

Form 3160-5
(June 2015)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 20185. Lease Serial No.
NMNM8005

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 27. If Unit or CA/Agreement, Name and/or No.
NMNM132981A

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other8. Well Name and No.
NAGEEZI UNIT 513H2. Name of Operator
DJR OPERATING LLCContact: SHAW-MARIE FORD
E-Mail: sford@djrlc.com9. API Well No.
30-045-357643a. Address
1 ROAD 3263
AZTEC, NM 874103b. Phone No. (include area code)
Ph: 505-632-347610. Field and Pool or Exploratory Area
NAGEEZI UNIT MANCOS OIL

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 9 T23N R9W Mer NMP SESE 1271FSL 825FEL
36.237718 N Lat, 107.788083 W Lon11. County or Parish, State
SAN JUAN COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

DJR Operating, LLC is submitting this sundry to change the SHL, Drilling Plan, and BHL. Attached please find an updated C102 package, DPR, SPR, & ACR.

CONDITIONS OF APPROVAL
Adhere to previously issued stipulations.

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

14. I hereby certify that the foregoing is true and correct.	
Electronic Submission #524792 verified by the BLM Well Information System For DJR OPERATING LLC, sent to the Farmington	
Name (Printed/Typed) SHAW-MARIE FORD	Title REGULATORY SPECIALIST
Signature (Electronic Submission)	Date 08/10/2020

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <u>Troy Salyers</u>	Title <u>Civil Engineer</u>	Date <u>4/30/21</u>
Conditions of approval, if any, are attached. Approval of this notice 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.		Office <u>FFO</u>

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.

(Instructions on page 2)

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

DISTRICT I1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720**DISTRICT II**811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720**DISTRICT III**1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170**DISTRICT IV**1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 478-3460 Fax: (505) 478-3462State of New Mexico
Energy, Minerals & Natural Resources DepartmentForm C-102
Revised August 1, 2011

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, NM 87505Submit one copy to appropriate
District Office☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-35764	² Pool Code 98080	³ Pool Name NAGEEZI UNIT MANCOS OIL POOL
⁴ Property Code	⁵ Property Name NAGEEZI UNIT	⁶ Well Number 513H
⁷ GRID No. 371838	⁸ Operator Name DJR OPERATING, LLC	⁹ Elevation 6805'

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
P	9	23N	9W		1246'	SOUTH	808'	EAST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

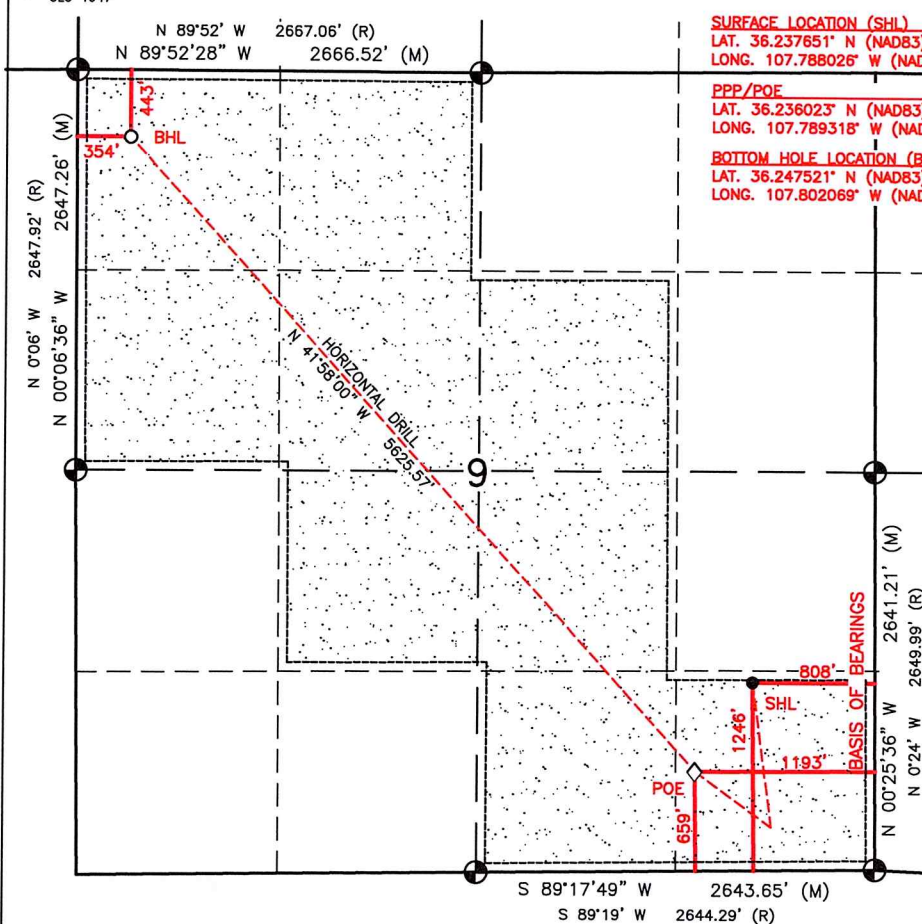
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	9	23N	9W		443'	NORTH	354'	WEST	SAN JUAN

¹² Dedicated Acres
PENETRATED SPACING UNIT;
SEC 9: SE/SE, SW/SE, NW/SE, NE/SW,
SW/NE & NW/4 = 360 ACRES¹³ Joint or Infill¹⁴ Consolidation Code¹⁵ Order No.

R-13856 R-13856A

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

16

FND 2 1/2" BC
GLO 1947

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 8/10/20
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.

MARCH 12, 2020

Date of Survey

Signature and Seal of Professional Surveyor:



Certificate Number

11393

DISTRICT I

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Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III

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

DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3482

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

☐ AMENDED REPORT

DJR OPERATING, LLC
NAGEEZI UNIT #513H

SURFACE LOCATION (SHL)

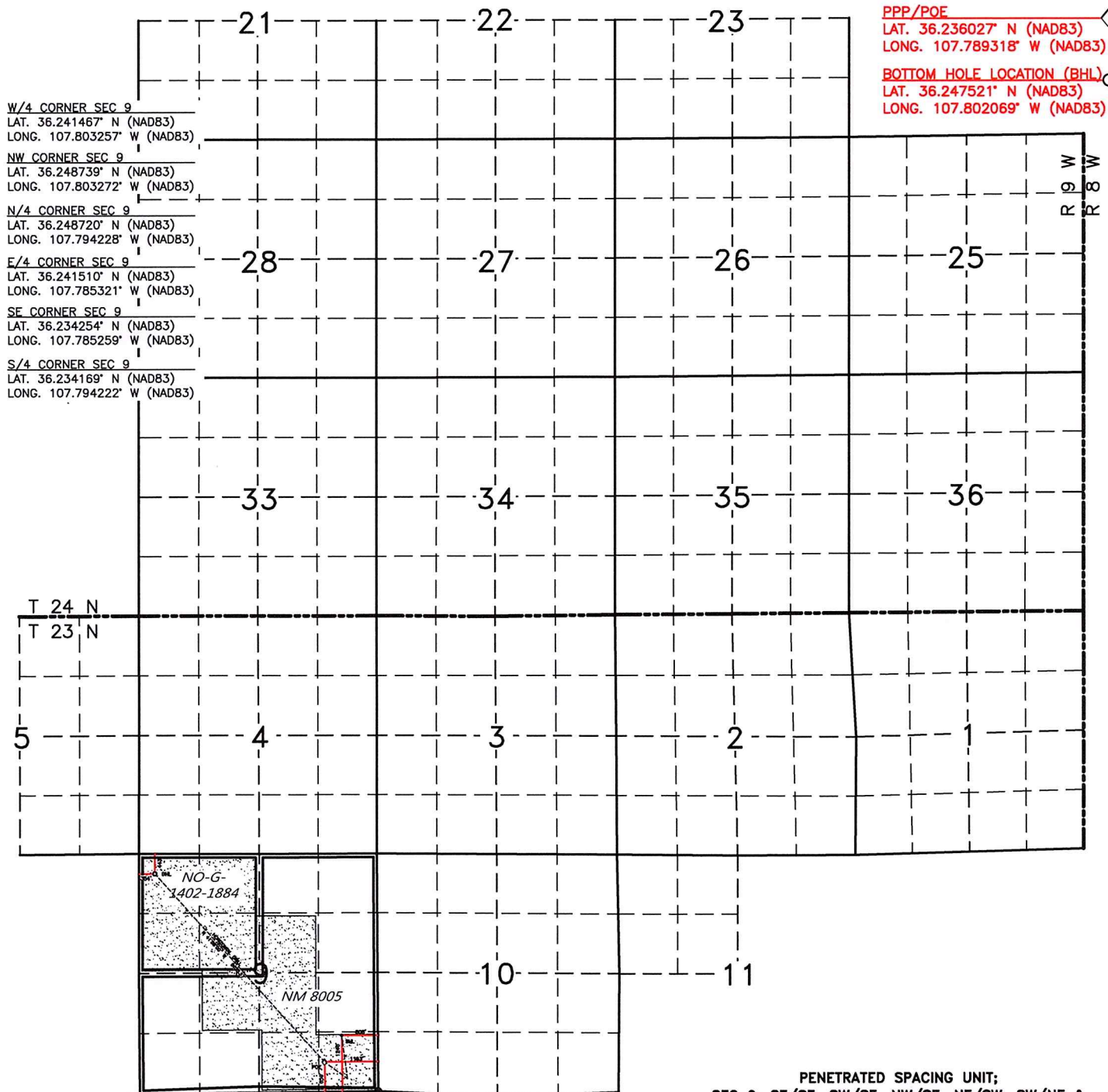
LAT. 36.237651° N (NAD83)
LONG. 107.788026° W (NAD83)

PPP/POE

LAT. 36.236027° N (NAD83)
LONG. 107.789318° W (NAD83)

BOTTOM HOLE LOCATION (BHL)

LAT. 36.247521° N (NAD83)
LONG. 107.802069° W (NAD83)

**PENETRATED SPACING UNIT;**

SEC 9: SE/SE, SW/SE, NW/SE, NE/SW, SW/NE &
NW/4 = 360 ACRES

TOTAL 10,415.12 ACRES: T24N R9W, SEC. 21-23 (S/2),
25-28, 33-36, 1-4, 9-10 (ALL); T23N R9W, SEC. 5 (W/2), 11
(NW/4) - UNDIVIDED UNIT

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State of New Mexico
Energy, Minerals & Natural Resources Department

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

☐ AMENDED REPORT

NAGEEZI UNIT #513H

2671.71 LINEAR FEET OF WELLBORE WITHIN
NM 8005

LOCATED IN THE SE/SE, SW/SE,
NW/SE & NE/SW OF SECTION 9,
T23N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	659	FSL	1193	FEL	36.236023° N	107.789318° W
TO	2667	FSL	2325	FWL	36.241486° N	107.795374° W

2953.86 LINEAR FEET OF WELLBORE WITHIN
NO-G-1402-1884

LOCATED IN THE SE/NW, SW/NW &
NW/NW OF SECTION 9,
T23N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	2667	FSL	2325	FWL	36.241486° N	107.795374° W
TO	443	FNL	354	FWL	36.247521° N	107.802069° W

Rev 0



DRILLING PLAN

Nageezi Unit #513H

San Juan County, New Mexico

Surface Location

808-ft FEL & 1246-ft FSL
 Sec 9 T23N R09W
 Graded Elevation 6805' MSL
 RKB Elevation 6819' (14' KB)

SHL Geographical Coordinates (NAD-83)

Latitude 36.2376510° N
 Longitude 107.7880260° W

Kick Off Point for Horizontal Build Curve

4178-ft MD
 4041-ft TVD

Local Coordinates (from SHL)

959-ft South
 128-ft East

Heel Location (Pay zone entry)

1193-ft FEL & 659-ft FSL
 Sec 9 T23N R09W

Heel Geographical Coordinates (NAD-83)

Latitude 36.2360265° N
 Longitude 107.78931760° W

Bottom Hole Location (TD)

354-ft FWL & 443-ft FNL
 Sec 9 T23N R09W

BHL Geographical Coordinates (NAD-83)

Latitude 36.247521° N
 Longitude 107.8020691° W

Well objectives

This well is planned as a 5630-ft lateral in the Gallup C sand.

Bottom Hole temperature and pressure

The temperature in the Gallup C horizontal objective is 136°F. Bottom hole pressure in the Gallup C 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	444	444	Sd	W	8.3	8.4 – 8.8
Kirtland	584	584	Sh	-	8.3	8.4 – 8.8
Fruitland	892	890	C	G	8.3	9.0 - 9.5
Pictured Cliffs	1160	1152	Sd	W	8.3	9.0 - 9.5
Lewis	1265	1253	Sh	-		9.0 - 9.5
Chacra	1914	1874	Sd	-	8.3	9.0 - 9.5
Menefee	2658	2586	Sd, C	G	8.3	9.0 - 9.5
Point Lookout	3696	3579	Sd	-	8.3	9.0 - 9.5
Mancos	3838	3715	Sh	-		9.0 - 9.5
Mancos Silt	4172	4035	Slt	O/G	6.6	9.0 - 9.5
Gallup A	4725	4554	Slt	O/G	6.6	9.0 - 9.5
Gallup B	4783	4599	Sd	O/G	6.6	8.8 - 9.0
Gallup C	4917	4690	Sd	O/G	6.6	8.8 - 9.0
Target	5328	4819	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	5276	surf	4817	surface
4-1/2"	6-1/8"	11.6	P-110	BTC	4994	10954	4732	4859	4994

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	3678-ft
Density (ppg)	12.30	13.50
Yield (cf/sx)	2.34	1.50
Mix water (gal/sx)	13.26	7.20
Volume (sx)	356	255
Volume (bbls)	149	68
Volume (cu.ft.)	834	381
Excess %	50	50



Rev 0

4-1/2" Production Liner

	BJ Services
Type	Poz/G
Planned top	4994-ft
Density (ppg)	13.3
Yield (cf/sx)	1.56
Mix water (gal/sx)	7.71
Volume (sx)	500
Volume (bbls)	139
Volume (cu.ft)	782
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 geolograph 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 – 5276	9.0 – 9.5	38 – 45	8 – 14	<20
Production	Low solids, non-dispersed	5276 – 10954	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.



Company: DJR Operating
Project: Nageezi Unit
Site: P09 2309
Well: # 513H
Wellbore: Original Drilling
Design: APD

PROJECT DETAILS: Nageezi Unit

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



WELL DETAILS: # 513H

GL 6805' & RKB 14' @ 6819.00usft

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	1905806.32	2736452.68	36.23765100	-107.78802600	3

Plan: APD (# 513H/Original Drilling)

Created By: Janie Collins Date: 12:38, June 19 2020

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
513H Heel	4819.00	-591.35	-380.90	1905214.79	2736072.06	36.23602650	-107.78931760
513H Toe	4859.00	3593.20	-4140.75	1909397.59	2732310.25	36.24752100	-107.80206910

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
425.00	0.00	0.000	425.00	0.00	0.00	0.00	0.00	0.00	
1268.62	16.87	172.427	1256.48	-122.24	16.25	2.00	172.43	-92.39	
4178.43	16.87	172.427	4041.03	-959.42	127.56	0.00	0.00	-725.15	
5327.98	89.59	318.060	4819.00	-591.35	-380.90	9.00	144.52	-99.89	513H Heel
10953.69	89.59	318.060	4859.00	3593.20	-4140.75	0.00	0.00	5482.42	513H Toe



Azimuths to True North
Magnetic North: 8

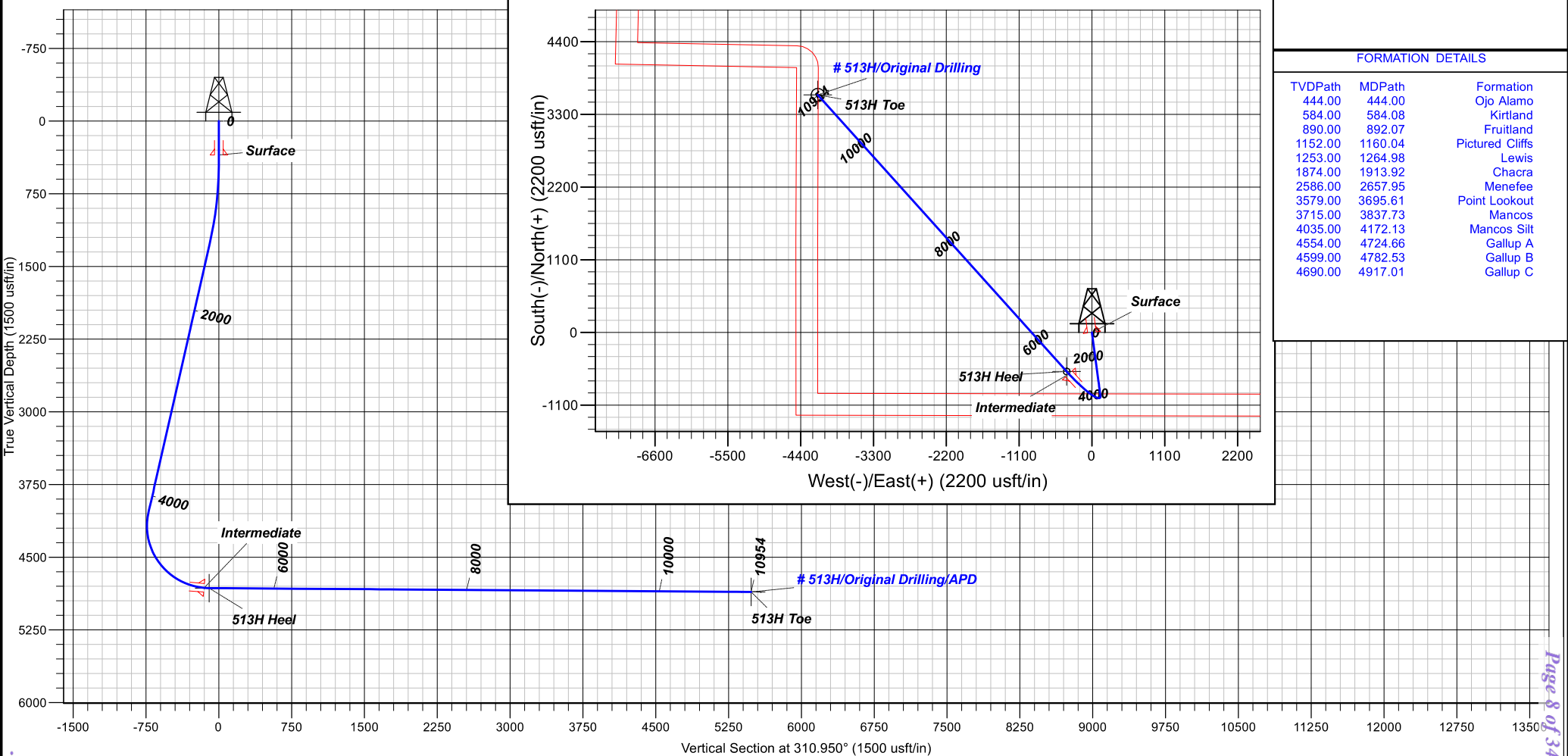
Magnetic Field
Strength: 49348
Dip Angle: 62
Date: 6/18/2020
Model: HDGM_F

CASING DETAILS

TVD	MD	Name
350.00	350.00	Surface
4816.56	5276.21	Intermediate

FORMATION DETAILS

TVDPPath	MDPath	Formation
444.00	444.00	Ojo Alamo
584.00	584.08	Kirtland
890.00	892.07	Fruitland
1152.00	1160.04	Pictured Cliffs
1253.00	1264.98	Lewis
1874.00	1913.92	Chacra
2586.00	2657.95	Menefee
3579.00	3695.61	Point Lookout
3715.00	3837.73	Mancos
4035.00	4172.13	Mancos Silt
4554.00	4724.66	Gallup A
4599.00	4782.53	Gallup B
4690.00	4917.01	Gallup C





DJR Operating

Nageezi Unit

P09 2309

513H - Slot 3

Original Drilling

Plan: APD

Standard Planning Report

19 June, 2020



Lonestar Consulting, LLC

Planning Report

Database:	DJR	Local Co-ordinate Reference:	Well # 513H - Slot 3
Company:	DJR Operating	TVD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Project:	Nageezi Unit	MD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Site:	P09 2309	North Reference:	True
Well:	# 513H	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	P09 2309				
Site Position:		Northing:	1,905,783.38 usft	Latitude:	36.23758800
From:	Lat/Long	Easting:	2,736,419.66 usft	Longitude:	-107.78813800
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.03 °

Well	# 513H - Slot 3					
Well Position	+N/-S	22.93 usft	Northing:	1,905,806.32 usft	Latitude:	36.23765100
	+E/-W	33.03 usft	Easting:	2,736,452.68 usft	Longitude:	-107.78802600
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	6,805.00 usft

Wellbore	Original Drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	6/18/2020	8.77	62.73	49,348.00000000

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	310.950

Plan Survey Tool Program	Date	6/19/2020			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	10,953.69	APD (Original Drilling)	MWD+HDGM	
			OWSG MWD + HDGM		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
425.00	0.00	0.000	425.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,268.62	16.87	172.427	1,256.48	-122.24	16.25	2.00	2.00	0.00	172.43	
4,178.43	16.87	172.427	4,041.03	-959.42	127.56	0.00	0.00	0.00	0.00	
5,327.98	89.59	318.060	4,819.00	-591.35	-380.90	9.00	6.33	12.67	144.52	513H Heel
10,953.69	89.59	318.060	4,859.00	3,593.20	-4,140.75	0.00	0.00	0.00	0.00	513H Toe



Lonestar Consulting, LLC

Planning Report

Database:	DJR	Local Co-ordinate Reference:	Well # 513H - Slot 3
Company:	DJR Operating	TVD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Project:	Nageezi Unit	MD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Site:	P09 2309	North Reference:	True
Well:	# 513H	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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
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
425.00	0.00	0.000	425.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	1.50	172.427	499.99	-0.97	0.13	-0.74	2.00	2.00	0.00
600.00	3.50	172.427	599.89	-5.30	0.70	-4.00	2.00	2.00	0.00
700.00	5.50	172.427	699.58	-13.07	1.74	-9.88	2.00	2.00	0.00
800.00	7.50	172.427	798.93	-24.29	3.23	-18.36	2.00	2.00	0.00
900.00	9.50	172.427	897.83	-38.95	5.18	-29.44	2.00	2.00	0.00
1,000.00	11.50	172.427	996.15	-57.01	7.58	-43.09	2.00	2.00	0.00
1,100.00	13.50	172.427	1,093.77	-78.46	10.43	-59.30	2.00	2.00	0.00
1,200.00	15.50	172.427	1,190.58	-103.28	13.73	-78.06	2.00	2.00	0.00
1,268.62	16.87	172.427	1,256.48	-122.24	16.25	-92.39	2.00	2.00	0.00
1,300.00	16.87	172.427	1,286.51	-131.27	17.45	-99.22	0.00	0.00	0.00
1,400.00	16.87	172.427	1,382.20	-160.04	21.28	-120.96	0.00	0.00	0.00
1,500.00	16.87	172.427	1,477.90	-188.81	25.10	-142.71	0.00	0.00	0.00
1,600.00	16.87	172.427	1,573.60	-217.58	28.93	-164.46	0.00	0.00	0.00
1,700.00	16.87	172.427	1,669.29	-246.36	32.75	-186.20	0.00	0.00	0.00
1,800.00	16.87	172.427	1,764.99	-275.13	36.58	-207.95	0.00	0.00	0.00
1,900.00	16.87	172.427	1,860.68	-303.90	40.40	-229.69	0.00	0.00	0.00
2,000.00	16.87	172.427	1,956.38	-332.67	44.23	-251.44	0.00	0.00	0.00
2,100.00	16.87	172.427	2,052.07	-361.44	48.05	-273.18	0.00	0.00	0.00
2,200.00	16.87	172.427	2,147.77	-390.21	51.88	-294.93	0.00	0.00	0.00
2,300.00	16.87	172.427	2,243.46	-418.98	55.71	-316.68	0.00	0.00	0.00
2,400.00	16.87	172.427	2,339.16	-447.75	59.53	-338.42	0.00	0.00	0.00
2,500.00	16.87	172.427	2,434.85	-476.52	63.36	-360.17	0.00	0.00	0.00
2,600.00	16.87	172.427	2,530.55	-505.29	67.18	-381.91	0.00	0.00	0.00
2,700.00	16.87	172.427	2,626.24	-534.07	71.01	-403.66	0.00	0.00	0.00
2,800.00	16.87	172.427	2,721.94	-562.84	74.83	-425.40	0.00	0.00	0.00
2,900.00	16.87	172.427	2,817.63	-591.61	78.66	-447.15	0.00	0.00	0.00
3,000.00	16.87	172.427	2,913.33	-620.38	82.48	-468.89	0.00	0.00	0.00
3,100.00	16.87	172.427	3,009.03	-649.15	86.31	-490.64	0.00	0.00	0.00
3,200.00	16.87	172.427	3,104.72	-677.92	90.13	-512.39	0.00	0.00	0.00
3,300.00	16.87	172.427	3,200.42	-706.69	93.96	-534.13	0.00	0.00	0.00
3,400.00	16.87	172.427	3,296.11	-735.46	97.78	-555.88	0.00	0.00	0.00
3,500.00	16.87	172.427	3,391.81	-764.23	101.61	-577.62	0.00	0.00	0.00
3,600.00	16.87	172.427	3,487.50	-793.00	105.43	-599.37	0.00	0.00	0.00
3,700.00	16.87	172.427	3,583.20	-821.77	109.26	-621.11	0.00	0.00	0.00
3,800.00	16.87	172.427	3,678.89	-850.55	113.08	-642.86	0.00	0.00	0.00
3,900.00	16.87	172.427	3,774.59	-879.32	116.91	-664.61	0.00	0.00	0.00
4,000.00	16.87	172.427	3,870.28	-908.09	120.73	-686.35	0.00	0.00	0.00
4,100.00	16.87	172.427	3,965.98	-936.86	124.56	-708.10	0.00	0.00	0.00
4,178.43	16.87	172.427	4,041.03	-959.42	127.56	-725.15	0.00	0.00	0.00
4,200.00	15.33	176.692	4,061.76	-965.37	128.14	-729.49	9.00	-7.14	19.77
4,300.00	10.13	211.219	4,159.40	-986.13	124.33	-740.22	9.00	-5.20	34.53
4,400.00	11.42	260.383	4,257.83	-995.33	109.98	-735.41	9.00	1.30	49.16
4,500.00	17.86	286.094	4,354.63	-992.72	85.43	-715.16	9.00	6.43	25.71
4,600.00	25.84	297.465	4,447.41	-978.39	51.30	-679.99	9.00	7.98	11.37
4,700.00	34.31	303.624	4,533.89	-952.69	8.40	-630.74	9.00	8.47	6.16
4,800.00	42.97	307.557	4,611.94	-916.23	-42.18	-568.64	9.00	8.66	3.93
4,900.00	51.73	310.380	4,679.64	-869.93	-99.22	-495.22	9.00	8.76	2.82
5,000.00	60.54	312.590	4,735.32	-814.93	-161.30	-412.28	9.00	8.81	2.21



Lonestar Consulting, LLC

Planning Report

Database:	DJR	Local Co-ordinate Reference:	Well # 513H - Slot 3
Company:	DJR Operating	TVD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Project:	Nageezi Unit	MD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Site:	P09 2309	North Reference:	True
Well:	# 513H	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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
5,100.00	69.38	314.443	4,777.60	-752.57	-226.89	-321.87	9.00	8.84	1.85	
5,200.00	78.24	316.091	4,805.46	-684.40	-294.39	-226.21	9.00	8.86	1.65	
5,300.00	87.11	317.635	4,818.20	-612.09	-362.13	-127.66	9.00	8.87	1.54	
5,327.98	89.59	318.060	4,819.00	-591.35	-380.90	-99.89	9.00	8.87	1.52	
5,400.00	89.59	318.060	4,819.51	-537.78	-429.03	-28.43	0.00	0.00	0.00	
5,500.00	89.59	318.060	4,820.22	-463.40	-495.86	70.80	0.00	0.00	0.00	
5,600.00	89.59	318.060	4,820.93	-389.02	-562.70	170.03	0.00	0.00	0.00	
5,700.00	89.59	318.060	4,821.65	-314.63	-629.53	269.26	0.00	0.00	0.00	
5,800.00	89.59	318.060	4,822.36	-240.25	-696.36	368.49	0.00	0.00	0.00	
5,900.00	89.59	318.060	4,823.07	-165.87	-763.20	467.71	0.00	0.00	0.00	
6,000.00	89.59	318.060	4,823.78	-91.49	-830.03	566.94	0.00	0.00	0.00	
6,100.00	89.59	318.060	4,824.49	-17.10	-896.86	666.17	0.00	0.00	0.00	
6,200.00	89.59	318.060	4,825.20	57.28	-963.70	765.40	0.00	0.00	0.00	
6,300.00	89.59	318.060	4,825.91	131.66	-1,030.53	864.63	0.00	0.00	0.00	
6,400.00	89.59	318.060	4,826.62	206.04	-1,097.36	963.86	0.00	0.00	0.00	
6,500.00	89.59	318.060	4,827.33	280.43	-1,164.20	1,063.09	0.00	0.00	0.00	
6,600.00	89.59	318.060	4,828.04	354.81	-1,231.03	1,162.31	0.00	0.00	0.00	
6,700.00	89.59	318.060	4,828.76	429.19	-1,297.86	1,261.54	0.00	0.00	0.00	
6,800.00	89.59	318.060	4,829.47	503.57	-1,364.70	1,360.77	0.00	0.00	0.00	
6,900.00	89.59	318.060	4,830.18	577.96	-1,431.53	1,460.00	0.00	0.00	0.00	
7,000.00	89.59	318.060	4,830.89	652.34	-1,498.36	1,559.23	0.00	0.00	0.00	
7,100.00	89.59	318.060	4,831.60	726.72	-1,565.20	1,658.46	0.00	0.00	0.00	
7,200.00	89.59	318.060	4,832.31	801.11	-1,632.03	1,757.69	0.00	0.00	0.00	
7,300.00	89.59	318.060	4,833.02	875.49	-1,698.86	1,856.91	0.00	0.00	0.00	
7,400.00	89.59	318.060	4,833.73	949.87	-1,765.70	1,956.14	0.00	0.00	0.00	
7,500.00	89.59	318.060	4,834.44	1,024.25	-1,832.53	2,055.37	0.00	0.00	0.00	
7,600.00	89.59	318.060	4,835.15	1,098.64	-1,899.37	2,154.60	0.00	0.00	0.00	
7,700.00	89.59	318.060	4,835.87	1,173.02	-1,966.20	2,253.83	0.00	0.00	0.00	
7,800.00	89.59	318.060	4,836.58	1,247.40	-2,033.03	2,353.06	0.00	0.00	0.00	
7,900.00	89.59	318.060	4,837.29	1,321.78	-2,099.87	2,452.29	0.00	0.00	0.00	
8,000.00	89.59	318.060	4,838.00	1,396.17	-2,166.70	2,551.51	0.00	0.00	0.00	
8,100.00	89.59	318.060	4,838.71	1,470.55	-2,233.53	2,650.74	0.00	0.00	0.00	
8,200.00	89.59	318.060	4,839.42	1,544.93	-2,300.37	2,749.97	0.00	0.00	0.00	
8,300.00	89.59	318.060	4,840.13	1,619.31	-2,367.20	2,849.20	0.00	0.00	0.00	
8,400.00	89.59	318.060	4,840.84	1,693.70	-2,434.03	2,948.43	0.00	0.00	0.00	
8,500.00	89.59	318.060	4,841.55	1,768.08	-2,500.87	3,047.66	0.00	0.00	0.00	
8,600.00	89.59	318.060	4,842.26	1,842.46	-2,567.70	3,146.89	0.00	0.00	0.00	
8,700.00	89.59	318.060	4,842.98	1,916.85	-2,634.53	3,246.11	0.00	0.00	0.00	
8,800.00	89.59	318.060	4,843.69	1,991.23	-2,701.37	3,345.34	0.00	0.00	0.00	
8,900.00	89.59	318.060	4,844.40	2,065.61	-2,768.20	3,444.57	0.00	0.00	0.00	
9,000.00	89.59	318.060	4,845.11	2,139.99	-2,835.03	3,543.80	0.00	0.00	0.00	
9,100.00	89.59	318.060	4,845.82	2,214.38	-2,901.87	3,643.03	0.00	0.00	0.00	
9,200.00	89.59	318.060	4,846.53	2,288.76	-2,968.70	3,742.26	0.00	0.00	0.00	
9,300.00	89.59	318.060	4,847.24	2,363.14	-3,035.53	3,841.49	0.00	0.00	0.00	
9,400.00	89.59	318.060	4,847.95	2,437.52	-3,102.37	3,940.71	0.00	0.00	0.00	
9,500.00	89.59	318.060	4,848.66	2,511.91	-3,169.20	4,039.94	0.00	0.00	0.00	
9,600.00	89.59	318.060	4,849.38	2,586.29	-3,236.03	4,139.17	0.00	0.00	0.00	
9,700.00	89.59	318.060	4,850.09	2,660.67	-3,302.87	4,238.40	0.00	0.00	0.00	
9,800.00	89.59	318.060	4,850.80	2,735.06	-3,369.70	4,337.63	0.00	0.00	0.00	
9,900.00	89.59	318.060	4,851.51	2,809.44	-3,436.53	4,436.86	0.00	0.00	0.00	
10,000.00	89.59	318.060	4,852.22	2,883.82	-3,503.37	4,536.09	0.00	0.00	0.00	
10,100.00	89.59	318.060	4,852.93	2,958.20	-3,570.20	4,635.31	0.00	0.00	0.00	
10,200.00	89.59	318.060	4,853.64	3,032.59	-3,637.04	4,734.54	0.00	0.00	0.00	
10,300.00	89.59	318.060	4,854.35	3,106.97	-3,703.87	4,833.77	0.00	0.00	0.00	



Lonestar Consulting, LLC

Planning Report

Database:	DJR	Local Co-ordinate Reference:	Well # 513H - Slot 3
Company:	DJR Operating	TVD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Project:	Nageezi Unit	MD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Site:	P09 2309	North Reference:	True
Well:	# 513H	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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
10,400.00	89.59	318.060	4,855.06	3,181.35	-3,770.70	4,933.00	0.00	0.00	0.00	
10,500.00	89.59	318.060	4,855.77	3,255.73	-3,837.54	5,032.23	0.00	0.00	0.00	
10,600.00	89.59	318.060	4,856.49	3,330.12	-3,904.37	5,131.46	0.00	0.00	0.00	
10,700.00	89.59	318.060	4,857.20	3,404.50	-3,971.20	5,230.69	0.00	0.00	0.00	
10,800.00	89.59	318.060	4,857.91	3,478.88	-4,038.04	5,329.91	0.00	0.00	0.00	
10,900.00	89.59	318.060	4,858.62	3,553.26	-4,104.87	5,429.14	0.00	0.00	0.00	
10,953.69	89.59	318.060	4,859.00	3,593.20	-4,140.75	5,482.42	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
513H Heel	0.00	0.000	4,819.00	-591.35	-380.90	1,905,214.79	2,736,072.06	36.23602650	-107.78931760	
- plan hits target center										
- Circle (radius 50.00)										
513H Toe	0.00	0.000	4,859.00	3,593.20	-4,140.75	1,909,397.59	2,732,310.25	36.24752100	-107.80206910	
- plan hits target center										
- Circle (radius 100.00)										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
350.00	350.00	Surface	9.62	12.25	
5,276.21	4,816.56	Intermediate	7.00	8.75	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
444.00	444.00	Ojo Alamo		0.00	0.000	
584.08	584.00	Kirtland		0.00	0.000	
892.07	890.00	Fruitland		0.00	0.000	
1,160.04	1,152.00	Pictured Cliffs		0.00	0.000	
1,264.98	1,253.00	Lewis		0.00	0.000	
1,913.92	1,874.00	Chacra		0.00	0.000	
2,657.95	2,586.00	Menefee		0.00	0.000	
3,695.61	3,579.00	Point Lookout		0.00	0.000	
3,837.73	3,715.00	Mancos		0.00	0.000	
4,172.13	4,035.00	Mancos Silt		0.00	0.000	
4,724.66	4,554.00	Gallup A		0.00	0.000	
4,782.53	4,599.00	Gallup B		0.00	0.000	
4,917.01	4,690.00	Gallup C		0.00	0.000	



DJR Operating

Nageezi Unit

P09 2309

513H

Original Drilling

APD

Anticollision Report

19 June, 2020



Lonestar Consulting, LLC

Anticollision Report

Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 3
Project:	Nageezi Unit	TVD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Reference Site:	P09 2309	MD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 513H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

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

Survey Tool Program		Date	6/19/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	10,953.69	APD (Original Drilling)	MWD+HDGM	OWSG MWD + HDGM	

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						
P09 2309						
# 514H - Original Drilling - APD	615.32	615.65	14.73	10.76	3.717	CC, ES, SF
# 601H - Original Drilling - APD	425.00	425.00	40.21	37.57	15.240	CC
# 601H - Original Drilling - APD	500.00	499.12	40.58	37.43	12.891	ES
# 601H - Original Drilling - APD	10,200.00	9,355.32	859.65	622.98	3.632	SF
# 602H - Original Drilling - APD	400.00	400.00	19.80	17.34	8.051	CC
# 602H - Original Drilling - APD	425.00	424.97	19.82	17.18	7.521	ES
# 602H - Original Drilling - APD	10,953.69	9,889.95	781.38	522.73	3.021	SF

Offset Design P09 2309 - # 514H - Original Drilling - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance				Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)		Minimum Separation (usft)	Separation Factor
							+N/-S (usft)	+E/-W (usft)					
0.00	0.00	0.00	0.00	0.00	0.00	-124.72	-11.65	-16.81	20.45				
100.00	100.00	100.00	100.00	0.15	0.15	-124.72	-11.65	-16.81	20.45	20.14	0.31	66.338	
200.00	200.00	200.00	200.00	0.51	0.51	-124.72	-11.65	-16.81	20.45	19.43	1.03	19.948	
300.00	300.00	300.00	300.00	0.87	0.87	-124.72	-11.65	-16.81	20.45	18.71	1.74	11.739	
400.00	400.00	400.00	400.00	1.23	1.23	-124.72	-11.65	-16.81	20.45	17.99	2.46	8.316	
425.00	425.00	425.15	425.15	1.32	1.32	-124.55	-11.55	-16.77	20.36	17.72	2.64	7.715	
500.00	499.99	500.52	500.50	1.58	1.59	68.55	-10.02	-16.14	18.62	15.46	3.17	5.883	
600.00	599.89	600.44	600.28	1.91	1.95	98.17	-5.16	-14.15	14.86	11.01	3.85	3.857	
615.32	615.18	615.65	615.45	1.97	2.01	105.90	-4.14	-13.74	14.73	10.76	3.96	3.717	CC, ES, SF
700.00	699.58	699.08	698.54	2.26	2.31	148.76	2.79	-10.90	20.31	15.74	4.57	4.447	
800.00	798.93	795.82	794.56	2.61	2.67	173.06	13.62	-6.47	39.38	34.10	5.27	7.465	
900.00	897.83	890.06	887.68	2.99	3.02	-177.66	27.05	-0.97	67.06	61.09	5.97	11.241	
1,000.00	996.15	983.89	980.07	3.39	3.39	-173.46	42.16	5.21	100.49	93.83	6.66	15.089	
1,100.00	1,093.77	1,076.75	1,071.51	3.81	3.76	-171.49	57.13	11.33	137.41	130.05	7.36	18.677	
1,200.00	1,190.58	1,168.30	1,161.66	4.25	4.13	-170.48	71.88	17.37	177.58	169.52	8.05	22.054	
1,268.62	1,256.48	1,230.29	1,222.71	4.58	4.39	-170.07	81.88	21.46	206.96	198.43	8.53	24.257	
1,300.00	1,286.51	1,258.49	1,250.48	4.73	4.50	-169.98	86.43	23.32	220.74	211.99	8.75	25.225	
1,400.00	1,382.20	1,348.34	1,338.95	5.22	4.87	-169.75	100.91	29.25	264.63	255.20	9.43	28.050	
1,500.00	1,477.90	1,438.18	1,427.42	5.73	5.25	-169.59	115.39	35.18	308.53	298.41	10.12	30.477	
1,600.00	1,573.60	1,528.03	1,515.89	6.24	5.62	-169.47	129.88	41.10	352.43	341.61	10.82	32.579	
1,700.00	1,669.29	1,617.88	1,604.37	6.76	5.99	-169.38	144.36	47.03	396.33	384.82	11.52	34.415	



Lonestar Consulting, LLC

Anticollision Report

Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 3
Project:	Nageezi Unit	TVD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Reference Site:	P09 2309	MD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 513H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design P09 2309 - # 514H - Original Drilling - APD													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDMG													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
1,800.00	1,764.99	1,707.72	1,692.84	7.29	6.37	-169.30	158.85	52.96	440.24	428.02	12.22	36.032		
1,900.00	1,860.68	1,797.57	1,781.31	7.81	6.75	-169.24	173.33	58.89	484.14	471.21	12.92	37.464		
2,000.00	1,956.38	1,887.42	1,869.79	8.35	7.13	-169.19	187.82	64.81	528.04	514.41	13.63	38.742		
2,100.00	2,052.07	1,977.26	1,958.26	8.88	7.50	-169.14	202.30	70.74	571.94	557.60	14.34	39.888		
2,200.00	2,147.77	2,067.11	2,046.73	9.41	7.88	-169.11	216.79	76.67	615.85	600.80	15.05	40.922		
2,300.00	2,243.46	2,156.95	2,135.20	9.95	8.26	-169.07	231.27	82.59	659.75	643.99	15.76	41.858		
2,400.00	2,339.16	2,246.80	2,223.68	10.49	8.64	-169.05	245.75	88.52	703.65	687.18	16.48	42.709		
2,500.00	2,434.85	2,336.65	2,312.15	11.03	9.02	-169.02	260.24	94.45	747.56	730.37	17.19	43.487		
2,600.00	2,530.55	2,426.49	2,400.62	11.57	9.40	-169.00	274.72	100.37	791.46	773.55	17.91	44.200		
2,700.00	2,626.24	2,516.34	2,489.10	12.12	9.78	-168.98	289.21	106.30	835.36	816.74	18.62	44.856		
2,800.00	2,721.94	2,606.19	2,577.57	12.66	10.16	-168.96	303.69	112.23	879.27	859.93	19.34	45.461		
2,900.00	2,817.63	2,696.03	2,666.04	13.20	10.55	-168.94	318.18	118.16	923.17	903.11	20.06	46.022		
3,000.00	2,913.33	2,785.88	2,754.51	13.75	10.93	-168.93	332.66	124.08	967.08	946.30	20.78	46.542		
3,100.00	3,009.03	2,875.73	2,842.99	14.30	11.31	-168.92	347.15	130.01	1,010.98	989.48	21.50	47.025		
3,200.00	3,104.72	2,965.57	2,931.46	14.84	11.69	-168.90	361.63	135.94	1,054.88	1,032.67	22.22	47.476		
3,300.00	3,200.42	3,055.42	3,019.93	15.39	12.07	-168.89	376.11	141.86	1,098.79	1,075.85	22.94	47.898		
3,400.00	3,296.11	3,145.27	3,108.41	15.93	12.45	-168.88	390.60	147.79	1,142.69	1,119.03	23.66	48.293		
3,500.00	3,391.81	3,235.11	3,196.88	16.48	12.84	-168.87	405.08	153.72	1,186.60	1,162.21	24.38	48.663		
3,600.00	3,487.50	3,324.96	3,285.35	17.03	13.22	-168.86	419.57	159.65	1,230.50	1,205.40	25.11	49.012		
3,700.00	3,583.20	3,414.81	3,373.83	17.58	13.60	-168.85	434.05	165.57	1,274.41	1,248.58	25.83	49.340		
3,800.00	3,678.89	3,504.65	3,462.30	18.13	13.98	-168.85	448.54	171.50	1,318.31	1,291.76	26.55	49.649		
3,900.00	3,774.59	3,594.50	3,550.77	18.67	14.37	-168.84	463.02	177.43	1,362.21	1,334.94	27.28	49.941		
4,000.00	3,870.28	3,684.34	3,639.24	19.22	14.75	-168.83	477.51	183.35	1,406.12	1,378.12	28.00	50.218		
4,100.00	3,965.98	3,774.19	3,727.72	19.77	15.13	-168.83	491.99	189.28	1,450.02	1,421.30	28.72	50.480		
4,178.43	4,041.03	3,844.66	3,797.11	20.20	15.43	-168.82	503.35	193.93	1,484.46	1,455.16	29.29	50.676		
4,200.00	4,061.76	3,864.14	3,816.29	20.32	15.52	-173.57	506.49	195.21	1,493.70	1,464.25	29.45	50.724		
4,250.00	4,110.33	3,910.03	3,861.48	20.56	15.71	171.87	513.89	198.24	1,513.34	1,483.54	29.80	50.781		
4,300.00	4,159.40	3,956.70	3,907.43	20.77	15.91	150.49	521.41	201.32	1,530.40	1,500.25	30.15	50.765		
4,350.00	4,208.67	4,003.85	3,953.86	20.94	16.11	124.11	529.01	204.43	1,544.80	1,514.32	30.48	50.680		
4,400.00	4,257.83	4,051.19	4,000.49	21.08	16.31	101.14	536.65	207.55	1,556.50	1,525.69	30.81	50.527		
4,450.00	4,306.59	4,098.45	4,047.02	21.19	16.51	85.78	544.27	210.67	1,565.49	1,534.37	31.12	50.311		
4,500.00	4,354.63	4,145.31	4,093.17	21.28	16.71	76.30	551.82	213.76	1,571.77	1,540.35	31.42	50.030		
4,550.00	4,401.67	4,191.51	4,138.65	21.35	16.91	70.43	559.27	216.81	1,575.39	1,543.68	31.71	49.688		
4,600.00	4,447.41	4,236.74	4,183.19	21.40	17.10	66.76	566.56	219.79	1,576.42	1,544.43	31.99	49.284		
4,650.00	4,491.58	4,280.73	4,226.51	21.45	17.29	64.55	573.65	222.70	1,574.94	1,542.68	32.26	48.817		
4,700.00	4,533.89	4,314.67	4,259.93	21.48	17.44	63.16	579.12	224.94	1,571.11	1,538.64	32.47	48.387		
4,750.00	4,574.10	4,334.16	4,279.10	21.50	17.52	62.19	582.48	226.02	1,565.45	1,532.87	32.58	48.054		
4,800.00	4,611.94	4,350.00	4,294.63	21.53	17.59	61.67	585.53	226.60	1,558.28	1,525.60	32.68	47.690		
4,850.00	4,647.20	4,365.75	4,310.02	21.55	17.66	61.55	588.85	226.92	1,549.65	1,516.85	32.80	47.239		
4,900.00	4,679.64	4,381.10	4,324.97	21.59	17.73	61.77	592.35	226.97	1,539.63	1,506.66	32.97	46.692		
4,950.00	4,709.07	4,400.00	4,343.28	21.65	17.81	62.39	597.03	226.69	1,528.32	1,495.09	33.23	45.990		
5,000.00	4,735.32	4,400.00	4,343.28	21.73	17.81	62.74	597.03	226.69	1,515.86	1,482.48	33.38	45.414		
5,050.00	4,758.21	4,424.86	4,367.19	21.85	17.93	64.05	603.77	225.74	1,502.13	1,468.29	33.84	44.393		
5,100.00	4,777.60	4,450.00	4,391.12	22.03	18.04	65.61	611.28	224.11	1,487.57	1,453.19	34.38	43.265		
5,150.00	4,793.39	4,450.00	4,391.12	22.28	18.04	66.57	611.28	224.11	1,471.95	1,437.17	34.78	42.327		
5,200.00	4,805.46	4,463.90	4,404.24	22.60	18.11	68.17	615.73	222.92	1,455.65	1,420.26	35.39	41.129		
5,250.00	4,813.75	4,475.49	4,415.10	23.01	18.16	69.85	619.59	221.78	1,438.74	1,402.67	36.07	39.884		
5,300.00	4,818.20	4,486.18	4,425.06	23.48	18.21	71.65	623.28	220.60	1,421.35	1,384.52	36.83	38.594		
5,327.98	4,819.00	4,500.00	4,437.86	23.78	18.28	73.04	628.22	218.89	1,411.51	1,374.15	37.36	37.780		
5,400.00	4,819.51	4,500.00	4,437.86	24.63	18.28	73.04	628.22	218.89	1,387.45	1,348.99	38.46	36.071		
5,500.00	4,820.22	4,529.91	4,465.17	26.02	18.42	74.23	639.60	214.51	1,359.15	1,318.67	40.48	33.575		
5,600.00	4,820.93	4,558.11	4,490.41	27.59	18.56	75.33	651.14	209.53	1,336.98	1,294.33	42.65	31.349		



Lonestar Consulting, LLC

Anticollision Report

Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 3
Project:	Nageezi Unit	TVD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Reference Site:	P09 2309	MD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 513H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design P09 2309 - # 514H - Original Drilling - APD													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,700.00	4,821.65	4,592.35	4,520.32	29.31	18.73	76.64	666.19	202.40	1,320.96	1,275.97	44.99	29.362		
5,800.00	4,822.36	4,634.51	4,555.92	31.15	18.94	78.21	686.23	192.00	1,310.93	1,263.46	47.47	27.615		
5,900.00	4,823.07	4,687.18	4,598.25	33.08	19.21	80.08	713.47	176.56	1,306.50	1,256.42	50.07	26.092		
5,940.19	4,823.35	4,712.05	4,617.34	33.88	19.35	80.92	727.14	168.36	1,306.13	1,254.97	51.16	25.532		
6,000.00	4,823.78	4,753.78	4,647.96	35.08	19.58	82.28	751.15	153.32	1,306.87	1,254.08	52.79	24.754		
6,100.00	4,824.49	4,838.46	4,704.24	37.15	20.09	84.75	803.65	118.14	1,310.85	1,255.16	55.69	23.539		
6,200.00	4,825.20	4,945.27	4,762.70	39.27	20.86	87.30	875.86	65.71	1,316.68	1,257.82	58.87	22.367		
6,300.00	4,825.91	5,075.53	4,812.97	41.44	22.08	89.46	970.17	-8.37	1,322.15	1,259.67	62.48	21.161		
6,400.00	4,826.62	5,223.79	4,839.61	43.64	23.91	90.57	1,081.14	-102.49	1,325.04	1,258.37	66.67	19.875		
6,500.00	4,827.33	5,337.04	4,841.54	45.88	25.60	90.61	1,165.51	-177.98	1,325.21	1,254.54	70.68	18.750		
6,600.00	4,828.04	5,437.04	4,842.26	48.14	27.25	90.61	1,239.92	-244.78	1,325.26	1,250.59	74.67	17.748		
6,700.00	4,828.76	5,537.04	4,842.98	50.43	29.03	90.62	1,314.34	-311.57	1,325.31	1,246.51	78.81	16.817		
6,800.00	4,829.47	5,637.04	4,843.70	52.74	30.92	90.62	1,388.76	-378.37	1,325.36	1,242.30	83.06	15.956		
6,900.00	4,830.18	5,737.04	4,844.42	55.06	32.90	90.62	1,463.17	-445.17	1,325.42	1,238.00	87.41	15.163		
7,000.00	4,830.89	5,837.04	4,845.14	57.40	34.95	90.62	1,537.59	-511.96	1,325.47	1,233.62	91.84	14.432		
7,100.00	4,831.60	5,937.04	4,845.85	59.76	37.06	90.62	1,612.01	-578.76	1,325.52	1,229.17	96.34	13.758		
7,200.00	4,832.31	6,037.04	4,846.57	62.13	39.22	90.62	1,686.42	-645.55	1,325.57	1,224.67	100.90	13.137		
7,300.00	4,833.02	6,137.04	4,847.29	64.51	41.42	90.62	1,760.84	-712.35	1,325.62	1,220.11	105.51	12.565		
7,400.00	4,833.73	6,237.04	4,848.01	66.90	43.65	90.62	1,835.26	-779.14	1,325.67	1,215.52	110.15	12.035		
7,500.00	4,834.44	6,337.04	4,848.73	69.29	45.92	90.62	1,909.67	-845.94	1,325.72	1,210.88	114.84	11.544		
7,600.00	4,835.15	6,437.04	4,849.45	71.70	48.21	90.62	1,984.09	-912.74	1,325.77	1,206.22	119.55	11.090		
7,700.00	4,835.87	6,537.04	4,850.17	74.11	50.52	90.62	2,058.51	-979.53	1,325.82	1,201.53	124.29	10.667		
7,800.00	4,836.58	6,637.04	4,850.89	76.53	52.85	90.62	2,132.92	-1,046.33	1,325.87	1,196.81	129.06	10.273		
7,900.00	4,837.29	6,737.04	4,851.60	78.96	55.20	90.62	2,207.34	-1,113.12	1,325.92	1,192.08	133.85	9.906		
8,000.00	4,838.00	6,837.04	4,852.32	81.39	57.56	90.62	2,281.75	-1,179.92	1,325.97	1,187.32	138.65	9.563		
8,100.00	4,838.71	6,937.04	4,853.04	83.83	59.94	90.62	2,356.17	-1,246.71	1,326.02	1,182.55	143.47	9.242		
8,200.00	4,839.42	7,037.04	4,853.76	86.27	62.32	90.62	2,430.59	-1,313.51	1,326.08	1,177.76	148.31	8.941		
8,300.00	4,840.13	7,137.04	4,854.48	88.71	64.72	90.62	2,505.00	-1,380.31	1,326.13	1,172.96	153.16	8.658		
8,400.00	4,840.84	7,237.04	4,855.20	91.16	67.12	90.62	2,579.42	-1,447.10	1,326.18	1,168.15	158.03	8.392		
8,500.00	4,841.55	7,337.04	4,855.92	93.62	69.54	90.62	2,653.84	-1,513.90	1,326.23	1,163.33	162.90	8.141		
8,600.00	4,842.26	7,437.04	4,856.64	96.07	71.96	90.62	2,728.25	-1,580.69	1,326.28	1,158.49	167.78	7.905		
8,700.00	4,842.98	7,537.04	4,857.35	98.53	74.38	90.62	2,802.67	-1,647.49	1,326.33	1,153.65	172.68	7.681		
8,800.00	4,843.69	7,637.04	4,858.07	100.99	76.81	90.62	2,877.09	-1,714.28	1,326.38	1,148.80	177.58	7.469		
8,900.00	4,844.40	7,737.04	4,858.79	103.46	79.25	90.62	2,951.50	-1,781.08	1,326.43	1,143.94	182.49	7.269		
9,000.00	4,845.11	7,837.04	4,859.51	105.93	81.69	90.62	3,025.92	-1,847.88	1,326.48	1,139.08	187.40	7.078		
9,100.00	4,845.82	7,937.04	4,860.23	108.40	84.14	90.62	3,100.34	-1,914.67	1,326.53	1,134.21	192.32	6.897		
9,200.00	4,846.53	8,037.04	4,860.95	110.87	86.59	90.62	3,174.75	-1,981.47	1,326.58	1,129.33	197.25	6.725		
9,300.00	4,847.24	8,137.04	4,861.67	113.34	89.05	90.62	3,249.17	-2,048.26	1,326.63	1,124.45	202.18	6.562		
9,400.00	4,847.95	8,237.04	4,862.39	115.82	91.51	90.62	3,323.59	-2,115.06	1,326.68	1,119.56	207.12	6.405		
9,500.00	4,848.66	8,337.04	4,863.11	118.29	93.97	90.62	3,398.00	-2,181.85	1,326.74	1,114.67	212.06	6.256		
9,600.00	4,849.38	8,437.04	4,863.82	120.77	96.43	90.62	3,472.42	-2,248.65	1,326.79	1,109.78	217.01	6.114		
9,700.00	4,850.09	8,537.04	4,864.54	123.25	98.90	90.62	3,546.84	-2,315.45	1,326.84	1,104.88	221.96	5.978		
9,800.00	4,850.80	8,637.04	4,865.26	125.73	101.37	90.62	3,621.25	-2,382.24	1,326.89	1,099.97	226.92	5.847		
9,900.00	4,851.51	8,737.04	4,865.98	128.22	103.84	90.63	3,695.67	-2,449.04	1,326.94	1,095.06	231.87	5.723		
10,000.00	4,852.22	8,837.04	4,866.70	130.70	106.31	90.63	3,770.08	-2,515.83	1,326.99	1,090.15	236.83	5.603		
10,100.00	4,852.93	8,937.04	4,867.42	133.19	108.79	90.63	3,844.50	-2,582.63	1,327.04	1,085.24	241.80	5.488		
10,200.00	4,853.64	9,037.04	4,868.14	135.67	111.26	90.63	3,918.92	-2,649.42	1,327.09	1,080.32	246.77	5.378		
10,300.00	4,854.35	9,137.04	4,868.86	138.16	113.74	90.63	3,993.33	-2,716.22	1,327.14	1,075.41	251.74	5.272		
10,400.00	4,855.06	9,237.04	4,869.57	140.65	116.22	90.63	4,067.75	-2,783.02	1,327.19	1,070.48	256.71	5.170		
10,500.00	4,855.77	9,337.04	4,870.29	143.14	118.71	90.63	4,142.17	-2,849.81	1,327.24	1,065.56	261.68	5.072		
10,600.00	4,856.49	9,437.04	4,871.01	145.63	121.19	90.63	4,216.58	-2,916.61	1,327.29	1,060.63	266.66	4.977		
10,700.00	4,857.20	9,537.04	4,871.73	148.12	123.67	90.63	4,291.00	-2,983.40	1,327.34	1,055.71	271.64	4.886		



Lonestar Consulting, LLC
Anticollision Report

Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 3
Project:	Nageezi Unit	TVD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Reference Site:	P09 2309	MD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 513H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design P09 2309 - # 514H - Original Drilling - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,800.00	4,857.91	9,637.04	4,872.45	150.62	126.16	90.63	4,365.42	-3,050.20	1,327.40	1,050.78	276.62	4.799	
10,900.00	4,858.62	9,737.04	4,873.17	153.11	128.65	90.63	4,439.83	-3,116.99	1,327.45	1,045.84	281.60	4.714	
10,953.69	4,859.00	9,790.73	4,873.55	154.45	129.98	90.63	4,479.79	-3,152.86	1,327.47	1,043.20	284.28	4.670	



Lonestar Consulting, LLC

Anticollision Report

Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 3
Project:	Nageezi Unit	TVD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Reference Site:	P09 2309	MD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 513H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design P09 2309 - # 601H - Original Drilling - APD													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-124.77	-22.93	-33.03	40.21					
100.00	100.00	100.00	100.00	0.15	0.15	-124.77	-22.93	-33.03	40.21	39.90	0.31	130.430		
200.00	200.00	200.00	200.00	0.51	0.51	-124.77	-22.93	-33.03	40.21	39.18	1.03	39.220		
300.00	300.00	300.00	300.00	0.87	0.87	-124.77	-22.93	-33.03	40.21	38.47	1.74	23.080		
400.00	400.00	400.00	400.00	1.23	1.23	-124.77	-22.93	-33.03	40.21	37.75	2.46	16.351		
425.00	425.00	425.00	425.00	1.32	1.32	-124.77	-22.93	-33.03	40.21	37.57	2.64	15.240 CC		
500.00	499.99	499.12	499.11	1.58	1.57	63.28	-23.82	-33.40	40.58	37.43	3.15	12.891 ES		
600.00	599.89	597.91	597.81	1.91	1.91	65.32	-27.75	-35.04	42.26	38.45	3.81	11.091		
700.00	699.58	696.62	696.22	2.26	2.25	68.60	-34.81	-37.98	45.40	40.91	4.49	10.109		
800.00	798.93	795.20	794.17	2.61	2.60	72.56	-44.98	-42.23	50.17	44.97	5.19	9.659		
900.00	897.83	893.61	891.53	2.99	2.97	76.70	-58.23	-47.75	56.69	50.76	5.92	9.569		
1,000.00	996.15	991.80	988.11	3.39	3.36	80.60	-74.51	-54.55	65.05	58.36	6.69	9.723		
1,100.00	1,093.77	1,089.73	1,083.79	3.81	3.77	84.06	-93.79	-62.59	75.28	67.78	7.50	10.039		
1,200.00	1,190.58	1,187.36	1,178.40	4.25	4.20	87.00	-116.00	-71.86	87.39	79.03	8.36	10.455		
1,268.62	1,256.48	1,254.16	1,242.64	4.58	4.52	88.73	-132.90	-78.91	96.76	87.78	8.98	10.774		
1,300.00	1,286.51	1,284.66	1,271.82	4.73	4.66	89.44	-141.08	-82.33	101.33	92.06	9.27	10.930		
1,400.00	1,382.20	1,382.20	1,364.53	5.22	5.15	90.45	-169.01	-93.98	116.95	106.73	10.22	11.441		
1,500.00	1,477.90	1,480.90	1,458.11	5.73	5.67	90.92	-197.99	-106.07	132.98	121.76	11.21	11.859		
1,600.00	1,573.60	1,579.60	1,551.68	6.24	6.19	91.28	-226.97	-118.16	149.01	136.79	12.22	12.192		
1,700.00	1,669.29	1,678.30	1,645.26	6.76	6.73	91.58	-255.94	-130.26	165.05	151.80	13.25	12.461		
1,800.00	1,764.99	1,777.00	1,738.83	7.29	7.27	91.82	-284.92	-142.35	181.09	166.81	14.28	12.682		
1,900.00	1,860.68	1,875.71	1,832.41	7.81	7.81	92.03	-313.90	-154.44	197.14	181.82	15.32	12.866		
2,000.00	1,956.38	1,974.41	1,925.98	8.35	8.36	92.20	-342.88	-166.53	213.18	196.81	16.37	13.021		
2,100.00	2,052.07	2,073.11	2,019.56	8.88	8.91	92.35	-371.85	-178.62	229.23	211.81	17.43	13.153		
2,200.00	2,147.77	2,171.81	2,113.13	9.41	9.47	92.48	-400.83	-190.71	245.28	226.79	18.49	13.267		
2,300.00	2,243.46	2,270.52	2,206.71	9.95	10.02	92.59	-429.81	-202.80	261.33	241.78	19.55	13.365		
2,400.00	2,339.16	2,369.22	2,300.28	10.49	10.58	92.69	-458.79	-214.90	277.39	256.76	20.62	13.452		
2,500.00	2,434.85	2,467.92	2,393.85	11.03	11.15	92.78	-487.77	-226.99	293.44	271.75	21.69	13.527		
2,600.00	2,530.55	2,566.62	2,487.43	11.57	11.71	92.86	-516.74	-239.08	309.49	286.73	22.77	13.595		
2,700.00	2,626.24	2,665.32	2,581.00	12.12	12.27	92.93	-545.72	-251.17	325.54	301.70	23.84	13.655		
2,800.00	2,721.94	2,764.03	2,674.58	12.66	12.84	93.00	-574.70	-263.26	341.60	316.68	24.92	13.708		
2,900.00	2,817.63	2,862.73	2,768.15	13.20	13.40	93.06	-603.68	-275.35	357.65	331.66	26.00	13.757		
3,000.00	2,913.33	2,961.43	2,861.73	13.75	13.97	93.11	-632.65	-287.44	373.71	346.63	27.08	13.800		
3,100.00	3,009.03	3,060.13	2,955.30	14.30	14.53	93.16	-661.63	-299.54	389.76	361.60	28.16	13.840		
3,200.00	3,104.72	3,158.83	3,048.88	14.84	15.10	93.21	-690.61	-311.63	405.82	376.57	29.24	13.877		
3,300.00	3,200.42	3,257.54	3,142.45	15.39	15.67	93.25	-719.59	-323.72	421.88	391.55	30.33	13.910		
3,400.00	3,296.11	3,356.24	3,236.03	15.93	16.24	93.29	-748.57	-335.81	437.93	406.52	31.41	13.940		
3,500.00	3,391.81	3,454.94	3,329.60	16.48	16.81	93.33	-777.54	-347.90	453.99	421.49	32.50	13.969		
3,600.00	3,487.50	3,553.64	3,423.18	17.03	17.38	93.36	-806.52	-359.99	470.04	436.46	33.59	13.995		
3,700.00	3,583.20	3,652.35	3,516.75	17.58	17.95	93.39	-835.50	-372.08	486.10	451.42	34.67	14.019		
3,800.00	3,678.89	3,751.05	3,610.33	18.13	18.52	93.42	-864.48	-384.17	502.16	466.39	35.76	14.041		
3,900.00	3,774.59	3,849.75	3,703.90	18.67	19.09	93.45	-893.45	-396.27	518.21	481.36	36.85	14.062		
4,000.00	3,870.28	3,921.85	3,772.40	19.22	19.50	93.60	-913.51	-406.29	536.06	498.47	37.59	14.259		
4,100.00	3,965.98	3,982.19	3,829.99	19.77	19.82	94.16	-926.28	-418.87	560.29	522.24	38.04	14.727		
4,178.43	4,041.03	4,027.37	3,872.98	20.20	20.05	94.84	-933.19	-430.93	583.81	545.56	38.25	15.262		
4,200.00	4,061.76	4,039.49	3,884.46	20.32	20.11	91.43	-934.65	-434.54	590.75	552.46	38.29	15.430		
4,250.00	4,110.33	4,067.51	3,910.86	20.56	20.23	79.60	-937.39	-443.48	606.18	567.89	38.29	15.830		
4,300.00	4,159.40	4,100.00	3,941.22	20.77	20.38	60.45	-939.44	-454.86	620.69	582.36	38.33	16.194		
4,350.00	4,208.67	4,123.26	3,962.73	20.94	20.47	35.73	-940.16	-463.68	634.09	596.03	38.06	16.659		
4,400.00	4,257.83	4,150.00	3,987.20	21.08	20.58	14.00	-940.22	-474.47	646.42	608.61	37.81	17.096		
4,450.00	4,306.59	4,178.73	4,013.11	21.19	20.68	-0.53	-939.36	-486.83	657.59	620.04	37.55	17.514		
4,500.00	4,354.63	4,200.00	4,032.03	21.28	20.76	-9.57	-938.12	-496.48	667.60	630.56	37.03	18.027		



Lonestar Consulting, LLC

Anticollision Report

Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 3
Project:	Nageezi Unit	TVD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Reference Site:	P09 2309	MD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 513H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design P09 2309 - # 601H - Original Drilling - APD													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
4,550.00	4,401.67	4,234.02	4,061.73	21.35	20.87	-15.42	-935.06	-512.77	676.25	639.42	36.83	18.362		
4,600.00	4,447.41	4,261.62	4,085.29	21.40	20.96	-19.41	-931.60	-526.73	683.69	647.28	36.42	18.774		
4,650.00	4,491.58	4,300.00	4,117.15	21.45	21.07	-22.38	-925.37	-547.19	690.00	653.70	36.30	19.011		
4,700.00	4,533.89	4,316.81	4,130.75	21.48	21.12	-24.53	-922.12	-556.52	694.70	659.16	35.54	19.549		
4,750.00	4,574.10	4,350.00	4,156.91	21.50	21.21	-26.40	-914.80	-575.57	698.28	663.03	35.26	19.806		
4,800.00	4,611.94	4,372.05	4,173.77	21.53	21.26	-27.90	-909.26	-588.67	700.49	665.84	34.66	20.212		
4,850.00	4,647.20	4,400.00	4,194.49	21.55	21.33	-29.30	-901.50	-605.74	701.46	667.19	34.26	20.472		
4,900.00	4,679.64	4,427.42	4,214.08	21.59	21.39	-30.61	-893.08	-622.98	701.15	667.25	33.90	20.685		
4,950.00	4,709.07	4,450.00	4,229.64	21.65	21.44	-31.78	-885.57	-637.51	699.63	666.18	33.45	20.915		
5,000.00	4,735.32	4,483.01	4,251.41	21.73	21.51	-33.15	-873.65	-659.27	696.85	663.45	33.40	20.867		
5,050.00	4,758.21	4,510.92	4,268.87	21.85	21.56	-34.44	-862.73	-678.10	692.93	659.64	33.29	20.815		
5,100.00	4,777.60	4,538.93	4,285.49	22.03	21.62	-35.78	-851.02	-697.36	687.90	654.59	33.31	20.651		
5,150.00	4,793.39	4,567.04	4,301.24	22.28	21.67	-37.18	-838.54	-717.02	681.82	648.35	33.47	20.369		
5,200.00	4,805.46	4,600.00	4,318.45	22.60	21.74	-38.79	-823.00	-740.44	674.79	640.89	33.91	19.901		
5,250.00	4,813.75	4,623.65	4,329.95	23.01	21.79	-40.20	-811.27	-757.45	666.82	632.53	34.29	19.446		
5,300.00	4,818.20	4,650.00	4,341.90	23.48	21.85	-41.77	-797.65	-776.58	658.07	623.16	34.92	18.847		
5,327.98	4,819.00	4,668.23	4,349.63	23.78	21.90	-42.81	-787.90	-789.90	652.86	617.44	35.43	18.429		
5,400.00	4,819.51	4,710.90	4,365.95	24.63	22.02	-44.29	-764.09	-821.32	640.96	604.16	36.79	17.420		
5,500.00	4,820.22	4,774.23	4,385.47	26.02	22.25	-46.14	-726.38	-868.26	629.96	590.93	39.03	16.141		
5,600.00	4,820.93	4,841.54	4,399.89	27.59	22.63	-47.60	-683.58	-918.12	624.80	583.27	41.52	15.047		
5,649.14	4,821.28	4,875.72	4,404.66	28.44	22.88	-48.13	-660.91	-943.25	624.20	581.38	42.82	14.578		
5,700.00	4,821.65	4,911.61	4,407.79	29.31	23.20	-48.52	-636.53	-969.40	624.82	580.67	44.15	14.152		
5,800.00	4,822.36	4,996.87	4,409.31	31.15	24.15	-48.92	-577.06	-1,030.45	629.01	582.14	46.88	13.418		
5,900.00	4,823.07	5,096.67	4,409.95	33.08	25.57	-49.29	-507.17	-1,101.70	633.83	584.00	49.83	12.721		
6,000.00	4,823.78	5,196.47	4,410.58	35.08	27.25	-49.65	-437.28	-1,172.94	638.66	585.66	53.00	12.050		
6,100.00	4,824.49	5,296.27	4,411.21	37.15	29.10	-50.01	-367.39	-1,244.18	643.52	587.21	56.31	11.427		
6,200.00	4,825.20	5,396.08	4,411.85	39.27	31.07	-50.36	-297.50	-1,315.42	648.41	588.64	59.77	10.849		
6,300.00	4,825.91	5,495.88	4,412.48	41.44	33.13	-50.71	-227.61	-1,386.66	653.32	589.98	63.33	10.315		
6,400.00	4,826.62	5,595.68	4,413.12	43.64	35.26	-51.05	-157.72	-1,457.90	658.25	591.25	67.01	9.824		
6,500.00	4,827.33	5,695.48	4,413.75	45.88	37.46	-51.39	-87.83	-1,529.14	663.21	592.44	70.77	9.371		
6,600.00	4,828.04	5,795.28	4,414.38	48.14	39.70	-51.72	-17.94	-1,600.39	668.19	593.57	74.62	8.954		
6,700.00	4,828.76	5,895.08	4,415.02	50.43	41.99	-52.05	51.95	-1,671.63	673.19	594.65	78.54	8.571		
6,800.00	4,829.47	5,994.89	4,415.65	52.74	44.31	-52.37	121.84	-1,742.87	678.21	595.68	82.53	8.218		
6,900.00	4,830.18	6,094.69	4,416.29	55.06	46.65	-52.69	191.73	-1,814.11	683.26	596.68	86.58	7.891		
7,000.00	4,830.89	6,194.49	4,416.92	57.40	49.03	-53.00	261.62	-1,885.35	688.32	597.64	90.69	7.590		
7,100.00	4,831.60	6,294.29	4,417.56	59.76	51.42	-53.31	331.51	-1,956.59	693.41	598.57	94.84	7.311		
7,200.00	4,832.31	6,394.09	4,418.19	62.13	53.83	-53.61	401.40	-2,027.84	698.51	599.47	99.04	7.053		
7,300.00	4,833.02	6,493.89	4,418.82	64.51	56.26	-53.91	471.29	-2,099.08	703.64	600.35	103.29	6.812		
7,400.00	4,833.73	6,593.70	4,419.46	66.90	58.70	-54.20	541.18	-2,170.32	708.78	601.20	107.57	6.589		
7,500.00	4,834.44	6,693.50	4,420.09	69.29	61.16	-54.49	611.07	-2,241.56	713.94	602.04	111.90	6.380		
7,600.00	4,835.15	6,793.30	4,420.73	71.70	63.62	-54.78	680.96	-2,312.80	719.12	602.86	116.26	6.186		
7,700.00	4,835.87	6,893.10	4,421.36	74.11	66.10	-55.06	750.85	-2,384.04	724.32	603.67	120.65	6.004		
7,800.00	4,836.58	6,992.90	4,421.99	76.53	68.58	-55.34	820.74	-2,455.29	729.53	604.46	125.07	5.833		
7,900.00	4,837.29	7,092.70	4,422.63	78.96	71.07	-55.61	890.63	-2,526.53	734.76	605.24	129.52	5.673		
8,000.00	4,838.00	7,192.51	4,423.26	81.39	73.57	-55.88	960.52	-2,597.77	740.01	606.01	134.00	5.522		
8,100.00	4,838.71	7,292.31	4,423.90	83.83	76.08	-56.15	1,030.41	-2,669.01	745.27	606.77	138.50	5.381		
8,200.00	4,839.42	7,392.11	4,424.53	86.27	78.59	-56.41	1,100.30	-2,740.25	750.55	607.52	143.03	5.247		
8,300.00	4,840.13	7,491.91	4,425.16	88.71	81.10	-56.67	1,170.19	-2,811.49	755.85	608.26	147.59	5.121		
8,400.00	4,840.84	7,591.71	4,425.80	91.16	83.62	-56.93	1,240.08	-2,882.73	761.16	608.99	152.16	5.002		
8,500.00	4,841.55	7,691.51	4,426.43	93.62	86.15	-57.18	1,309.97	-2,953.98	766.48	609.72	156.76	4.890		
8,600.00	4,842.26	7,791.32	4,427.07	96.07	88.68	-57.43	1,379.86	-3,025.22	771.82	610.45	161.38	4.783		
8,700.00	4,842.98	7,891.12	4,427.70	98.53	91.21	-57.67	1,449.75	-3,096.46	777.18	611.16	166.01	4.681		



Lonestar Consulting, LLC
Anticollision Report

Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 3
Project:	Nageezi Unit	TVD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Reference Site:	P09 2309	MD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 513H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design P09 2309 - # 601H - Original Drilling - APD													Offset Site Error: 0.00 usft	
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
8,800.00	4,843.69	7,990.92	4,428.33	100.99	93.74	-57.92	1,519.64	-3,167.70	782.55	611.88	170.67	4.585		
8,900.00	4,844.40	8,090.72	4,428.97	103.46	96.28	-58.15	1,589.53	-3,238.94	787.93	612.59	175.34	4.494		
9,000.00	4,845.11	8,190.52	4,429.60	105.93	98.82	-58.39	1,659.42	-3,310.18	793.32	613.29	180.03	4.407		
9,100.00	4,845.82	8,290.32	4,430.24	108.40	101.37	-58.62	1,729.31	-3,381.43	798.73	613.99	184.74	4.324		
9,200.00	4,846.53	8,390.13	4,430.87	110.87	103.92	-58.85	1,799.20	-3,452.67	804.15	614.69	189.46	4.244		
9,300.00	4,847.24	8,489.93	4,431.51	113.34	106.46	-59.08	1,869.09	-3,523.91	809.59	615.39	194.19	4.169		
9,400.00	4,847.95	8,589.73	4,432.14	115.82	109.02	-59.30	1,938.98	-3,595.15	815.03	616.09	198.94	4.097		
9,500.00	4,848.66	8,689.53	4,432.77	118.29	111.57	-59.52	2,008.87	-3,666.39	820.49	616.78	203.71	4.028		
9,600.00	4,849.38	8,789.33	4,433.41	120.77	114.12	-59.74	2,078.76	-3,737.63	825.96	617.48	208.49	3.962		
9,700.00	4,850.09	8,889.13	4,434.04	123.25	116.68	-59.95	2,148.65	-3,808.88	831.44	618.17	213.28	3.898		
9,800.00	4,850.80	8,988.94	4,434.68	125.73	119.24	-60.16	2,218.54	-3,880.12	836.94	618.86	218.08	3.838		
9,900.00	4,851.51	9,088.74	4,435.31	128.22	121.80	-60.37	2,288.43	-3,951.36	842.44	619.55	222.89	3.780		
10,000.00	4,852.22	9,188.54	4,435.94	130.70	124.36	-60.57	2,358.32	-4,022.60	847.96	620.24	227.72	3.724		
10,100.00	4,852.93	9,288.34	4,436.58	133.19	126.92	-60.78	2,428.21	-4,093.84	853.48	620.93	232.56	3.670		
10,200.00	4,853.64	9,355.32	4,437.00	135.67	128.64	-60.91	2,475.12	-4,141.65	859.65	622.98	236.67	3.632 SF		
10,300.00	4,854.35	9,355.32	4,437.00	138.16	128.64	-60.91	2,475.12	-4,141.65	874.68	637.41	237.27	3.686		
10,400.00	4,855.06	9,355.32	4,437.00	140.65	128.64	-60.91	2,475.12	-4,141.65	900.63	665.56	235.07	3.831		
10,500.00	4,855.77	9,355.32	4,437.00	143.14	128.64	-60.91	2,475.12	-4,141.65	936.60	706.00	230.60	4.062		
10,600.00	4,856.49	9,355.32	4,437.00	145.63	128.64	-60.91	2,475.12	-4,141.65	981.47	756.99	224.48	4.372		
10,700.00	4,857.20	9,355.32	4,437.00	148.12	128.64	-60.91	2,475.12	-4,141.65	1,034.10	816.77	217.33	4.758		
10,800.00	4,857.91	9,355.32	4,437.00	150.62	128.64	-60.91	2,475.12	-4,141.65	1,093.36	883.69	209.67	5.215		
10,900.00	4,858.62	9,355.32	4,437.00	153.11	128.64	-60.91	2,475.12	-4,141.65	1,158.23	956.37	201.87	5.738		
10,953.69	4,859.00	9,355.32	4,437.00	154.45	128.64	-60.91	2,475.12	-4,141.65	1,195.07	997.35	197.72	6.044		



Lonestar Consulting, LLC

Anticollision Report

Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 3
Project:	Nageezi Unit	TVD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Reference Site:	P09 2309	MD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 513H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design P09 2309 - # 602H - Original Drilling - APD													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	56.52	10.92	16.51	19.80					
100.00	100.00	100.00	100.00	0.15	0.15	56.52	10.92	16.51	19.80	19.49	0.31	64.221		
200.00	200.00	200.00	200.00	0.51	0.51	56.52	10.92	16.51	19.80	18.77	1.03	19.311		
300.00	300.00	300.00	300.00	0.87	0.87	56.52	10.92	16.51	19.80	18.06	1.74	11.364		
400.00	400.00	400.00	400.00	1.23	1.23	56.52	10.92	16.51	19.80	17.34	2.46	8.051 CC		
425.00	425.00	424.97	424.97	1.32	1.32	56.83	10.84	16.59	19.82	17.18	2.63	7.521 ES		
500.00	499.99	499.87	499.85	1.58	1.57	-113.56	9.64	17.70	20.53	17.38	3.15	6.519		
600.00	599.89	599.65	599.49	1.91	1.92	-110.76	5.82	21.24	23.35	19.53	3.82	6.110		
700.00	699.58	699.43	698.93	2.26	2.26	-109.47	-0.17	26.79	28.18	23.67	4.52	6.237		
800.00	798.93	799.21	798.34	2.61	2.62	-113.46	-6.43	32.58	34.37	29.13	5.24	6.563		
900.00	897.83	898.77	897.55	2.99	2.99	-120.40	-12.67	38.36	42.33	36.36	5.97	7.089		
1,000.00	996.15	998.01	996.42	3.39	3.35	-128.11	-18.89	44.12	52.81	46.09	6.72	7.864		
1,100.00	1,093.77	1,096.78	1,094.83	3.81	3.72	-135.33	-25.08	49.86	66.37	58.91	7.46	8.894		
1,200.00	1,190.58	1,194.99	1,192.68	4.25	4.08	-141.50	-31.24	55.56	83.33	75.12	8.21	10.150		
1,268.62	1,256.48	1,261.98	1,259.42	4.58	4.33	-145.09	-35.44	59.45	97.00	88.28	8.72	11.119		
1,300.00	1,286.51	1,292.53	1,289.87	4.73	4.45	-146.59	-37.36	61.22	103.67	94.71	8.96	11.573		
1,400.00	1,382.20	1,389.91	1,386.88	5.22	4.81	-150.30	-43.46	66.88	125.27	115.57	9.70	12.915		
1,500.00	1,477.90	1,487.28	1,483.90	5.73	5.18	-152.92	-49.57	72.53	147.23	136.78	10.44	14.096		
1,600.00	1,573.60	1,584.65	1,580.91	6.24	5.54	-154.86	-55.67	78.18	169.40	158.21	11.19	15.135		
1,700.00	1,669.29	1,682.02	1,677.93	6.76	5.91	-156.35	-61.78	83.84	191.71	179.77	11.94	16.052		
1,800.00	1,764.99	1,779.39	1,774.94	7.29	6.28	-157.53	-67.88	89.49	214.13	201.43	12.70	16.865		
1,900.00	1,860.68	1,876.76	1,871.96	7.81	6.64	-158.48	-73.98	95.14	236.61	223.16	13.45	17.590		
2,000.00	1,956.38	1,974.13	1,968.97	8.35	7.01	-159.27	-80.09	100.80	259.14	244.94	14.21	18.239		
2,100.00	2,052.07	2,071.50	2,065.99	8.88	7.38	-159.93	-86.19	106.45	281.72	266.75	14.97	18.823		
2,200.00	2,147.77	2,168.88	2,163.00	9.41	7.75	-160.50	-92.30	112.10	304.32	288.59	15.73	19.351		
2,300.00	2,243.46	2,266.25	2,260.02	9.95	8.11	-160.98	-98.40	117.76	326.95	310.46	16.49	19.830		
2,400.00	2,339.16	2,363.62	2,357.03	10.49	8.48	-161.41	-104.51	123.41	349.60	332.35	17.25	20.267		
2,500.00	2,434.85	2,460.99	2,454.05	11.03	8.85	-161.78	-110.61	129.06	372.26	354.25	18.01	20.667		
2,600.00	2,530.55	2,558.36	2,551.06	11.57	9.22	-162.11	-116.72	134.72	394.94	376.16	18.78	21.034		
2,700.00	2,626.24	2,655.73	2,648.08	12.12	9.59	-162.40	-122.82	140.37	417.63	398.08	19.54	21.372		
2,800.00	2,721.94	2,753.10	2,745.09	12.66	9.96	-162.67	-128.92	146.02	440.32	420.02	20.31	21.685		
2,900.00	2,817.63	2,850.47	2,842.11	13.20	10.33	-162.90	-135.03	151.68	463.03	441.96	21.07	21.975		
3,000.00	2,913.33	2,947.84	2,939.12	13.75	10.69	-163.12	-141.13	157.33	485.74	463.90	21.84	22.244		
3,100.00	3,009.03	3,045.22	3,036.14	14.30	11.06	-163.32	-147.24	162.98	508.46	485.85	22.60	22.495		
3,200.00	3,104.72	3,142.59	3,133.15	14.84	11.43	-163.50	-153.34	168.64	531.18	507.81	23.37	22.730		
3,300.00	3,200.42	3,239.96	3,230.17	15.39	11.80	-163.66	-159.45	174.29	553.91	529.77	24.14	22.949		
3,400.00	3,296.11	3,337.33	3,327.18	15.93	12.17	-163.81	-165.55	179.94	576.64	551.74	24.90	23.154		
3,500.00	3,391.81	3,434.70	3,424.20	16.48	12.54	-163.95	-171.66	185.60	599.38	573.70	25.67	23.348		
3,600.00	3,487.50	3,532.07	3,521.21	17.03	12.91	-164.08	-177.76	191.25	622.11	595.67	26.44	23.529		
3,700.00	3,583.20	3,629.44	3,618.23	17.58	13.28	-164.20	-183.87	196.90	644.85	617.65	27.21	23.701		
3,800.00	3,678.89	3,726.81	3,715.24	18.13	13.65	-164.31	-189.97	202.56	667.60	639.62	27.98	23.863		
3,900.00	3,774.59	3,800.00	3,788.30	18.67	13.91	-164.55	-192.78	205.19	692.33	663.79	28.54	24.258		
4,000.00	3,870.28	3,850.00	3,838.24	19.22	14.06	-165.00	-191.25	203.85	722.35	693.54	28.82	25.066		
4,100.00	3,965.98	3,900.00	3,887.88	19.77	14.20	-165.67	-186.82	199.89	757.85	728.85	28.99	26.137		
4,178.43	4,041.03	3,936.83	3,924.06	20.20	14.30	-166.29	-181.72	195.29	789.36	760.31	29.05	27.173		
4,200.00	4,061.76	3,950.00	3,936.89	20.32	14.34	-171.28	-179.52	193.31	798.37	769.28	29.09	27.444		
4,250.00	4,110.33	3,971.00	3,957.22	20.56	14.39	173.66	-175.61	189.78	818.42	789.37	29.05	28.170		
4,300.00	4,159.40	4,000.00	3,984.98	20.77	14.47	151.57	-169.40	184.17	837.29	808.20	29.08	28.788		
4,350.00	4,208.67	4,018.88	4,002.84	20.94	14.52	124.48	-164.86	180.06	854.78	825.82	28.96	29.517		
4,400.00	4,257.83	4,050.00	4,031.85	21.08	14.59	100.61	-156.52	172.52	870.96	841.99	28.97	30.064		
4,450.00	4,306.59	4,066.92	4,047.39	21.19	14.64	84.35	-151.55	168.02	885.56	856.79	28.77	30.784		
4,500.00	4,354.63	4,100.00	4,077.22	21.28	14.72	73.84	-140.96	158.43	898.77	870.00	28.77	31.241		



Lonestar Consulting, LLC

Anticollision Report

Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 3
Project:	Nageezi Unit	TVD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Reference Site:	P09 2309	MD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 513H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design P09 2309 - # 602H - Original Drilling - APD													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
4,550.00	4,401.67	4,115.09	4,090.58	21.35	14.76	66.87	-135.75	153.71	910.23	881.72	28.51	31.931		
4,600.00	4,447.41	4,150.00	4,120.80	21.40	14.86	62.05	-122.81	141.99	920.28	891.76	28.52	32.268		
4,650.00	4,491.58	4,163.40	4,132.14	21.45	14.89	58.55	-117.52	137.20	928.43	900.21	28.22	32.897		
4,700.00	4,533.89	4,200.00	4,162.32	21.48	15.00	56.06	-102.19	123.30	935.21	906.93	28.28	33.074		
4,750.00	4,574.10	4,200.00	4,162.32	21.50	15.00	54.05	-102.19	123.30	940.10	912.30	27.80	33.812		
4,800.00	4,611.94	4,236.07	4,190.86	21.53	15.12	52.77	-85.85	108.49	943.16	915.25	27.91	33.795		
4,850.00	4,647.20	4,250.00	4,201.53	21.55	15.16	51.72	-79.22	102.48	944.79	917.07	27.72	34.082		
4,900.00	4,679.64	4,284.65	4,227.22	21.59	15.30	51.21	-62.01	86.87	944.49	916.58	27.91	33.841		
4,950.00	4,709.07	4,300.00	4,238.19	21.65	15.36	50.79	-54.05	79.65	942.71	914.83	27.88	33.815		
5,000.00	4,735.32	4,333.30	4,261.08	21.73	15.51	50.84	-36.14	63.40	939.10	910.89	28.21	33.293		
5,050.00	4,758.21	4,350.00	4,272.07	21.85	15.59	50.92	-26.83	54.96	934.01	905.62	28.38	32.906		
5,100.00	4,777.60	4,382.02	4,292.21	22.03	15.77	51.46	-8.40	38.23	927.20	898.30	28.90	32.085		
5,150.00	4,793.39	4,400.00	4,302.96	22.28	15.87	51.99	2.28	28.55	918.95	889.63	29.32	31.341		
5,200.00	4,805.46	4,430.77	4,320.40	22.60	16.07	52.98	21.04	11.52	909.13	879.07	30.05	30.253		
5,250.00	4,813.75	4,450.00	4,330.67	23.01	16.20	53.95	33.09	0.59	897.95	867.21	30.73	29.217		
5,300.00	4,818.20	4,479.52	4,345.47	23.48	16.43	55.38	52.00	-16.57	885.37	853.68	31.69	27.942		
5,327.98	4,819.00	4,500.00	4,355.04	23.78	16.60	56.40	65.40	-28.75	877.84	845.53	32.31	27.167		
5,400.00	4,819.51	4,529.23	4,367.67	24.63	16.87	57.10	84.92	-46.46	859.23	825.49	33.74	25.466		
5,500.00	4,820.22	4,582.45	4,387.51	26.02	17.40	58.23	121.47	-79.65	838.18	802.12	36.06	23.242		
5,600.00	4,820.93	4,638.93	4,403.97	27.59	18.06	59.18	161.45	-115.95	822.47	783.89	38.58	21.317		
5,700.00	4,821.65	4,700.00	4,416.32	29.31	18.85	59.89	205.71	-156.15	811.87	770.63	41.24	19.686		
5,800.00	4,822.36	4,758.83	4,422.74	31.15	19.70	60.25	248.98	-195.45	806.20	762.31	43.89	18.369		
5,900.00	4,823.07	4,836.33	4,424.29	33.08	20.93	60.30	306.33	-247.55	804.91	758.17	46.75	17.219		
6,000.00	4,823.78	4,936.33	4,424.98	35.08	22.64	60.28	380.34	-314.79	804.45	754.41	50.03	16.078		
6,100.00	4,824.49	5,036.33	4,425.67	37.15	24.49	60.26	454.35	-382.03	803.98	750.48	53.50	15.028		
6,200.00	4,825.20	5,136.33	4,426.36	39.27	26.45	60.24	528.36	-449.27	803.51	746.40	57.11	14.071		
6,300.00	4,825.91	5,236.33	4,427.05	41.44	28.50	60.22	602.38	-516.51	803.04	742.21	60.83	13.202		
6,400.00	4,826.62	5,336.33	4,427.75	43.64	30.63	60.20	676.39	-583.75	802.57	737.93	64.65	12.415		
6,500.00	4,827.33	5,436.32	4,428.44	45.88	32.81	60.17	750.40	-650.99	802.10	733.57	68.54	11.703		
6,600.00	4,828.04	5,536.32	4,429.13	48.14	35.03	60.15	824.41	-718.23	801.64	729.14	72.50	11.058		
6,700.00	4,828.76	5,636.32	4,429.82	50.43	37.30	60.13	898.43	-785.48	801.17	724.66	76.51	10.472		
6,800.00	4,829.47	5,736.32	4,430.51	52.74	39.59	60.11	972.44	-852.72	800.70	720.14	80.56	9.939		
6,900.00	4,830.18	5,836.32	4,431.20	55.06	41.91	60.09	1,046.45	-919.96	800.23	715.58	84.65	9.453		
7,000.00	4,830.89	5,936.32	4,431.90	57.40	44.26	60.07	1,120.47	-987.20	799.77	710.99	88.78	9.009		
7,100.00	4,831.60	6,036.31	4,432.59	59.76	46.62	60.05	1,194.48	-1,054.44	799.30	706.37	92.93	8.601		
7,200.00	4,832.31	6,136.31	4,433.28	62.13	49.00	60.03	1,268.49	-1,121.68	798.83	701.73	97.10	8.227		
7,300.00	4,833.02	6,236.31	4,433.97	64.51	51.39	60.01	1,342.50	-1,188.92	798.37	697.07	101.30	7.882		
7,400.00	4,833.73	6,336.31	4,434.66	66.90	53.80	59.99	1,416.52	-1,256.16	797.90	692.39	105.51	7.563		
7,500.00	4,834.44	6,436.31	4,435.35	69.29	56.22	59.97	1,490.53	-1,323.40	797.43	687.70	109.73	7.267		
7,600.00	4,835.15	6,536.31	4,436.05	71.70	58.64	59.94	1,564.54	-1,390.64	796.97	682.99	113.97	6.993		
7,700.00	4,835.87	6,636.31	4,436.74	74.11	61.07	59.92	1,638.55	-1,457.88	796.50	678.27	118.22	6.737		
7,800.00	4,836.58	6,736.30	4,437.43	76.53	63.51	59.90	1,712.57	-1,525.12	796.03	673.55	122.49	6.499		
7,900.00	4,837.29	6,836.30	4,438.12	78.96	65.96	59.88	1,786.58	-1,592.37	795.57	668.81	126.76	6.276		
8,000.00	4,838.00	6,936.30	4,438.81	81.39	68.41	59.86	1,860.59	-1,659.61	795.10	664.07	131.03	6.068		
8,100.00	4,838.71	7,036.30	4,439.50	83.83	70.87	59.84	1,934.61	-1,726.85	794.63	659.31	135.32	5.872		
8,200.00	4,839.42	7,136.30	4,440.20	86.27	73.33	59.82	2,008.62	-1,794.09	794.17	654.56	139.61	5.688		
8,300.00	4,840.13	7,236.30	4,440.89	88.71	75.80	59.80	2,082.63	-1,861.33	793.70	649.79	143.91	5.515		
8,400.00	4,840.84	7,336.30	4,441.58	91.16	78.27	59.78	2,156.64	-1,928.57	793.24	645.03	148.21	5.352		
8,500.00	4,841.55	7,436.29	4,442.27	93.62	80.74	59.75	2,230.66	-1,995.81	792.77	640.26	152.51	5.198		
8,600.00	4,842.26	7,536.29	4,442.96	96.07	83.21	59.73	2,304.67	-2,063.05	792.30	635.48	156.82	5.052		
8,700.00	4,842.98	7,636.29	4,443.65	98.53	85.69	59.71	2,378.68	-2,130.29	791.84	630.70	161.14	4.914		
8,800.00	4,843.69	7,736.29	4,444.35	100.99	88.18	59.69	2,452.69	-2,197.53	791.37	625.92	165.45	4.783		



Lonestar Consulting, LLC

Anticollision Report

Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 3
Project:	Nageezi Unit	TVD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Reference Site:	P09 2309	MD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 513H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design P09 2309 - # 602H - Original Drilling - APD													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
8,900.00	4,844.40	7,836.29	4,445.04	103.46	90.66	59.67	2,526.71	-2,264.77	790.91	621.14	169.77	4.659		
9,000.00	4,845.11	7,936.29	4,445.73	105.93	93.15	59.65	2,600.72	-2,332.02	790.44	616.35	174.09	4.540		
9,100.00	4,845.82	8,036.28	4,446.42	108.40	95.63	59.63	2,674.73	-2,399.26	789.98	611.57	178.41	4.428		
9,200.00	4,846.53	8,136.28	4,447.11	110.87	98.12	59.61	2,748.75	-2,466.50	789.51	606.78	182.74	4.320		
9,300.00	4,847.24	8,236.28	4,447.80	113.34	100.62	59.58	2,822.76	-2,533.74	789.05	601.99	187.06	4.218		
9,400.00	4,847.95	8,336.28	4,448.50	115.82	103.11	59.56	2,896.77	-2,600.98	788.58	597.20	191.39	4.120		
9,500.00	4,848.66	8,436.28	4,449.19	118.29	105.60	59.54	2,970.78	-2,668.22	788.12	592.40	195.72	4.027		
9,600.00	4,849.38	8,536.28	4,449.88	120.77	108.10	59.52	3,044.80	-2,735.46	787.65	587.61	200.04	3.937		
9,700.00	4,850.09	8,636.28	4,450.57	123.25	110.60	59.50	3,118.81	-2,802.70	787.19	582.82	204.37	3.852		
9,800.00	4,850.80	8,736.27	4,451.26	125.73	113.10	59.48	3,192.82	-2,869.94	786.73	578.02	208.70	3.770		
9,900.00	4,851.51	8,836.27	4,451.95	128.22	115.60	59.45	3,266.83	-2,937.18	786.26	573.23	213.03	3.691		
10,000.00	4,852.22	8,936.27	4,452.65	130.70	118.10	59.43	3,340.85	-3,004.42	785.80	568.44	217.36	3.615		
10,100.00	4,852.93	9,036.27	4,453.34	133.19	120.60	59.41	3,414.86	-3,071.66	785.33	563.64	221.69	3.542		
10,200.00	4,853.64	9,136.27	4,454.03	135.67	123.10	59.39	3,488.87	-3,138.91	784.87	558.85	226.02	3.473		
10,300.00	4,854.35	9,236.27	4,454.72	138.16	125.60	59.37	3,562.89	-3,206.15	784.41	554.06	230.35	3.405		
10,400.00	4,855.06	9,336.27	4,455.41	140.65	128.11	59.35	3,636.90	-3,273.39	783.94	549.26	234.68	3.340		
10,500.00	4,855.77	9,436.26	4,456.10	143.14	130.61	59.32	3,710.91	-3,340.63	783.48	544.47	239.01	3.278		
10,600.00	4,856.49	9,536.26	4,456.80	145.63	133.12	59.30	3,784.92	-3,407.87	783.02	539.68	243.34	3.218		
10,700.00	4,857.20	9,636.26	4,457.49	148.12	135.63	59.28	3,858.94	-3,475.11	782.55	534.89	247.67	3.160		
10,800.00	4,857.91	9,736.26	4,458.18	150.62	138.13	59.26	3,932.95	-3,542.35	782.09	530.10	251.99	3.104		
10,900.00	4,858.62	9,836.26	4,458.87	153.11	140.64	59.24	4,006.96	-3,609.59	781.63	525.31	256.32	3.049		
10,953.69	4,859.00	9,889.95	4,459.24	154.45	141.99	59.23	4,046.70	-3,645.69	781.38	522.73	258.64	3.021 SF		

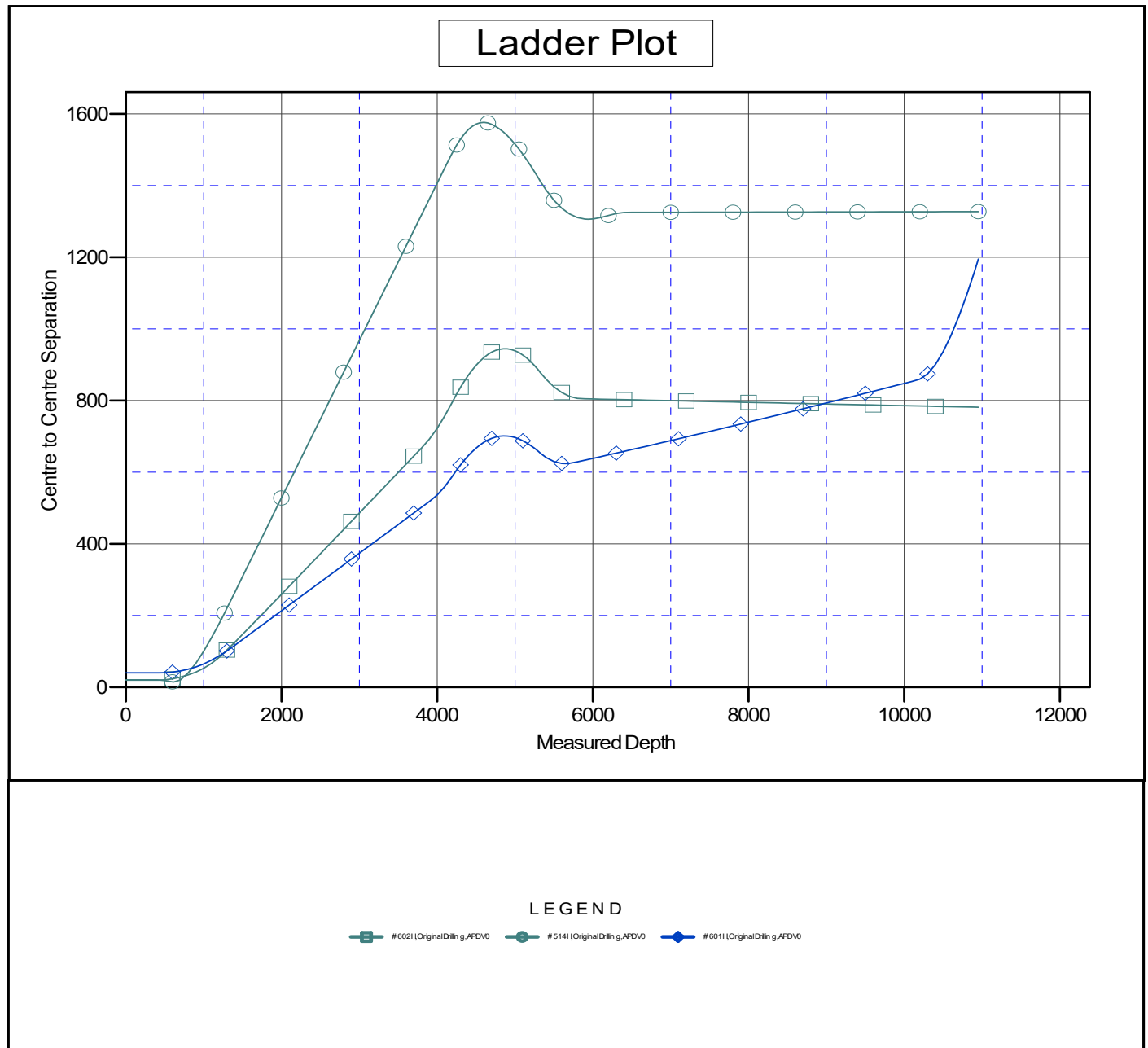


Lonestar Consulting, LLC
Anticollision Report

Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 3
Project:	Nageezi Unit	TVD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Reference Site:	P09 2309	MD Reference:	GL 6805' & RKB 14' @ 6819.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 513H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 6805' & RKB 14' @ 6819.00usft
Offset Depths are relative to Offset Datum
Central Meridian is -107.8333333

Coordinates are relative to: # 513H - Slot 3
Coordinate System is US State Plane 1983, New Mexico Western Zone
Grid Convergence at Surface is: 0.03°





Lonestar Consulting, LLC
Anticollision Report

Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 3
Project:	Nageezi Unit	TVD Reference:	GL 6805' & RKB 14' @ 6819.00usft
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Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 6805' & RKB 14' @ 6819.00usft

Offset Depths are relative to Offset Datum

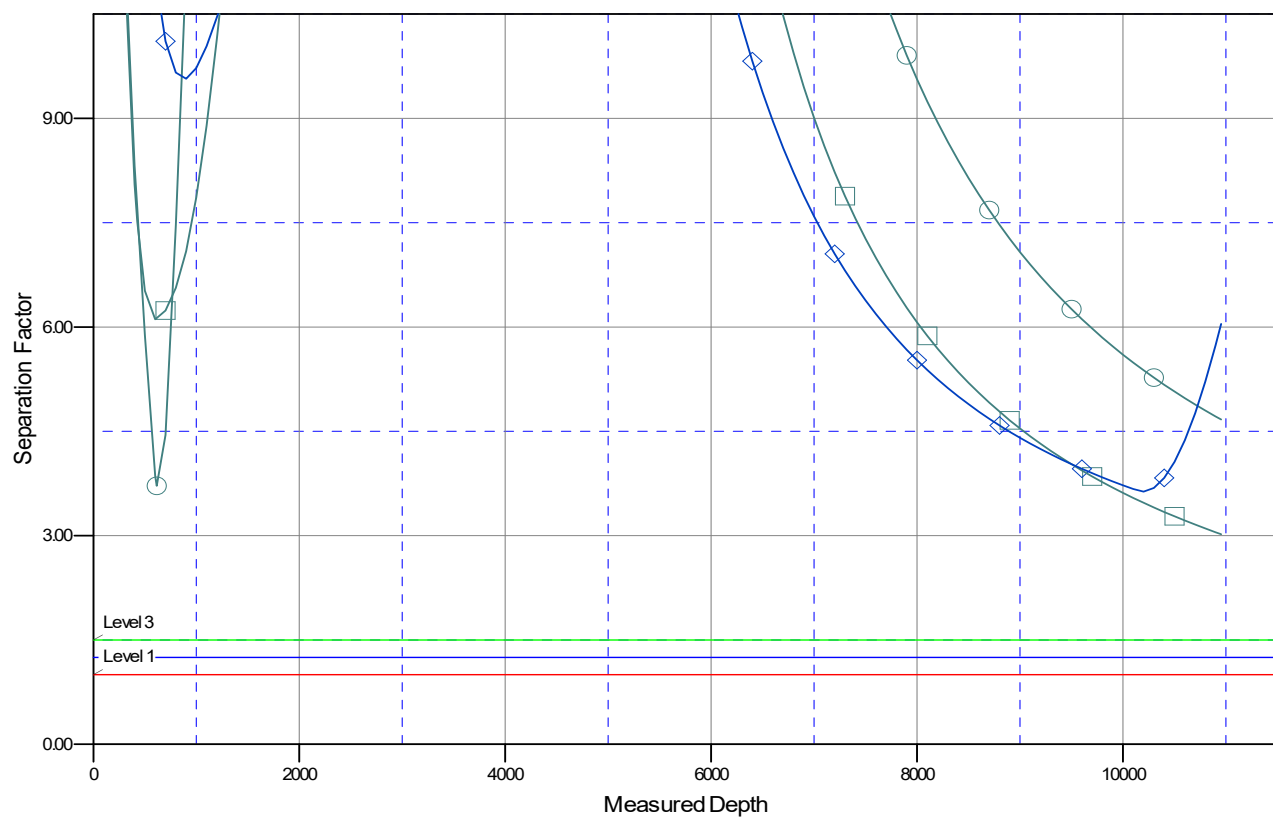
Central Meridian is -107.8333333

Coordinates are relative to: # 513H - Slot 3

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

Grid Convergence at Surface is: 0.03°

Separation Factor Plot



LEGEND

#602HOriginalDrilling.APDV0 #514HOriginalDrilling.APDV0 #601HOriginalDrilling.APDV0

Conditions of Approval

Operator: Operator: Encana Oil & Gas (USA) Inc.
Well Name: Nageezi Unit 514H
Legal Location: Twn 23N, Rng 19W, Sec 9; 1246 FSL, 808 FEL

NEPA Log Number: NM-F010-2016-0210
Inspection Date: 12/01/15
Lease Number: NM8005

The following conditions of approval will apply to Encana Oil & Gas (USA) Inc. Nageezi Unit 513H and 514H well pad, access road and other associated facilities, unless a particular Surface Managing Agency or private surface owner has supplied to Bureau of Land Management and the operator a contradictory environmental stipulation. The failure of the operator to comply with these requirements may result in an assessment or civil penalties pursuant to 43 CFR 3163.1 or 3163.2.

Copy of Plans: A complete copy of the APD package, including exhibits and the Plan(s) of Operation (if required), shall be at the project area and available to all persons.

Disclaimers: BLM's approval of this APD does not relieve the lessee and operator from obtaining any other authorizations that may be required by the BIA, Navajo Tribe or other jurisdictional entities.

Site Specific Stipulations

Migratory Bird: The BLM/FFO migratory bird policy requires a bird nest survey between May 15-July 31 for any projects that would remove 4.0 or more acres or vegetation. The proposed project is estimated to disturb more than four acres of vegetation, a survey will be required.

Noise Sensitive Area: This well is located within a designated Noise Sensitive Area (NSA). Noise standards of 48.6 dB(A) Leq will be achieved at established agency receptor points. Receptors may vary in size from a single point source to several acres based on the features and resource components that are being managed. The agency will work with the operator to establish the applicable receptor points. If a compressor or pump-jack will be placed on site, a 48.6 dB[A] Leq, or lower, noise level will be enforced at designated receptor points. The operator is required to file a sundry notice within 5 days of prior to setting a compressor or pump-jack on location, if the noise source exceeds the noise standard.

The sundry notice will include information on why the compressor is needed, the estimated time the compressor will be in use, and the manufacturer's data (size of unit, horsepower, model type and type of motor). A 1:24,000 (7.5 minute series) map will be submitted with the sundry. The map will show the proposed compressor location and all noise sensitive areas (fee surface, residences, schools, churches, farms, known ACECs and SMAs, etc.) within a two-mile radius of the well location. In addition, a 24 hour time weighted average background noise survey may be required after the compressor and/or pumping are installed.

General Project Stipulations

Construction & Reclamation Notification: The operator or their contractor will contact the Bureau of Land Management, Farmington Field Office, Environmental Protection Staff, Randy McKee (505) 564-7708 or by email, at least 48 hours prior to any construction or reclamation on this project.

Best Management Practices: Farmington Field Office established environmental Best Management Practices (BMP's) will be followed during construction and reclamation of well site pads, access roads, pipeline ties, facility placement or any other surface disturbing activity associated with this project. Bureau wide standard BMP's are found in the Gold Book, Fourth Edition-Revised 2007. Farmington Field Office BMP's are integrated into the general and site specific stipulations described below.

Acquisition of Water: Water acquired to construct, produce, and maintain actions authorized by this permit to drill must be acquired from permitted water sources, or water authorized for use by the New Mexico Oil Conservation Division (OCD). Upon request the AO shall be provided with documentation of water sources.

Construction

Staking: The holder shall place slope stakes, culvert location and grade stakes, and other construction control stakes as deemed necessary by the authorized officer to ensure construction in accordance with the plan of development. If stakes are disturbed, they shall be replaced before proceeding with construction.

Weather: No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of 6 inches deep, the soil shall be deemed too wet.

Contouring of Cut and Fill Slopes: The interim cut and fill slope shall grade as close to the original contour as possible. To obtain this ratio, pits and slopes shall be back sloped into the pad during interim reclamation. Only subsurface soil and material shall be utilized in the contouring of the cut and fill slopes. Under no circumstances shall topsoil be utilized as substrate material for contouring of cut and fill slopes.

Stockpile of Soil: The top 6 inches of soil material will be stripped and stockpiled in the construction zones around the well pad [construction zones may be restricted or deleted to provide resource avoidance]. The stockpiled soil will be free of brush and tree limbs, trunks and roots. The stockpiled soil material will be spread on the reclaimed portions of the pad [including the reserve pit, cut and fill slopes] prior to re-seeding. Spreading shall not be done when the ground or topsoil is frozen or wet.

Facility Layout: Production facilities shall be placed to allow for maximum interim reclamation and revegetation of the well location. Production facilities shall be clustered to maximize the opportunity for interim reclamation. Production facility layout and placement is submitted in the Surface Use Plan and approved as part of the APD package. Any deviation from the approved facility layout and/or the addition of any equipment, including compressors and fencing, must be approved prior to installation or construction. Production, cathodic equipment, and meter runs associated with pipeline construction shall be placed on location near tear drop road as not to interfere with reclaiming the cut and fill slopes to their proper ratio. Gas metering equipment shall face to the interior of the well pad to provide easy access to equipment from the driving surface. Production equipment [including any facilities associated with pipeline construction] shall be placed on location as not to interfere with reclaiming the cut and fill slopes to their proper ratio. If equipment is found to interfere with the proper reclamation of the slope, the company will be required to move the equipment so proper re-contouring can occur. In instances where chain link fences are constructed around the location, the fence should be engineered and constructed so that the interim reclamation, seeded areas and vegetation are not compromised or degraded. Additionally, the enclosed area shall not be utilized as a storage facility. Berms or firewalls will be constructed around all storage facilities sufficient in size to contain the storage capacity of tanks, or the combined capacity of tanks if a rupture could drain more than one tank. Berm walls will be compacted with appropriate equipment to assure proper construction. Containment dikes around oil/water facilities shall not be constructed with topsoil. Gravel shall not be unloaded or relocated into areas where interim reclamation will occur or onto areas where interim reclamation has been completed.

Storage Tanks: All open top permanent production or storage tanks regardless of diameter made of fiberglass, steel, or other material used for the containment of oil, condensate, produced water and or other production waste shall be screened, netted or otherwise covered to protect migratory birds and other wildlife from access.

Berms: Berms or firewalls will be constructed around all storage facilities sufficient in size to contain the storage capacity of tanks, or the combined capacity of tanks if a rupture could drain more than one tank. Berm walls will be compacted with appropriate equipment to assure proper construction. Metal containment barriers, used for secondary containment, will be properly installed, per the manufactures directions.

Compressors: Compressor units on this well location not equipped with a drip pan for containment of fluids shall be lined with an impervious material at least 8 mils thick and a 12 inch berm. The compressor will be painted to match the well facilities. Any variance to this will be approved by the Authorized Officer (AO). When compressor units are washed, or any other equipment associated with the locations, the fluids (i.e., scrubber cleaners) will be properly disposed of to avoid ground contamination or hazard to livestock or wildlife.

Access Road

New & Existing Access: All sections of the proposed access road associated with this permit shall be sited, designed, constructed, upgraded and maintained utilizing standards, requirements, guidelines and instructions specified in BLM Manual 9113 "Roads", BLM Manual 9113-1 "Roads Design Handbook", BLM Manual 9113-2 "Roads National Inventory and Condition Assessment Guidance & Instructions Handbook" and Surface Operations and Guidelines for Oil and Gas Exploration and Development "The Gold Book".

Culverts: Culvert(s) of sufficient size (minimum 24 inches) will be placed where needed along the access road, at the well pad entrance and access take off. Silt Traps/Bell Holes will be built upstream of all culvert locations.

Driving Surface Area: All activities associated within the construction, operation, maintenance, and abandonment of the well location is limited to areas approved in the APD or ROW permit. During the production of the well, vehicular traffic is limited to the daily driving surface area established during interim reclamation construction operations. This area typically forms a keyhole or teardrop driving surface from which all production facilities may be serviced or inspected. A v-type ditch may be constructed on the outside of the driving surface to further define the driving surface and to deter vehicular traffic from entering onto the interim reclamation areas.

Cultural Resources

Non-Permitted Disturbance: Construction, construction maintenance or any other activity outside the areas permitted by the APD will require additional approval and may require a new cultural survey and clearance.

Employee Education: All employees of the project, including the Project Sponsor and its contractors and sub-contractors will be informed that cultural sites are to be avoided by all personnel, personal vehicles and company equipment. This includes all personnel associated with construction, use, maintenance and abandonment of the well pad, well facilities, access and pipeline. They will also be notified that it is illegal to collect, damage, or disturb cultural resources, and that such activities are punishable by criminal and or administrative penalties under the provisions of the Archaeological Resources Protection Act (16U.S.C. 470aa-mm).

Discovery of Cultural Resources in the Absence of Monitoring: If, in its operations, operator/holder discovers any previously unidentified historic or prehistoric cultural resources, then work in the vicinity of the discovery will be suspended and the discovery promptly reported to Bureau of Land Management Field Manager. The Bureau of Land Management will then specify what action is to be taken. If there is an approved "discovery plan" in place for the project, then the plan will be executed. In the absence of an approved plan, the Bureau of Land Management will evaluate the significance of discovery and consult with the State Historic Preservation Officer in accordance with 36 CFR Section 800.11. Minor recordation, stabilization, or data recovery may be performed by a Bureau of Land Management or permitted cultural resources consultant. If warranted, more extensive treatment by a permitted cultural resources consultant may be required of the operator/holder prior to allowing the project to proceed. Further damage to significant cultural resources will not be allowed until any required treatment is completed. Failure to notify the Bureau of Land Management about a discovery may result in civil or criminal penalties in accordance with the Archeological Resources Protection Act of 1979 (as amended).

Discovery of Cultural Resources during Monitoring: If monitoring confirms the presence of previously unidentified cultural resources, then work in the vicinity of the discovery will be suspended and the monitor will promptly report the discovery to the Bureau of Land Management Field Manager. The Bureau of Land Management will then specify what action is to be taken. If there is an approved "discovery plan" in place for the project, then the plan will be executed. In the absence of an approved plan, the Bureau of Land Management will evaluate the significance of the discovery and consult with the State Historic Preservation Officer in accordance with 36 CFR Section 800.11. A Bureau of Land Management or permitted cultural resources consultant may perform minor recordation, stabilization, or data recovery. If warranted, more extensive treatment by a permitted cultural resources consultant may be required of the operator/holder prior to allowing the project to proceed. Further damage to significant cultural resources will not be allowed until any required treatment is completed.

Damage to Sites: If, in its operations, operator/holder damages, or is found to have damaged any previously documented or undocumented historic or prehistoric cultural resources, excluding "discoveries" as noted above, the operator/holder agrees at his/her expense to have a permitted cultural resources consultant prepare and have executed a Bureau of Land Management approved data recovery plan. Damage to cultural resources may result in civil or criminal penalties in accordance with the Archeological Resources Protection Act of 1979 (as amended).

Other Resources

Noxious Weeds: Inventory the proposed route or site for the presence of noxious weeds. Noxious weeds are those listed on the New Mexico Noxious Weed List. The following noxious weeds have been identified as occurring on lands within the boundaries of the Farmington Field Office (FFO).

- | | |
|---|--|
| Russian Knapweed (<i>Centaurea repens</i>) | Musk Thistle (<i>Carduus nutans</i>) |
| Bull Thistle (<i>Cirsium vulgare</i>) | Canada Thistle (<i>Cirsium arvense</i>) |
| Scotch Thistle (<i>Onopordum acanthium</i>) | Hoary Cress (<i>Cardaria draba</i>) |
| Perennial Pepperweed (<i>Lepidium latifolium</i>) | Halogeton (<i>Halogeton glomeratus</i>) |
| Spotted Knapweed (<i>Centaurea maculosa</i>) | Dalmation Toadflax (<i>Linaria genistifolia</i>) |
| Yellow Toadflax (<i>Linaria vulgaris</i>) | Camelthorn (<i>Alhagi pseudalhagi</i>) |
| African Rue (<i>Peganum harmala</i>) | Saltcedar (<i>Tamarix</i> spp.) |
| Diffuse Knapweed (<i>Centaurea diffusa</i>) | Leafy Spurge (<i>Euphorbia esula</i>) |

Paleontology: Any paleontological resource discovered by the Operator, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is

issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant scientific values. The Holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the Holder.

Threatened, Endangered or Sensitive Species: If, in operations the operator/holder discovers any Threatened, Endangered or Sensitive species, work in the vicinity of the discovery will be suspended and the discovery promptly reported to the Bureau of Land Management T&E specialist @ (505) 599-8900. The Bureau of Land Management will then specify what action is to be taken. Failure to notify the BLM about a discovery may result in civil or criminal penalties in accordance with The Endangered Species Act (as amended).

Nesting: If a bird nest containing eggs or young is encountered in the path of construction the operator will cease construction and consult with BLM to determine appropriate actions.

Air Quality: All air pollutant emissions from federally conducted or approved activities shall comply with all applicable local, state, tribal, and federal air quality laws, statutes, regulations, standard and implementation plans.

Emission Control Standard: Compressor engines 300 horsepower or less used during well production must be rated by the manufacturer as emitting NOx at 2 grams per horsepower hour or less to comply with the New Mexico Environmental Department, Air Quality Bureau's guidance.

Waste Disposal: Waste materials produced during all phases of operation will be disposed of promptly in an approved manner so it will not impact the air, soil, water, vegetation or animals. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes and equipment. All liquid waste, completion fluids and drilling products associated with oil and gas operations will be removed and deposited in an approved disposal site. Portable toilets will remain on site throughout well pad construction, drilling and reclamation.

- a. All fluids (i.e., scrubber cleaners) used during washing of production equipment, including compressors, will be properly disposed of to avoid ground contamination or hazard to livestock or wildlife.

Construction sites shall be maintained in a sanitary condition at all times; waste materials at those sites shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes and equipment.

Land Farming: No excavation, remediation or closure activities will be authorized without prior approval, on any federal or Indian mineral estate, federal surface or federal ROW. A Sundry Notice (DOI, BLM Form 3160-5) must be submitted with an explanation of the remediation or closure plan for on-lease actions.

Final Reclamation and Abandonment

The goal of final reclamation of well pad would be to return all disturbed areas associated with the proposed project to pre-construction conditions, if possible, by diminishing the evidence of cuts, fills, and flat surfaces. Portions of the proposed project area that were not fully reclaimed during interim reclamation will be cleared (if vegetated), re-contoured to pre-construction topographical contours, covered with salvaged top soil (6 inches minimum), and seeded with the seed mix outlined in the Bare Soil Reclamation Plan. Sediment- and erosion-control measures will be implemented, as necessary. Water bars will be installed across the roads, and dead-end ditches and earthen barricades or fences will

be constructed at the entrance of the reclaimed areas. Measures will be taken to control sedimentation and erosion, as necessary Under the BLM-FFO Bare Soil Reclamation Procedures (BLM 2013b). If, upon abandonment of wells, the retention of access road is not considered necessary for the management and multiple use of the natural resources, it will be restored to the land form prior to existing disturbance and ripped a minimum of 12" in depth. After ripping, water bars will be installed. All ripped surfaces are to be protected from vehicular travel by construction of a dead end ditch and earthen barricade at the entrance to these ripped areas. Re-vegetation of the affected areas will be required and will meet the minimum standards of the FFO Bare Soil Reclamation Plan.

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

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

COMMENTS

Action 26436

COMMENTS

Operator:	DJR OPERATING, LLC	1 Road 3263	Aztec, NM87410	OGRID:	371838	Action Number:	26436	Action Type:	C-103A
Created By	Comment					Comment Date			
kpickford	KP GEO Review 4/30/2021					04/30/2021			

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CONDITIONS

Action 26436

CONDITIONS OF APPROVAL

Operator:	DJR OPERATING, LLC	1 Road 3263	Aztec, NM87410	OGRID:	371838	Action Number:	26436	Action Type:	C-103A
OCD Reviewer	Condition								
kpickford	Adhere to previous NMOCD Conditions of Approval								