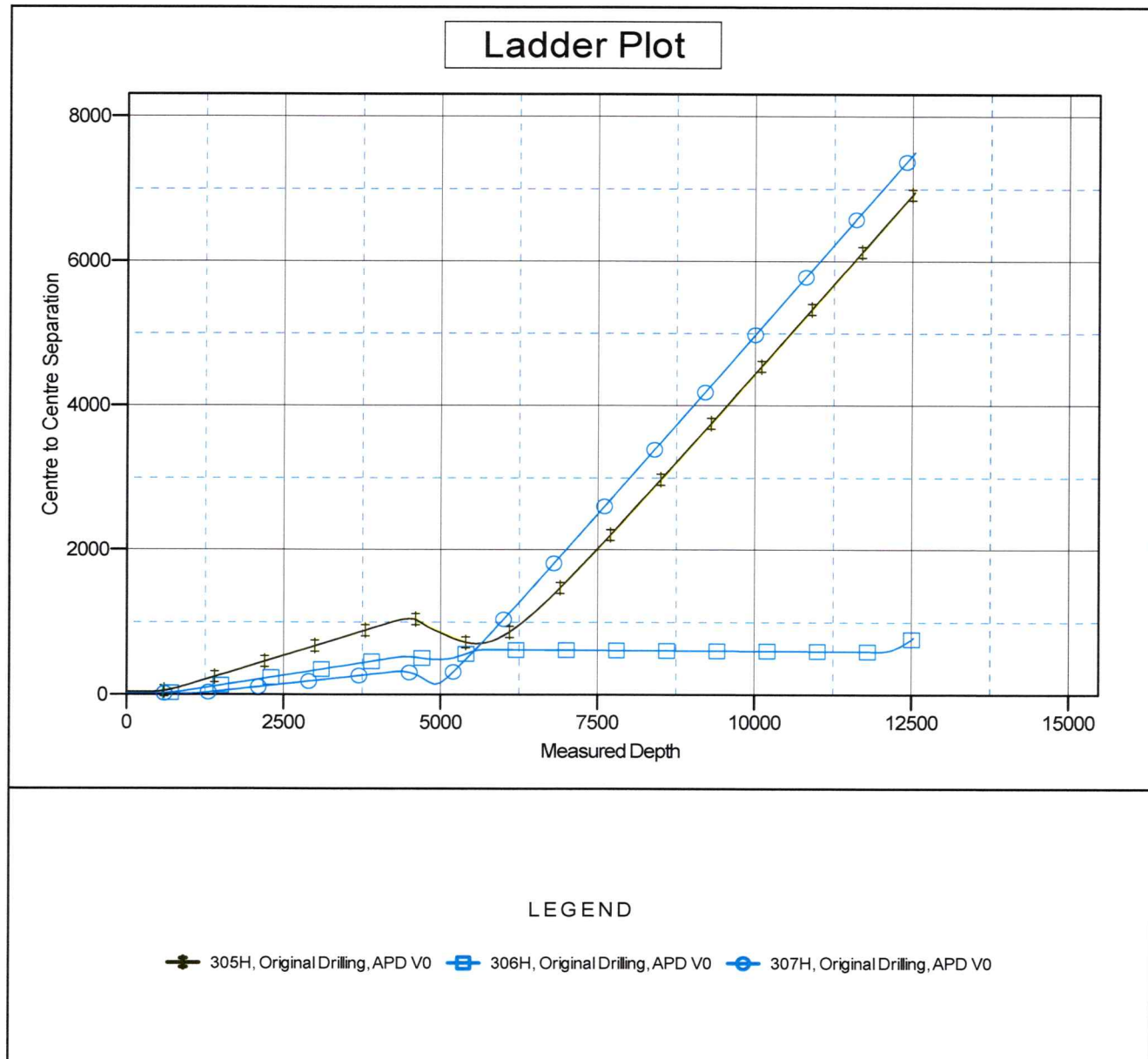
Scientific Drilling, Intl
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well 622H - Slot 4
Project:	Nageezi Unit	TVD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Reference Site:	B02 2309	MD Reference:	GL 6982' & RKB 14' @ 6996.00usft (Aztec 920)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	622H	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 6982' & RKB 14' @ 6996.00usft (A)
Offset Depths are relative to Offset Datum
Central Meridian is -107.8333334

Coordinates are relative to: 622H - Slot 4
Coordinate System is US State Plane 1983, New Mexico Western Zone
Grid Convergence at Surface is: 0.05°



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



Scientific Drilling, Intl Anticollision Report

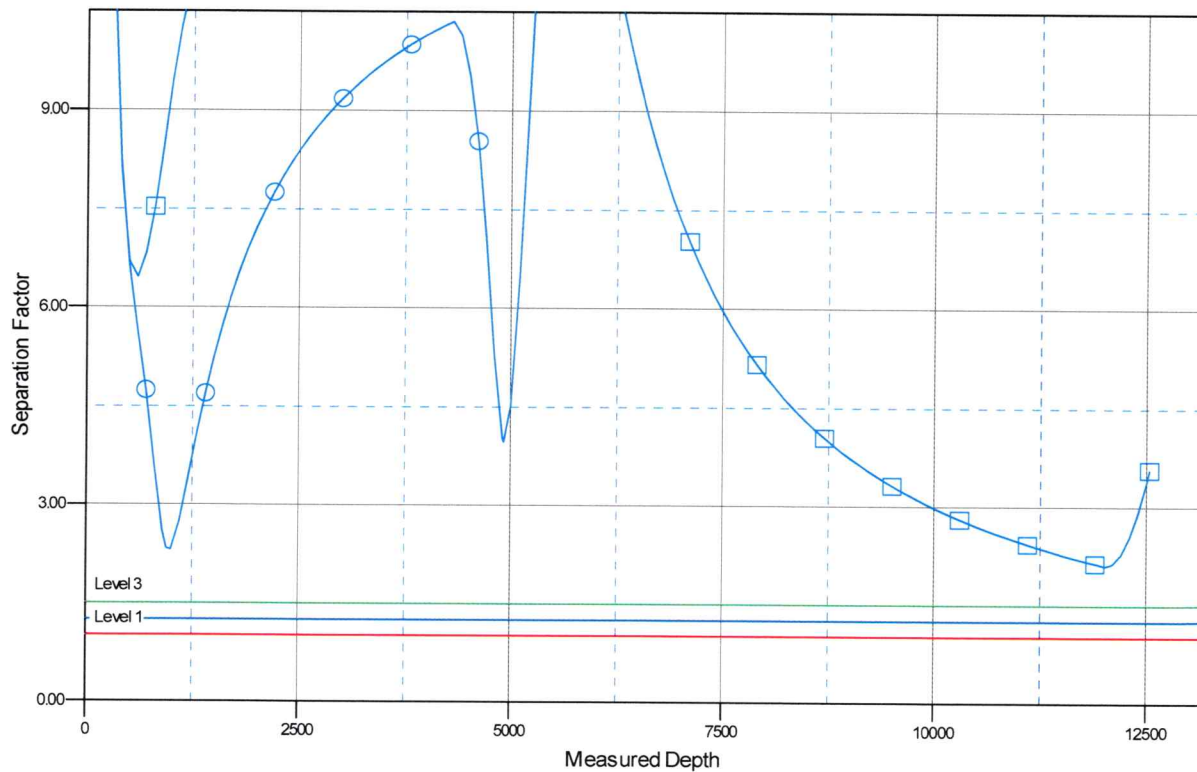


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Coordinate System is US State Plane 1983, New Mexico Western Zone
Grid Convergence at Surface is: 0.05°

Separation Factor Plot



LEGEND

305H, Original Drilling, APD V0
 306H, Original Drilling, APD V0
 307H, Original Drilling, APD V0

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 305H	Pending	NWNE, Section 2, T23N, R9W	93' FNL, 1503' FEL	975	Flared	
Nageezi Unit 306H	Pending	NWNE, Section 2, T23N, R9W	75' FNL, 1494' FEL	650	Flared	
Nageezi Unit 307H	Pending	NWNE, Section 2, T23N, R9W	38' FNL, 1476' FEL	850	Flared	
Nageezi Unit 622H	Pending	NWNE, Section 2, T23N, R9W	57' FNL, 1485' FEL	644	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 11,322' 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
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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 20392

COMMENTS

Operator:			OGRID:	Action Number:	Action Type:
DJR OPERATING, LLC 1 Road 3263 Aztec, NM87410			371838	20392	FORM 3160-3
Created By	Comment				Comment Date
ahvermersch	See additional NMOCD COA's on attached letter.				03/10/2021

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CONDITIONS

Action 20392

CONDITIONS OF APPROVAL

Operator:	DJR OPERATING, LLC	1 Road 3263	Aztec, NM87410	OGRID:	371838	Action Number:	20392	Action Type:	FORM 3160-3
OCD Reviewer	Condition								
ahvermersch	Notify OCD 24 hours prior to casing & cement								