

Form 3160-5
(June 2015)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**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.*5. 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.
NMNM132981A8. Well Name and No.
NAGEEZI UNIT 514H

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other2. Name of Operator
DJR OPERATING LLCContact: SHAW-MARIE FORD
E-Mail: sford@djrlc.com9. API Well No.
30-045-357633a. 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 SESE 1246FSL 808FEL
36.237650 N Lat, 107.788020 W Lon

11. 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 recompleting 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 recompleting 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 #524788 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 I

1825 N. French Dr., Hobbs, N.M. 88240
Phone: (505) 393-6181 Fax: (505) 393-0720

DISTRICT II

811 S. First St., Artesia, N.M. 88210
Phone: (505) 748-1283 Fax: (505) 748-9720

DISTRICT III

1000 Rio Brason 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) 478-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

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

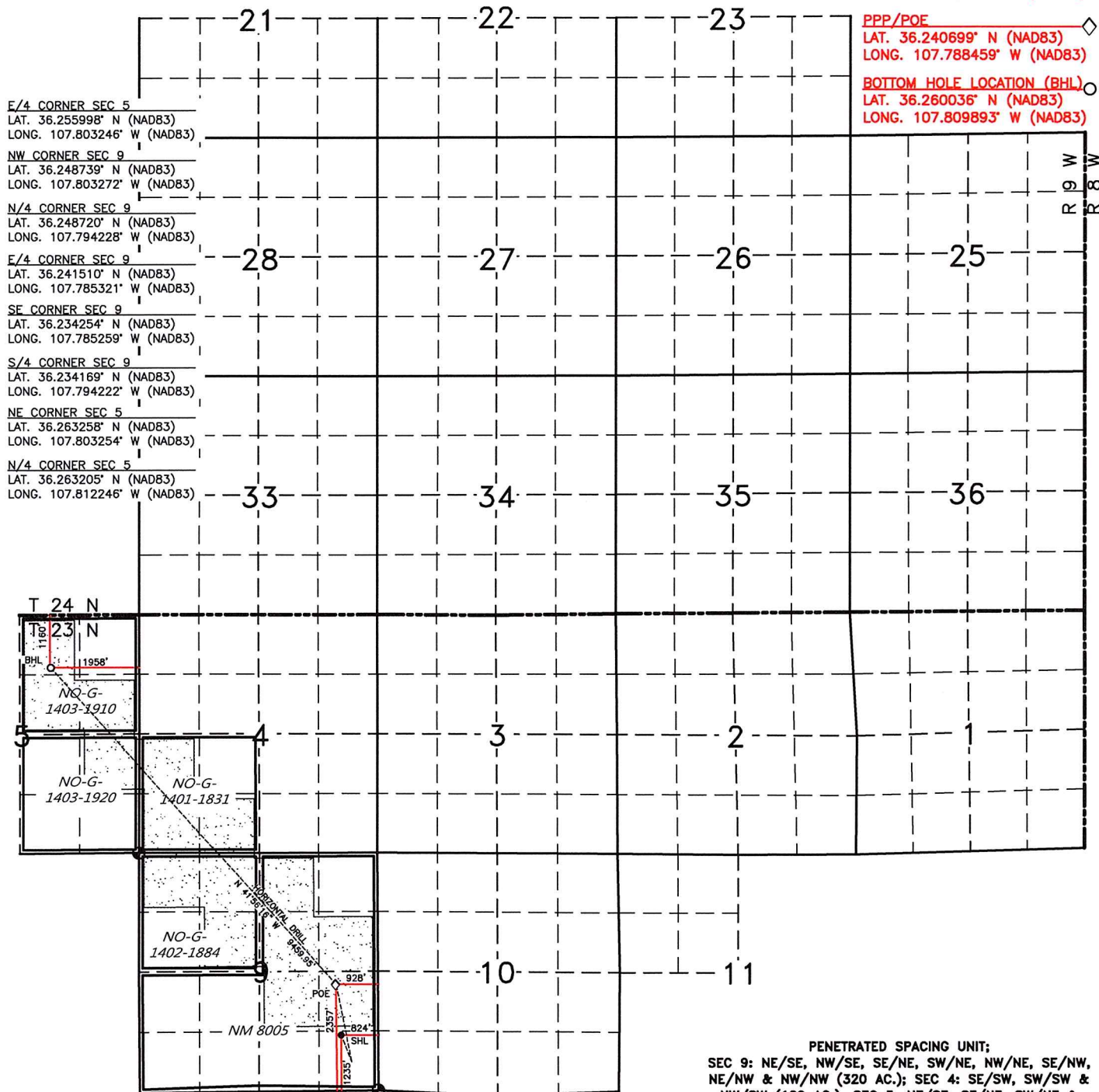
☐ AMENDED REPORT

DJR OPERATING, LLC
NAGEEZI UNIT #514H

SURFACE LOCATION (SHL)
LAT. 36.237619° N (NAD83)
LONG. 107.788083° W (NAD83)

PPP/POE
LAT. 36.240699° N (NAD83)
LONG. 107.788459° W (NAD83)

BOTTOM HOLE LOCATION (BHL)
LAT. 36.260036° N (NAD83)
LONG. 107.809893° W (NAD83)



PENETRATED SPACING UNIT:
SEC 9: NE/SE, NW/SE, SE/NE, SW/NE, NW/NE, SE/NW,
NE/NW & NW/NW (320 AC.); SEC 4: SE/SW, SW/SW &
NW/SW (120 AC.); SEC 5: NE/SE, SE/NE, SW/NE &
NW/NE (180.89 AC.) = 600.89 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

DISTRICT I

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

DISTRICT II

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

DISTRICT III

1000 Rio Brazos Rd., 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) 476-3480 Fax: (505) 476-3482

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

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

☐ AMENDED REPORT

NAGEEZI UNIT #514H

2545.97 LINEAR FEET OF WELLBORE WITHIN
NM 8005

LOCATED IN THE NE/SE, SE/NE,
SW/NE & NW/NE 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	2357	FSL	928	FEL	36.240699° N	107.788459° W
TO	1025	FNL	2665	FWL	36.245904° N	107.794227° W

1381.02 LINEAR FEET OF WELLBORE WITHIN
NO-G-1402-1884

LOCATED IN THE NE/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	1025	FNL	2665	FWL	36.245904° N	107.794227° W
TO	0	FNL	1744	FWL	36.248727° N	107.797356° W

2602.64 LINEAR FEET OF WELLBORE WITHIN
NO-G-1401-1831

LOCATED IN THE SE/SW, SW/SW
& NW/SW OF SECTION 4,
T23N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	0	FSL	1744	FWL	36.248727° N	107.797356° W
TO	1932	FSL	0	FWL	36.254047° N	107.803253° W

948.89 LINEAR FEET OF WELLBORE WITHIN
NO-G-1403-1920

LOCATED IN THE NE/SE OF SECTION 5,
T23N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	1932	FSL	0	FEL	36.254047° N	107.803253° W
TO	2643	FSL	636	FEL	36.255987° N	107.805403° W

1981.43 LINEAR FEET OF WELLBORE WITHIN
NO-G-1403-1910

LOCATED IN THE SE/NE, SW/NE
& NW/NE OF SECTION 5,
T23N, R9W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

WELLBORE	NS-FOOT	NS INDICATOR	EW-FOOT	EW INDICATOR	LATITUDE	LONGITUDE
FROM	2643	FSL	636	FEL	36.255987° N	107.805403° W
TO	1160	FNL	1958	FEL	36.260036° N	107.809893° W

Rev 0



DRILLING PLAN

Nageezi Unit #514H

San Juan County, New Mexico

Surface Location

824-ft FEL & 1235-ft FSL
 Sec 9 T23N R09W
 Graded Elevation 6805' MSL
 RKB Elevation 6819' (14' KB)

SHL Geographical Coordinates (NAD-83)

Latitude 36.2376190° N
 Longitude 107.7880830° W

Kick Off Point for Horizontal Build Curve

4315-ft MD
 4260-ft TVD

Local Coordinates (from SHL)

591-ft North
 242-ft East

Heel Location (Pay zone entry)

928-ft FEL & 2357-ft FSL
 Sec 9 T23N R09W

Heel Geographical Coordinates (NAD-83)

Latitude 36.2406989° N
 Longitude 107.78845910° W

Bottom Hole Location (TD)

1958-ft FEL & 1160-ft FNL
 Sec 5 T23N R09W

BHL Geographical Coordinates (NAD-83)

Latitude 36.2600362° N
 Longitude 107.8098931° W

Well objectives

This well is planned as a 9460-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	466	466	Sd	W	8.3	8.4 – 8.8
Kirtland	606	606	Sh	-	8.3	8.4 – 8.8
Fruitland	915	912	C	G	8.3	9.0 - 9.5
Pictured Cliffs	1181	1174	Sd	W	8.3	9.0 - 9.5
Lewis	1283	1275	Sh	-		9.0 - 9.5
Chacra	1914	1896	Sd	-	8.3	9.0 - 9.5
Menefee	2637	2608	Sd, C	G	8.3	9.0 - 9.5
Point Lookout	3646	3601	Sd	-	8.3	9.0 - 9.5
Mancos	3784	3737	Sh	-		9.0 - 9.5
Mancos Silt	4109	4057	Slt	O/G	6.6	9.0 - 9.5
Gallup A	4659	4576	Slt	O/G	6.6	9.0 - 9.5
Gallup B	4717	4621	Sd	O/G	6.6	8.8 - 9.0
Gallup C	4851	4712	Sd	O/G	6.6	8.8 - 9.0
Target	5262	4841	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	5210	surf	4839	surface
4-1/2"	6-1/8"	11.6	P-110	BTC	4928	14722	4754	4909	4928

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 Design9-5/8" 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	3815-ft
Density (ppg)	12.30	13.50
Yield (cf/sx)	2.34	1.50
Mix water (gal/sx)	13.26	7.20
Volume (sx)	370	224
Volume (bbls)	154	60
Volume (cu.ft.)	866	334
Excess %	50	50



Rev 0

4-1/2" Production Liner

	BJ Services
Type	Poz/G
Planned top	4928-ft
Density (ppg)	13.3
Yield (cf/sx)	1.56
Mix water (gal/sx)	7.71
Volume (sx)	824
Volume (bbls)	229
Volume (cu.ft)	1287
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 – 5210	9.0 – 9.5	38 – 45	8 – 14	<20
Production	Low solids, non-dispersed	5210 – 14722	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: # 514H
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: # 514H

GL 6805' & RKB 14' @ 6819.00usft

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1905794.67	2736435.88	36.23761900	-107.78808300

2

Plan: APD (# 514H/Original Drilling)

Created By: Janie Collins Date: 14:07, June 19 2020

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
514H Heel	4841.00	1121.15	-110.91	1906915.77	2736324.45	36.24069890	-107.78845910
514H Toe	4909.00	8161.10	-6429.91	1913952.76	2730002.16	36.26003620	-107.80989310

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	
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	
901.57	10.03	22.254	899.01	40.53	16.59	2.00	22.25	21.57	
4314.67	10.03	22.254	4259.93	590.77	241.74	0.00	0.00	314.44	
5261.78	89.59	318.089	4841.00	1121.15	-110.91	9.00	-64.57	949.30	514H Heel
14721.97	89.59	318.089	4909.00	8161.10	-6429.91	0.00	0.00	10389.76	514H Toe



Azimuths to True North
Magnetic North: 8

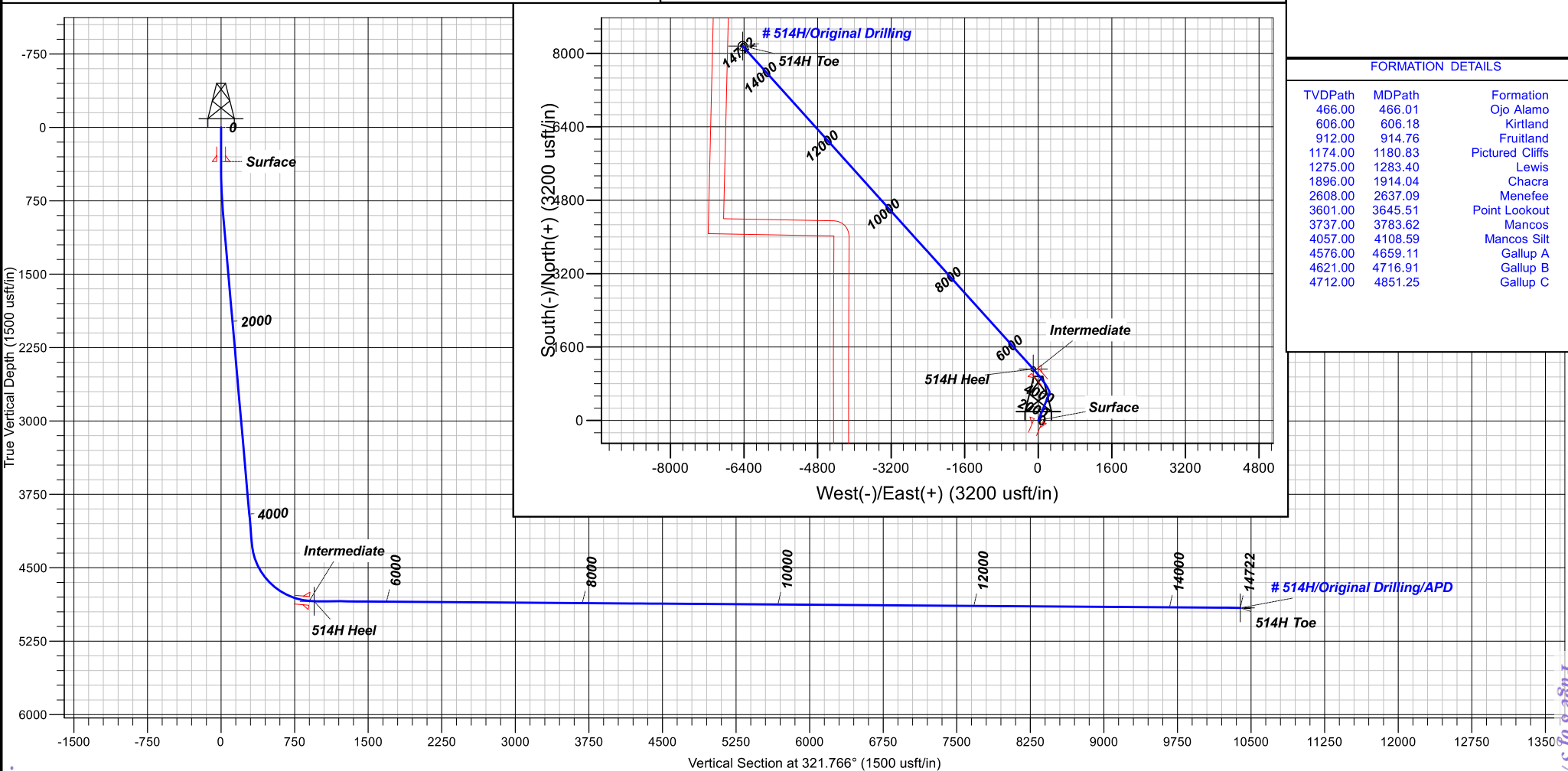
Magnetic Field
Strength: 49348
Dip Angle: 62
Date: 6/18/2020
Model: HDGM_F

CASING DETAILS

TVD	MD	Name
350.00	350.00	Surface
4838.56	5210.16	Intermediate

FORMATION DETAILS

TVDPPath	MDPath	Formation
466.00	466.01	Ojo Alamo
606.00	606.18	Kirtland
912.00	914.76	Fruitland
1174.00	1180.83	Pictured Cliffs
1275.00	1283.40	Lewis
1896.00	1914.04	Chacra
2608.00	2637.09	Menefee
3601.00	3645.51	Point Lookout
3737.00	3783.62	Mancos
4057.00	4108.59	Mancos Silt
4576.00	4659.11	Gallup A
4621.00	4716.91	Gallup B
4712.00	4851.25	Gallup C





DJR Operating

Nageezi Unit

P09 2309

514H - Slot 2

Original Drilling

Plan: APD

Standard Planning Report

19 June, 2020





Lonestar Consulting, LLC
Planning Report



Database:	DJR	Local Co-ordinate Reference:	Well # 514H - Slot 2
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:	# 514H	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	# 514H - Slot 2					
Well Position	+N/-S	11.28 usft	Northing:	1,905,794.67 usft	Latitude:	36.23761900
	+E/-W	16.22 usft	Easting:	2,736,435.88 usft	Longitude:	-107.78808300
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	321.766

Plan Survey Tool Program	Date	6/19/2020			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	14,721.97	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	
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
901.57	10.03	22.254	899.01	40.53	16.59	2.00	2.00	0.00	22.25	
4,314.67	10.03	22.254	4,259.93	590.77	241.74	0.00	0.00	0.00	0.00	
5,261.78	89.59	318.089	4,841.00	1,121.15	-110.91	9.00	8.40	-6.77	-64.57	514H Heel
14,721.97	89.59	318.089	4,909.00	8,161.10	-6,429.91	0.00	0.00	0.00	0.00	514H Toe



Lonestar Consulting, LLC

Planning Report



Database:	DJR	Local Co-ordinate Reference:	Well # 514H - Slot 2
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:	# 514H	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
500.00	2.00	22.254	499.98	1.62	0.66	0.86	2.00	2.00	0.00
600.00	4.00	22.254	599.84	6.46	2.64	3.44	2.00	2.00	0.00
700.00	6.00	22.254	699.45	14.52	5.94	7.73	2.00	2.00	0.00
800.00	8.00	22.254	798.70	25.80	10.56	13.73	2.00	2.00	0.00
900.00	10.00	22.254	897.47	40.28	16.48	21.44	2.00	2.00	0.00
901.57	10.03	22.254	899.01	40.53	16.59	21.57	2.00	2.00	0.00
1,000.00	10.03	22.254	995.94	56.40	23.08	30.02	0.00	0.00	0.00
1,100.00	10.03	22.254	1,094.41	72.52	29.68	38.60	0.00	0.00	0.00
1,200.00	10.03	22.254	1,192.88	88.64	36.27	47.18	0.00	0.00	0.00
1,300.00	10.03	22.254	1,291.35	104.77	42.87	55.76	0.00	0.00	0.00
1,400.00	10.03	22.254	1,389.82	120.89	49.47	64.34	0.00	0.00	0.00
1,500.00	10.03	22.254	1,488.29	137.01	56.06	72.92	0.00	0.00	0.00
1,600.00	10.03	22.254	1,586.76	153.13	62.66	81.50	0.00	0.00	0.00
1,700.00	10.03	22.254	1,685.24	169.25	69.26	90.08	0.00	0.00	0.00
1,800.00	10.03	22.254	1,783.71	185.37	75.85	98.66	0.00	0.00	0.00
1,900.00	10.03	22.254	1,882.18	201.49	82.45	107.25	0.00	0.00	0.00
2,000.00	10.03	22.254	1,980.65	217.62	89.05	115.83	0.00	0.00	0.00
2,100.00	10.03	22.254	2,079.12	233.74	95.65	124.41	0.00	0.00	0.00
2,200.00	10.03	22.254	2,177.59	249.86	102.24	132.99	0.00	0.00	0.00
2,300.00	10.03	22.254	2,276.06	265.98	108.84	141.57	0.00	0.00	0.00
2,400.00	10.03	22.254	2,374.53	282.10	115.44	150.15	0.00	0.00	0.00
2,500.00	10.03	22.254	2,473.01	298.22	122.03	158.73	0.00	0.00	0.00
2,600.00	10.03	22.254	2,571.48	314.34	128.63	167.31	0.00	0.00	0.00
2,700.00	10.03	22.254	2,669.95	330.47	135.23	175.89	0.00	0.00	0.00
2,800.00	10.03	22.254	2,768.42	346.59	141.82	184.47	0.00	0.00	0.00
2,900.00	10.03	22.254	2,866.89	362.71	148.42	193.05	0.00	0.00	0.00
3,000.00	10.03	22.254	2,965.36	378.83	155.02	201.63	0.00	0.00	0.00
3,100.00	10.03	22.254	3,063.83	394.95	161.61	210.21	0.00	0.00	0.00
3,200.00	10.03	22.254	3,162.30	411.07	168.21	218.79	0.00	0.00	0.00
3,300.00	10.03	22.254	3,260.77	427.19	174.81	227.37	0.00	0.00	0.00
3,400.00	10.03	22.254	3,359.25	443.31	181.40	235.96	0.00	0.00	0.00
3,500.00	10.03	22.254	3,457.72	459.44	188.00	244.54	0.00	0.00	0.00
3,600.00	10.03	22.254	3,556.19	475.56	194.60	253.12	0.00	0.00	0.00
3,700.00	10.03	22.254	3,654.66	491.68	201.20	261.70	0.00	0.00	0.00
3,800.00	10.03	22.254	3,753.13	507.80	207.79	270.28	0.00	0.00	0.00
3,900.00	10.03	22.254	3,851.60	523.92	214.39	278.86	0.00	0.00	0.00
4,000.00	10.03	22.254	3,950.07	540.04	220.99	287.44	0.00	0.00	0.00
4,100.00	10.03	22.254	4,048.54	556.16	227.58	296.02	0.00	0.00	0.00
4,200.00	10.03	22.254	4,147.02	572.29	234.18	304.60	0.00	0.00	0.00
4,300.00	10.03	22.254	4,245.49	588.41	240.78	313.18	0.00	0.00	0.00
4,314.67	10.03	22.254	4,259.93	590.77	241.74	314.44	0.00	0.00	0.00
4,400.00	15.01	354.480	4,343.28	608.67	243.50	327.42	9.00	5.83	-32.55
4,500.00	22.81	340.287	4,437.86	639.87	235.70	356.75	9.00	7.80	-14.19
4,600.00	31.23	333.253	4,526.89	681.36	217.45	400.63	9.00	8.43	-7.03
4,700.00	39.89	329.009	4,608.17	732.10	189.21	457.97	9.00	8.66	-4.24
4,800.00	48.66	326.080	4,679.70	790.87	151.67	527.36	9.00	8.77	-2.93
4,900.00	57.48	323.852	4,739.73	856.20	105.76	607.09	9.00	8.82	-2.23
5,000.00	66.34	322.026	4,786.76	926.49	52.60	695.20	9.00	8.86	-1.83
5,100.00	75.21	320.434	4,819.66	1,000.01	-6.49	789.52	9.00	8.87	-1.59



Lonestar Consulting, LLC

Planning Report



Database:	DJR	Local Co-ordinate Reference:	Well # 514H - Slot 2
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:	# 514H	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)
5,200.00	84.10	318.967	4,837.60	1,074.95	-70.07	887.73	9.00	8.88	-1.47
5,261.78	89.59	318.089	4,841.00	1,121.15	-110.91	949.30	9.00	8.89	-1.42
5,300.00	89.59	318.089	4,841.27	1,149.59	-136.44	987.44	0.00	0.00	0.00
5,400.00	89.59	318.089	4,841.99	1,224.01	-203.23	1,087.23	0.00	0.00	0.00
5,500.00	89.59	318.089	4,842.71	1,298.43	-270.03	1,187.02	0.00	0.00	0.00
5,600.00	89.59	318.089	4,843.43	1,372.84	-336.82	1,286.81	0.00	0.00	0.00
5,700.00	89.59	318.089	4,844.15	1,447.26	-403.62	1,386.60	0.00	0.00	0.00
5,800.00	89.59	318.089	4,844.87	1,521.68	-470.41	1,486.39	0.00	0.00	0.00
5,900.00	89.59	318.089	4,845.59	1,596.09	-537.21	1,586.18	0.00	0.00	0.00
6,000.00	89.59	318.089	4,846.31	1,670.51	-604.01	1,685.98	0.00	0.00	0.00
6,100.00	89.59	318.089	4,847.03	1,744.93	-670.80	1,785.77	0.00	0.00	0.00
6,200.00	89.59	318.089	4,847.74	1,819.34	-737.60	1,885.56	0.00	0.00	0.00
6,300.00	89.59	318.089	4,848.46	1,893.76	-804.39	1,985.35	0.00	0.00	0.00
6,400.00	89.59	318.089	4,849.18	1,968.18	-871.19	2,085.14	0.00	0.00	0.00
6,500.00	89.59	318.089	4,849.90	2,042.59	-937.98	2,184.93	0.00	0.00	0.00
6,600.00	89.59	318.089	4,850.62	2,117.01	-1,004.78	2,284.73	0.00	0.00	0.00
6,700.00	89.59	318.089	4,851.34	2,191.42	-1,071.58	2,384.52	0.00	0.00	0.00
6,800.00	89.59	318.089	4,852.06	2,265.84	-1,138.37	2,484.31	0.00	0.00	0.00
6,900.00	89.59	318.089	4,852.78	2,340.26	-1,205.17	2,584.10	0.00	0.00	0.00
7,000.00	89.59	318.089	4,853.49	2,414.67	-1,271.96	2,683.89	0.00	0.00	0.00
7,100.00	89.59	318.089	4,854.21	2,489.09	-1,338.76	2,783.68	0.00	0.00	0.00
7,200.00	89.59	318.089	4,854.93	2,563.51	-1,405.56	2,883.47	0.00	0.00	0.00
7,300.00	89.59	318.089	4,855.65	2,637.92	-1,472.35	2,983.27	0.00	0.00	0.00
7,400.00	89.59	318.089	4,856.37	2,712.34	-1,539.15	3,083.06	0.00	0.00	0.00
7,500.00	89.59	318.089	4,857.09	2,786.76	-1,605.94	3,182.85	0.00	0.00	0.00
7,600.00	89.59	318.089	4,857.81	2,861.17	-1,672.74	3,282.64	0.00	0.00	0.00
7,700.00	89.59	318.089	4,858.53	2,935.59	-1,739.53	3,382.43	0.00	0.00	0.00
7,800.00	89.59	318.089	4,859.24	3,010.01	-1,806.33	3,482.22	0.00	0.00	0.00
7,900.00	89.59	318.089	4,859.96	3,084.42	-1,873.13	3,582.02	0.00	0.00	0.00
8,000.00	89.59	318.089	4,860.68	3,158.84	-1,939.92	3,681.81	0.00	0.00	0.00
8,100.00	89.59	318.089	4,861.40	3,233.26	-2,006.72	3,781.60	0.00	0.00	0.00
8,200.00	89.59	318.089	4,862.12	3,307.67	-2,073.51	3,881.39	0.00	0.00	0.00
8,300.00	89.59	318.089	4,862.84	3,382.09	-2,140.31	3,981.18	0.00	0.00	0.00
8,400.00	89.59	318.089	4,863.56	3,456.50	-2,207.10	4,080.97	0.00	0.00	0.00
8,500.00	89.59	318.089	4,864.28	3,530.92	-2,273.90	4,180.76	0.00	0.00	0.00
8,600.00	89.59	318.089	4,865.00	3,605.34	-2,340.70	4,280.56	0.00	0.00	0.00
8,700.00	89.59	318.089	4,865.71	3,679.75	-2,407.49	4,380.35	0.00	0.00	0.00
8,800.00	89.59	318.089	4,866.43	3,754.17	-2,474.29	4,480.14	0.00	0.00	0.00
8,900.00	89.59	318.089	4,867.15	3,828.59	-2,541.08	4,579.93	0.00	0.00	0.00
9,000.00	89.59	318.089	4,867.87	3,903.00	-2,607.88	4,679.72	0.00	0.00	0.00
9,100.00	89.59	318.089	4,868.59	3,977.42	-2,674.67	4,779.51	0.00	0.00	0.00
9,200.00	89.59	318.089	4,869.31	4,051.84	-2,741.47	4,879.30	0.00	0.00	0.00
9,300.00	89.59	318.089	4,870.03	4,126.25	-2,808.27	4,979.10	0.00	0.00	0.00
9,400.00	89.59	318.089	4,870.75	4,200.67	-2,875.06	5,078.89	0.00	0.00	0.00
9,500.00	89.59	318.089	4,871.46	4,275.09	-2,941.86	5,178.68	0.00	0.00	0.00
9,600.00	89.59	318.089	4,872.18	4,349.50	-3,008.65	5,278.47	0.00	0.00	0.00
9,700.00	89.59	318.089	4,872.90	4,423.92	-3,075.45	5,378.26	0.00	0.00	0.00
9,800.00	89.59	318.089	4,873.62	4,498.34	-3,142.24	5,478.05	0.00	0.00	0.00
9,900.00	89.59	318.089	4,874.34	4,572.75	-3,209.04	5,577.85	0.00	0.00	0.00
10,000.00	89.59	318.089	4,875.06	4,647.17	-3,275.84	5,677.64	0.00	0.00	0.00
10,100.00	89.59	318.089	4,875.78	4,721.58	-3,342.63	5,777.43	0.00	0.00	0.00
10,200.00	89.59	318.089	4,876.50	4,796.00	-3,409.43	5,877.22	0.00	0.00	0.00
10,300.00	89.59	318.089	4,877.21	4,870.42	-3,476.22	5,977.01	0.00	0.00	0.00
10,400.00	89.59	318.089	4,877.93	4,944.83	-3,543.02	6,076.80	0.00	0.00	0.00



Lonestar Consulting, LLC

Planning Report



Database:	DJR	Local Co-ordinate Reference:	Well # 514H - Slot 2
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:	# 514H	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)
10,500.00	89.59	318.089	4,878.65	5,019.25	-3,609.82	6,176.59	0.00	0.00	0.00
10,600.00	89.59	318.089	4,879.37	5,093.67	-3,676.61	6,276.39	0.00	0.00	0.00
10,700.00	89.59	318.089	4,880.09	5,168.08	-3,743.41	6,376.18	0.00	0.00	0.00
10,800.00	89.59	318.089	4,880.81	5,242.50	-3,810.20	6,475.97	0.00	0.00	0.00
10,900.00	89.59	318.089	4,881.53	5,316.92	-3,877.00	6,575.76	0.00	0.00	0.00
11,000.00	89.59	318.089	4,882.25	5,391.33	-3,943.79	6,675.55	0.00	0.00	0.00
11,100.00	89.59	318.089	4,882.97	5,465.75	-4,010.59	6,775.34	0.00	0.00	0.00
11,200.00	89.59	318.089	4,883.68	5,540.17	-4,077.39	6,875.14	0.00	0.00	0.00
11,300.00	89.59	318.089	4,884.40	5,614.58	-4,144.18	6,974.93	0.00	0.00	0.00
11,400.00	89.59	318.089	4,885.12	5,689.00	-4,210.98	7,074.72	0.00	0.00	0.00
11,500.00	89.59	318.089	4,885.84	5,763.42	-4,277.77	7,174.51	0.00	0.00	0.00
11,600.00	89.59	318.089	4,886.56	5,837.83	-4,344.57	7,274.30	0.00	0.00	0.00
11,700.00	89.59	318.089	4,887.28	5,912.25	-4,411.36	7,374.09	0.00	0.00	0.00
11,800.00	89.59	318.089	4,888.00	5,986.66	-4,478.16	7,473.88	0.00	0.00	0.00
11,900.00	89.59	318.089	4,888.72	6,061.08	-4,544.96	7,573.68	0.00	0.00	0.00
12,000.00	89.59	318.089	4,889.43	6,135.50	-4,611.75	7,673.47	0.00	0.00	0.00
12,100.00	89.59	318.089	4,890.15	6,209.91	-4,678.55	7,773.26	0.00	0.00	0.00
12,200.00	89.59	318.089	4,890.87	6,284.33	-4,745.34	7,873.05	0.00	0.00	0.00
12,300.00	89.59	318.089	4,891.59	6,358.75	-4,812.14	7,972.84	0.00	0.00	0.00
12,400.00	89.59	318.089	4,892.31	6,433.16	-4,878.93	8,072.63	0.00	0.00	0.00
12,500.00	89.59	318.089	4,893.03	6,507.58	-4,945.73	8,172.43	0.00	0.00	0.00
12,600.00	89.59	318.089	4,893.75	6,582.00	-5,012.53	8,272.22	0.00	0.00	0.00
12,700.00	89.59	318.089	4,894.47	6,656.41	-5,079.32	8,372.01	0.00	0.00	0.00
12,800.00	89.59	318.089	4,895.18	6,730.83	-5,146.12	8,471.80	0.00	0.00	0.00
12,900.00	89.59	318.089	4,895.90	6,805.25	-5,212.91	8,571.59	0.00	0.00	0.00
13,000.00	89.59	318.089	4,896.62	6,879.66	-5,279.71	8,671.38	0.00	0.00	0.00
13,100.00	89.59	318.089	4,897.34	6,954.08	-5,346.50	8,771.17	0.00	0.00	0.00
13,200.00	89.59	318.089	4,898.06	7,028.50	-5,413.30	8,870.97	0.00	0.00	0.00
13,300.00	89.59	318.089	4,898.78	7,102.91	-5,480.10	8,970.76	0.00	0.00	0.00
13,400.00	89.59	318.089	4,899.50	7,177.33	-5,546.89	9,070.55	0.00	0.00	0.00
13,500.00	89.59	318.089	4,900.22	7,251.74	-5,613.69	9,170.34	0.00	0.00	0.00
13,600.00	89.59	318.089	4,900.94	7,326.16	-5,680.48	9,270.13	0.00	0.00	0.00
13,700.00	89.59	318.089	4,901.65	7,400.58	-5,747.28	9,369.92	0.00	0.00	0.00
13,800.00	89.59	318.089	4,902.37	7,474.99	-5,814.08	9,469.72	0.00	0.00	0.00
13,900.00	89.59	318.089	4,903.09	7,549.41	-5,880.87	9,569.51	0.00	0.00	0.00
14,000.00	89.59	318.089	4,903.81	7,623.83	-5,947.67	9,669.30	0.00	0.00	0.00
14,100.00	89.59	318.089	4,904.53	7,698.24	-6,014.46	9,769.09	0.00	0.00	0.00
14,200.00	89.59	318.089	4,905.25	7,772.66	-6,081.26	9,868.88	0.00	0.00	0.00
14,300.00	89.59	318.089	4,905.97	7,847.08	-6,148.05	9,968.67	0.00	0.00	0.00
14,400.00	89.59	318.089	4,906.69	7,921.49	-6,214.85	10,068.46	0.00	0.00	0.00
14,500.00	89.59	318.089	4,907.40	7,995.91	-6,281.65	10,168.26	0.00	0.00	0.00
14,600.00	89.59	318.089	4,908.12	8,070.33	-6,348.44	10,268.05	0.00	0.00	0.00
14,700.00	89.59	318.089	4,908.84	8,144.74	-6,415.24	10,367.84	0.00	0.00	0.00
14,721.97	89.59	318.089	4,909.00	8,161.10	-6,429.91	10,389.77	0.00	0.00	0.00



Lonestar Consulting, LLC
Planning Report



Database:	DJR	Local Co-ordinate Reference:	Well # 514H - Slot 2
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:	# 514H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
514H Heel	0.00	0.000	4,841.00	1,121.15	-110.91	1,906,915.77	2,736,324.45	36.24069890	-107.78845910
- plan hits target center									
- Circle (radius 50.00)									
514H Toe	0.00	0.000	4,909.00	8,161.10	-6,429.91	1,913,952.76	2,730,002.16	36.26003620	-107.80989310
- plan hits target center									
- Circle (radius 100.00)									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(usft)	(usft)			(in)	(in)
350.00	350.00	Surface		9.62	12.25
5,210.16	4,838.56	Intermediate		7.00	8.75

Formations					
Measured Depth	Vertical Depth	Name		Lithology	Dip
(usft)	(usft)				Direction
466.01	466.00	Ojo Alamo			0.00
606.18	606.00	Kirtland			0.00
914.76	912.00	Fruitland			0.00
1,180.83	1,174.00	Pictured Cliffs			0.00
1,283.40	1,275.00	Lewis			0.00
1,914.04	1,896.00	Chacra			0.00
2,637.09	2,608.00	Menefee			0.00
3,645.51	3,601.00	Point Lookout			0.00
3,783.62	3,737.00	Mancos			0.00
4,108.59	4,057.00	Mancos Silt			0.00
4,659.11	4,576.00	Gallup A			0.00
4,716.91	4,621.00	Gallup B			0.00
4,851.25	4,712.00	Gallup C			0.00



DJR Operating

Nageezi Unit

P09 2309

514H

Original Drilling

APD

Anticollision Report

19 June, 2020





Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 514H - Slot 2
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:	# 514H	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	14,721.97	APD (Original Drilling)	MWD+HDGM	OWSG MWD + HDGM	

Summary							
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance		Separation Factor	Warning	
			Between Centres (usft)	Between Ellipses (usft)			
Offset Well - Wellbore - Design							
P09 2309							
# 513H - Original Drilling - APD	615.61	615.28	14.73	10.76	3.717	CC, ES, SF	
# 601H - Original Drilling - APD	400.00	400.00	19.76	17.30	8.035	CC, ES	
# 601H - Original Drilling - APD	500.00	499.48	22.09	18.93	6.985	SF	
# 602H - Original Drilling - APD	636.53	634.90	36.78	32.67	8.951	CC, ES	
# 602H - Original Drilling - APD	14,099.95	14,191.15	798.53	375.68	1.888	SF	

Offset Design P09 2309 - # 513H - 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	55.28	11.65	16.81	20.45				
100.00	100.00	100.00	100.00	0.15	0.15	55.28	11.65	16.81	20.45	20.14	0.31	66.338	
200.00	200.00	200.00	200.00	0.51	0.51	55.28	11.65	16.81	20.45	19.43	1.03	19.948	
300.00	300.00	300.00	300.00	0.87	0.87	55.28	11.65	16.81	20.45	18.71	1.74	11.739	
400.00	400.00	400.00	400.00	1.23	1.23	55.28	11.65	16.81	20.45	17.99	2.46	8.316	
500.00	499.98	500.17	500.16	1.59	1.58	38.69	10.67	16.94	18.63	15.46	3.16	5.888	
600.00	599.84	599.82	599.71	1.95	1.91	68.13	6.36	17.51	14.87	11.02	3.85	3.860	
615.61	615.40	615.28	615.14	2.01	1.96	75.98	5.39	17.64	14.73	10.76	3.96	3.717	CC, ES, SF
700.00	699.45	698.21	697.79	2.31	2.25	118.61	-1.26	18.52	20.25	15.69	4.56	4.442	
800.00	798.70	794.70	793.68	2.68	2.59	142.89	-11.97	19.95	39.24	33.98	5.26	7.456	
901.57	899.01	890.19	888.14	3.07	2.95	152.14	-25.71	21.78	67.33	61.37	5.96	11.293	
1,000.00	995.93	980.32	976.85	3.46	3.31	156.16	-41.54	23.88	99.78	93.17	6.62	15.077	
1,100.00	1,094.40	1,069.86	1,064.43	3.86	3.68	158.04	-59.99	26.33	135.91	128.64	7.26	18.707	
1,200.00	1,192.87	1,157.23	1,149.28	4.26	4.06	158.96	-80.61	29.08	174.92	167.03	7.90	22.147	
1,300.00	1,291.35	1,242.35	1,231.31	4.67	4.45	159.42	-103.15	32.07	216.68	208.17	8.51	25.448	
1,399.99	1,389.82	1,330.25	1,315.45	5.09	4.88	159.65	-128.33	35.42	260.45	251.27	9.17	28.388	
1,499.99	1,488.29	1,420.09	1,401.43	5.50	5.33	159.82	-154.17	38.86	304.35	294.48	9.86	30.854	
1,599.99	1,586.76	1,509.94	1,487.41	5.92	5.78	159.94	-180.02	42.29	348.25	337.69	10.56	32.984	
1,699.99	1,685.23	1,599.78	1,573.39	6.34	6.24	160.04	-205.87	45.73	392.15	380.89	11.26	34.838	
1,799.99	1,783.70	1,689.63	1,659.37	6.76	6.71	160.11	-231.72	49.17	436.05	424.09	11.96	36.465	
1,899.99	1,882.17	1,779.48	1,745.35	7.18	7.18	160.18	-257.57	52.60	479.95	467.29	12.66	37.903	
1,999.99	1,980.64	1,869.32	1,831.32	7.60	7.65	160.23	-283.42	56.04	523.85	510.48	13.37	39.182	



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 514H - Slot 2
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:	# 514H	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 - # 513H - 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	
2,099.99	2,079.11	1,959.17	1,917.30	8.02	8.13	160.27	-309.27	59.48	567.76	553.68	14.08	40.327	
2,199.99	2,177.58	2,049.01	2,003.28	8.44	8.61	160.31	-335.12	62.91	611.66	596.87	14.79	41.357	
2,299.99	2,276.05	2,138.86	2,089.26	8.87	9.09	160.34	-360.97	66.35	655.56	640.06	15.50	42.288	
2,399.99	2,374.53	2,228.71	2,175.24	9.29	9.57	160.37	-386.82	69.79	699.47	683.25	16.22	43.133	
2,499.99	2,473.00	2,318.55	2,261.22	9.71	10.05	160.40	-412.67	73.22	743.37	726.44	16.93	43.904	
2,599.99	2,571.47	2,408.40	2,347.19	10.14	10.54	160.42	-438.52	76.66	787.27	769.63	17.65	44.610	
2,699.99	2,669.94	2,498.24	2,433.17	10.56	11.02	160.44	-464.37	80.10	831.18	812.81	18.37	45.259	
2,799.99	2,768.41	2,588.09	2,519.15	10.99	11.51	160.46	-490.22	83.53	875.08	856.00	19.08	45.856	
2,899.99	2,866.88	2,677.94	2,605.13	11.41	12.00	160.48	-516.07	86.97	918.99	899.18	19.80	46.408	
2,999.99	2,965.35	2,767.78	2,691.11	11.84	12.49	160.49	-541.92	90.41	962.89	942.37	20.52	46.920	
3,099.99	3,063.82	2,857.63	2,777.09	12.26	12.97	160.50	-567.77	93.85	1,006.79	985.55	21.24	47.396	
3,199.99	3,162.29	2,947.48	2,863.07	12.69	13.46	160.52	-593.62	97.28	1,050.70	1,028.73	21.96	47.839	
3,299.99	3,260.76	3,037.32	2,949.04	13.11	13.95	160.53	-619.47	100.72	1,094.60	1,071.92	22.68	48.253	
3,399.99	3,359.23	3,127.17	3,035.02	13.54	14.44	160.54	-645.32	104.16	1,138.50	1,115.10	23.41	48.641	
3,499.99	3,457.70	3,217.01	3,121.00	13.96	14.93	160.55	-671.17	107.59	1,182.41	1,158.28	24.13	49.004	
3,599.99	3,556.18	3,306.86	3,206.98	14.39	15.43	160.56	-697.02	111.03	1,226.31	1,201.46	24.85	49.345	
3,699.99	3,654.65	3,396.71	3,292.96	14.82	15.92	160.57	-722.87	114.47	1,270.22	1,244.64	25.58	49.665	
3,799.99	3,753.12	3,486.55	3,378.94	15.24	16.41	160.57	-748.72	117.90	1,314.12	1,287.82	26.30	49.968	
3,899.99	3,851.59	3,576.40	3,464.92	15.67	16.90	160.58	-774.56	121.34	1,358.03	1,331.00	27.02	50.253	
3,999.99	3,950.06	3,666.24	3,550.89	16.09	17.39	160.59	-800.41	124.78	1,401.93	1,374.18	27.75	50.523	
4,099.98	4,048.53	3,757.16	3,622.16	16.52	17.88	160.60	-826.26	128.21	1,445.84	1,417.92	28.48	50.792	
4,199.98	4,147.00	3,847.03	3,712.03	16.95	18.37	160.61	-852.11	131.64	1,489.75	1,460.83	29.21	51.061	
4,299.98	4,245.47	3,936.90	3,802.02	17.37	18.86	160.62	-877.96	135.07	1,533.66	1,503.74	29.94	51.330	
4,314.67	4,259.93	3,986.77	3,857.02	17.44	18.93	160.63	-885.81	135.83	1,545.51	1,515.59	30.10	51.444	
4,349.98	4,294.62	4,021.46	3,892.31	17.59	19.08	160.64	-893.66	136.59	1,557.36	1,527.44	30.26	51.558	
4,399.98	4,343.26	4,066.19	3,937.60	17.81	19.30	160.65	-901.51	137.35	1,569.21	1,539.29	30.42	51.672	
4,449.98	4,391.11	4,110.92	3,982.89	18.04	19.52	160.66	-909.36	138.11	1,581.06	1,551.14	30.58	51.786	
4,499.98	4,437.84	4,155.65	4,028.18	18.28	19.74	160.67	-917.21	138.87	1,592.91	1,563.00	30.74	51.900	
4,549.98	4,483.19	4,200.38	4,073.47	18.52	19.96	160.68	-925.06	139.63	1,604.76	1,574.85	30.90	52.014	
4,599.98	4,526.87	4,245.11	4,118.76	18.77	20.18	160.69	-932.91	140.39	1,616.61	1,586.70	31.06	52.128	
4,649.98	4,568.61	4,289.84	4,164.05	19.02	20.40	160.70	-940.76	141.15	1,628.46	1,598.55	31.22	52.242	
4,699.98	4,608.15	4,334.57	4,209.34	19.28	20.62	160.71	-948.61	141.91	1,640.31	1,610.40	31.38	52.356	
4,712.05	4,617.34	4,343.80	4,218.57	19.35	20.69	160.72	-950.46	142.17	1,643.16	1,613.25	31.45	52.385	
4,749.98	4,645.26	4,371.72	4,246.49	19.55	20.89	160.73	-958.31	142.93	1,655.01	1,625.10	31.61	52.500	
4,799.98	4,679.69	4,406.15	4,280.92	19.85	21.19	160.74	-966.16	143.69	1,666.86	1,636.95	31.77	52.614	
4,849.98	4,711.24	4,441.08	4,315.85	20.16	21.50	160.75	-974.01	144.45	1,678.71	1,648.80	31.93	52.728	
4,899.98	4,739.72	4,475.91	4,350.68	20.51	21.85	160.76	-981.86	145.21	1,690.56	1,660.65	32.09	52.842	
4,949.98	4,764.94	4,510.74	4,385.51	20.89	22.23	160.77	-989.71	145.97	1,702.41	1,672.50	32.25	52.956	
4,999.98	4,786.76	4,545.57	4,420.34	21.32	22.66	160.78	-997.56	146.73	1,714.26	1,684.35	32.41	53.070	
5,049.98	4,805.03	4,580.40	4,455.17	21.81	23.15	160.79	-1,005.41	147.49	1,726.11	1,696.20	32.57	53.184	
5,099.98	4,819.65	4,615.23	4,489.80	22.35	23.69	160.80	-1,013.26	148.25	1,737.96	1,708.05	32.73	53.298	
5,149.98	4,830.53	4,650.06	4,524.63	22.94	24.28	160.81	-1,021.11	149.01	1,749.81	1,719.90	32.89	53.412	
5,199.98	4,837.60	4,684.89	4,559.46	23.59	24.87	160.82	-1,028.96	149.77	1,761.66	1,731.75	33.05	53.526	
5,249.98	4,840.81	4,719.72	4,594.29	24.28	25.46	160.83	-1,036.81	150.53	1,773.51	1,743.60	33.21	53.640	
5,261.78	4,841.00	4,724.55	4,599.12	24.45	25.63	160.84	-1,038.66	150.70	1,775.36	1,745.45	33.38	53.754	
5,299.98	4,841.27	4,729.38	4,603.95	25.02	26.22	160.85	-1,046.51	151.46	1,787.21	1,757.30	33.54	53.868	
5,399.98	4,841.99	4,764.21	4,638.78	26.61	27.81	160.86	-1,054.36	152.22	1,799.06	1,769.15	33.70	53.982	
5,499.98	4,842.71	4,799.04	4,673.61	28.35	29.40	160.87	-1,062.21	152.98	1,810.91	1,781.00	33.86	54.096	
5,599.98	4,843.43	4,833.87	4,708.44	30.20	31.25	160.88	-1,070.06	153.74	1,822.76	1,792.85	34.02	54.210	
5,699.98	4,844.15	4,868.70	4,743.27	32.15	33.20	160.89	-1,077.91	154.50	1,834.61	1,804.70	34.18	54.324	
5,799.98	4,844.87	4,903.53	4,778.10	34.18	35.23	160.90	-1,085.76	155.26	1,846.46	1,816.55	34.34	54.438	
5,899.98	4,845.59	4,938.36	4,812.93	36.27	37.32	160.91	-1,093.61	156.02	1,858.31	1,828.40	34.50	54.552	



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 514H - Slot 2
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:	# 514H	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 - # 513H - 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		
5,999.98	4,846.31	7,162.27	4,832.04	38.41	61.23	-89.38	784.69	-1,590.00	1,325.55	1,226.36	99.19	13.364		
6,099.98	4,847.03	7,262.27	4,832.75	40.59	63.61	-89.38	859.07	-1,656.84	1,325.60	1,221.83	103.77	12.774		
6,199.98	4,847.74	7,362.27	4,833.46	42.82	65.99	-89.38	933.45	-1,723.67	1,325.65	1,217.24	108.41	12.228		
6,299.98	4,848.46	7,462.27	4,834.18	45.07	68.39	-89.38	1,007.83	-1,790.50	1,325.70	1,212.62	113.08	11.724		
6,399.98	4,849.18	7,562.27	4,834.89	47.35	70.79	-89.38	1,082.22	-1,857.34	1,325.75	1,207.97	117.78	11.256		
6,499.98	4,849.90	7,662.27	4,835.60	49.66	73.20	-89.38	1,156.60	-1,924.17	1,325.80	1,203.29	122.51	10.822		
6,599.98	4,850.62	7,762.27	4,836.31	51.98	75.62	-89.38	1,230.98	-1,991.00	1,325.85	1,198.58	127.27	10.418		
6,699.98	4,851.34	7,862.27	4,837.02	54.32	78.04	-89.38	1,305.36	-2,057.84	1,325.90	1,193.85	132.05	10.041		
6,799.97	4,852.06	7,962.26	4,837.73	56.68	80.47	-89.38	1,379.75	-2,124.67	1,325.95	1,189.10	136.85	9.689		
6,899.97	4,852.78	8,062.26	4,838.44	59.05	82.91	-89.38	1,454.13	-2,191.50	1,326.01	1,184.34	141.67	9.360		
6,999.97	4,853.49	8,162.26	4,839.15	61.43	85.35	-89.38	1,528.51	-2,258.34	1,326.06	1,179.56	146.50	9.052		
7,099.97	4,854.21	8,262.26	4,839.86	63.83	87.79	-89.38	1,602.89	-2,325.17	1,326.11	1,174.76	151.35	8.762		
7,199.97	4,854.93	8,362.26	4,840.57	66.23	90.24	-89.38	1,677.27	-2,392.00	1,326.16	1,169.95	156.20	8.490		
7,299.97	4,855.65	8,462.26	4,841.29	68.64	92.69	-89.38	1,751.66	-2,458.84	1,326.21	1,165.13	161.07	8.234		
7,399.97	4,856.37	8,562.26	4,842.00	71.06	95.15	-89.38	1,826.04	-2,525.67	1,326.26	1,160.30	165.95	7.992		
7,499.97	4,857.09	8,662.26	4,842.71	73.48	97.60	-89.38	1,900.42	-2,592.50	1,326.31	1,155.47	170.84	7.763		
7,599.97	4,857.81	8,762.26	4,843.42	75.91	100.07	-89.38	1,974.80	-2,659.34	1,326.36	1,150.62	175.74	7.547		
7,699.97	4,858.53	8,862.26	4,844.13	78.35	102.53	-89.38	2,049.19	-2,726.17	1,326.41	1,145.76	180.65	7.343		
7,799.97	4,859.24	8,962.26	4,844.84	80.79	105.00	-89.38	2,123.57	-2,793.00	1,326.46	1,140.90	185.56	7.148		
7,899.97	4,859.96	9,062.26	4,845.55	83.23	107.46	-89.38	2,197.95	-2,859.84	1,326.51	1,136.03	190.48	6.964		
7,999.97	4,860.68	9,162.26	4,846.26	85.68	109.93	-89.38	2,272.33	-2,926.67	1,326.56	1,131.16	195.41	6.789		
8,099.97	4,861.40	9,262.26	4,846.97	88.14	112.41	-89.38	2,346.72	-2,993.50	1,326.61	1,126.28	200.34	6.622		
8,199.97	4,862.12	9,362.26	4,847.68	90.59	114.88	-89.38	2,421.10	-3,060.34	1,326.67	1,121.39	205.27	6.463		
8,299.97	4,862.84	9,462.26	4,848.40	93.05	117.36	-89.38	2,495.48	-3,127.17	1,326.72	1,116.50	210.21	6.311		
8,399.97	4,863.56	9,562.26	4,849.11	95.52	119.84	-89.38	2,569.86	-3,194.00	1,326.77	1,111.61	215.16	6.166		
8,499.97	4,864.28	9,662.26	4,849.82	97.98	122.32	-89.38	2,644.25	-3,260.84	1,326.82	1,106.71	220.11	6.028		
8,599.97	4,865.00	9,762.26	4,850.53	100.45	124.80	-89.38	2,718.63	-3,327.67	1,326.87	1,101.81	225.06	5.896		
8,699.97	4,865.71	9,862.26	4,851.24	102.92	127.28	-89.38	2,793.01	-3,394.50	1,326.92	1,096.90	230.02	5.769		
8,799.97	4,866.43	9,962.26	4,851.95	105.39	129.76	-89.37	2,867.39	-3,461.34	1,326.97	1,091.99	234.98	5.647		
8,899.97	4,867.15	10,062.26	4,852.66	107.87	132.25	-89.37	2,941.77	-3,528.17	1,327.02	1,087.08	239.94	5.531		
8,999.97	4,867.87	10,162.26	4,853.37	110.35	134.74	-89.37	3,016.16	-3,595.00	1,327.07	1,082.17	244.91	5.419		
9,099.97	4,868.59	10,262.26	4,854.08	112.82	137.22	-89.37	3,090.54	-3,661.84	1,327.12	1,077.25	249.88	5.311		
9,199.97	4,869.31	10,362.26	4,854.79	115.30	139.71	-89.37	3,164.92	-3,728.67	1,327.17	1,072.33	254.85	5.208		
9,299.97	4,870.03	10,462.26	4,855.51	117.79	142.20	-89.37	3,239.30	-3,795.50	1,327.22	1,067.40	259.82	5.108		
9,399.97	4,870.75	10,562.26	4,856.22	120.27	144.69	-89.37	3,313.69	-3,862.34	1,327.27	1,062.48	264.80	5.012		
9,499.96	4,871.46	10,662.26	4,856.93	122.75	147.18	-89.37	3,388.07	-3,929.17	1,327.33	1,057.55	269.77	4.920		
9,599.96	4,872.18	10,762.26	4,857.64	125.24	149.67	-89.37	3,462.45	-3,996.00	1,327.38	1,052.62	274.75	4.831		
9,699.96	4,872.90	10,862.26	4,858.35	127.73	152.17	-89.37	3,536.83	-4,062.83	1,327.43	1,047.69	279.74	4.745		
9,703.12	4,872.92	10,865.41	4,858.37	127.80	152.25	-89.37	3,539.18	-4,064.94	1,327.43	1,047.53	279.89	4.743		
9,799.96	4,873.62	10,953.69	4,859.00	130.21	154.45	-89.37	3,604.85	-4,123.95	1,327.51	1,043.02	284.49	4.666		
9,899.96	4,874.34	10,953.69	4,859.00	132.70	154.45	-89.37	3,604.85	-4,123.95	1,331.96	1,046.05	285.91	4.659		
9,999.96	4,875.06	10,953.69	4,859.00	135.19	154.45	-89.37	3,604.85	-4,123.95	1,343.86	1,058.09	285.77	4.703		
10,099.96	4,875.78	10,953.69	4,859.00	137.68	154.45	-89.37	3,604.85	-4,123.95	1,363.02	1,078.87	284.14	4.797		
10,199.96	4,876.50	10,953.69	4,859.00	140.18	154.45	-89.37	3,604.85	-4,123.95	1,389.12	1,107.95	281.17	4.940		
10,299.96	4,877.21	10,953.69	4,859.00	142.67	154.45	-89.37	3,604.85	-4,123.95	1,421.80	1,144.74	277.06	5.132		
10,399.96	4,877.93	10,953.69	4,859.00	145.16	154.45	-89.37	3,604.85	-4,123.95	1,460.60	1,188.59	272.01	5.370		
10,499.96	4,878.65	10,953.69	4,859.00	147.66	154.45	-89.37	3,604.85	-4,123.95	1,505.06	1,238.81	266.25	5.653		
10,599.96	4,879.37	10,953.69	4,859.00	150.15	154.45	-89.37	3,604.85	-4,123.95	1,554.68	1,294.71	259.98	5.980		
10,699.96	4,880.09	10,953.69	4,859.00	152.65	154.45	-89.37	3,604.85	-4,123.95	1,609.00	1,355.62	253.38	6.350		
10,799.96	4,880.81	10,953.69	4,859.00	155.15	154.45	-89.37	3,604.85	-4,123.95	1,667.55	1,420.95	246.60	6.762		
10,899.96	4,881.53	10,953.69	4,859.00	157.64	154.45	-89.37	3,604.85	-4,123.95	1,729.91	1,490.13	239.78	7.215		
10,999.96	4,882.25	10,953.69	4,859.00	160.14	154.45	-89.37	3,604.85	-4,123.95	1,795.67	1,562.65	233.01	7.706		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 514H - Slot 2
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:	# 514H	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 - # 513H - 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		
11,099.96	4,882.97	10,953.69	4,859.00	162.64	154.45	-89.37	3,604.85	-4,123.95	1,864.48	1,638.10	226.37	8.236		
11,199.96	4,883.68	10,953.69	4,859.00	165.14	154.45	-89.37	3,604.85	-4,123.95	1,936.00	1,716.09	219.91	8.803		
11,299.96	4,884.40	10,953.69	4,859.00	167.64	154.45	-89.37	3,604.85	-4,123.95	2,009.96	1,796.29	213.67	9.407		
11,399.96	4,885.12	10,953.69	4,859.00	170.14	154.45	-89.37	3,604.85	-4,123.95	2,086.10	1,878.42	207.68	10.045		
11,499.96	4,885.84	10,953.69	4,859.00	172.64	154.45	-89.37	3,604.85	-4,123.95	2,164.17	1,962.24	201.94	10.717		
11,599.96	4,886.56	10,953.69	4,859.00	175.14	154.45	-89.37	3,604.85	-4,123.95	2,243.99	2,047.53	196.46	11.422		
11,699.96	4,887.28	10,953.69	4,859.00	177.64	154.45	-89.37	3,604.85	-4,123.95	2,325.37	2,134.12	191.25	12.159		
11,799.96	4,888.00	10,953.69	4,859.00	180.14	154.45	-89.37	3,604.85	-4,123.95	2,408.15	2,221.86	186.29	12.927		
11,899.96	4,888.72	10,953.69	4,859.00	182.65	154.45	-89.37	3,604.85	-4,123.95	2,492.19	2,310.61	181.59	13.725		
11,999.96	4,889.43	10,953.69	4,859.00	185.15	154.45	-89.37	3,604.85	-4,123.95	2,577.38	2,400.25	177.12	14.551		
12,099.96	4,890.15	10,953.69	4,859.00	187.65	154.45	-89.37	3,604.85	-4,123.95	2,663.59	2,490.70	172.89	15.406		
12,199.95	4,890.87	10,953.69	4,859.00	190.15	154.45	-89.37	3,604.85	-4,123.95	2,750.74	2,581.86	168.88	16.289		
12,299.95	4,891.59	10,953.69	4,859.00	192.66	154.45	-89.37	3,604.85	-4,123.95	2,838.73	2,673.66	165.07	17.197		
12,399.95	4,892.31	10,953.69	4,859.00	195.16	154.45	-89.37	3,604.85	-4,123.95	2,927.50	2,766.03	161.46	18.131		
12,499.95	4,893.03	10,953.69	4,859.00	197.67	154.45	-89.37	3,604.85	-4,123.95	3,016.97	2,858.93	158.04	19.090		
12,599.95	4,893.75	10,953.69	4,859.00	200.17	154.45	-89.37	3,604.85	-4,123.95	3,107.08	2,952.28	154.79	20.072		
12,699.95	4,894.47	10,953.69	4,859.00	202.68	154.45	-89.37	3,604.85	-4,123.95	3,197.78	3,046.06	151.71	21.078		
12,799.95	4,895.18	10,953.69	4,859.00	205.18	154.45	-89.37	3,604.85	-4,123.95	3,289.01	3,140.23	148.78	22.106		
12,899.95	4,895.90	10,953.69	4,859.00	207.69	154.45	-89.37	3,604.85	-4,123.95	3,380.75	3,234.74	146.00	23.155		
12,999.95	4,896.62	10,953.69	4,859.00	210.19	154.45	-89.37	3,604.85	-4,123.95	3,472.94	3,329.58	143.36	24.226		
13,099.95	4,897.34	10,953.69	4,859.00	212.70	154.45	-89.37	3,604.85	-4,123.95	3,565.55	3,424.71	140.84	25.316		
13,199.95	4,898.06	10,953.69	4,859.00	215.20	154.45	-89.37	3,604.85	-4,123.95	3,658.55	3,520.10	138.45	26.426		
13,299.95	4,898.78	10,953.69	4,859.00	217.71	154.45	-89.37	3,604.85	-4,123.95	3,751.91	3,615.75	136.16	27.554		
13,399.95	4,899.50	10,953.69	4,859.00	220.22	154.45	-89.37	3,604.85	-4,123.95	3,845.60	3,711.61	133.99	28.701		
13,499.95	4,900.22	10,953.69	4,859.00	222.72	154.45	-89.37	3,604.85	-4,123.95	3,939.61	3,807.69	131.91	29.865		
13,599.95	4,900.93	10,953.69	4,859.00	225.23	154.45	-89.37	3,604.85	-4,123.95	4,033.90	3,903.97	129.93	31.046		
13,699.95	4,901.65	10,953.69	4,859.00	227.74	154.45	-89.37	3,604.85	-4,123.95	4,128.46	4,000.42	128.04	32.243		
13,799.95	4,902.37	10,953.69	4,859.00	230.25	154.45	-89.37	3,604.85	-4,123.95	4,223.27	4,097.04	126.23	33.456		
13,899.95	4,903.09	10,953.69	4,859.00	232.75	154.45	-89.37	3,604.85	-4,123.95	4,318.32	4,193.81	124.51	34.684		
13,999.95	4,903.81	10,953.69	4,859.00	235.26	154.45	-89.37	3,604.85	-4,123.95	4,413.58	4,290.73	122.85	35.926		
14,099.95	4,904.53	10,953.69	4,859.00	237.77	154.45	-89.37	3,604.85	-4,123.95	4,509.05	4,387.78	121.27	37.182		
14,199.95	4,905.25	10,953.69	4,859.00	240.28	154.45	-89.37	3,604.85	-4,123.95	4,604.71	4,484.96	119.75	38.452		
14,299.95	4,905.97	10,953.69	4,859.00	242.79	154.45	-89.37	3,604.85	-4,123.95	4,700.56	4,582.26	118.30	39.735		
14,399.95	4,906.69	10,953.69	4,859.00	245.30	154.45	-89.37	3,604.85	-4,123.95	4,796.57	4,679.67	116.90	41.030		
14,499.95	4,907.40	10,953.69	4,859.00	247.80	154.45	-89.37	3,604.85	-4,123.95	4,892.74	4,777.17	115.57	42.337		
14,599.95	4,908.12	10,953.69	4,859.00	250.31	154.45	-89.37	3,604.85	-4,123.95	4,989.06	4,874.78	114.28	43.656		
14,699.95	4,908.84	10,953.69	4,859.00	252.82	154.45	-89.37	3,604.85	-4,123.95	5,085.53	4,972.48	113.05	44.985		
14,721.97	4,909.00	10,953.69	4,859.00	253.38	154.45	-89.37	3,604.85	-4,123.95	5,106.80	4,994.01	112.78	45.279		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 514H - Slot 2
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:	# 514H	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							
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	-124.83	-11.28	-16.22	19.76					
100.00	100.00	100.00	100.00	0.15	0.15	-124.83	-11.28	-16.22	19.76	19.45	0.31	64.093		
200.00	200.00	200.00	200.00	0.51	0.51	-124.83	-11.28	-16.22	19.76	18.73	1.03	19.273		
300.00	300.00	300.00	300.00	0.87	0.87	-124.83	-11.28	-16.22	19.76	18.02	1.74	11.342		
400.00	400.00	400.00	400.00	1.23	1.23	-124.83	-11.28	-16.22	19.76	17.30	2.46	8.035 CC, ES		
500.00	499.98	499.48	499.47	1.59	1.57	-150.86	-12.18	-16.59	22.09	18.93	3.16	6.985 SF		
600.00	599.84	598.19	598.09	1.95	1.91	-159.36	-16.11	-18.23	30.80	26.94	3.86	7.979		
700.00	699.45	695.58	695.17	2.31	2.24	-166.28	-23.07	-21.14	46.53	41.97	4.56	10.203		
800.00	798.70	790.97	789.98	2.68	2.58	-170.61	-32.83	-25.21	69.23	63.98	5.25	13.177		
901.57	899.01	885.22	883.24	3.07	2.94	-173.26	-45.33	-30.42	99.15	93.21	5.94	16.679		
1,000.00	995.93	974.05	970.70	3.46	3.29	-174.87	-59.69	-36.42	132.87	126.28	6.59	20.160		
1,100.00	1,094.40	1,062.19	1,056.95	3.86	3.65	-175.90	-76.41	-43.40	170.07	162.85	7.22	23.540		
1,200.00	1,192.87	1,148.12	1,140.46	4.26	4.03	-176.59	-95.06	-51.18	210.10	202.26	7.85	26.779		
1,300.00	1,291.35	1,231.75	1,221.13	4.67	4.41	-177.09	-115.43	-59.67	252.84	244.40	8.45	29.938		
1,399.99	1,389.82	1,313.06	1,298.90	5.09	4.80	-177.46	-137.30	-68.80	298.18	289.15	9.03	33.005		
1,499.99	1,488.29	1,396.77	1,378.36	5.50	5.23	-177.76	-161.64	-78.96	345.70	336.04	9.66	35.798		
1,599.99	1,586.76	1,484.59	1,461.61	5.92	5.69	-178.00	-187.42	-89.72	393.52	383.19	10.33	38.098		
1,699.99	1,685.23	1,572.40	1,544.86	6.34	6.15	-178.19	-213.20	-100.47	441.34	430.34	11.01	40.099		
1,799.99	1,783.70	1,660.22	1,628.11	6.76	6.63	-178.34	-238.99	-111.23	489.17	477.48	11.69	41.855		
1,899.99	1,882.17	1,748.03	1,711.36	7.18	7.11	-178.47	-264.77	-121.99	537.00	524.63	12.37	43.405		
1,999.99	1,980.64	1,835.85	1,794.62	7.60	7.59	-178.57	-290.55	-132.75	584.83	571.77	13.06	44.783		
2,099.99	2,079.11	1,923.66	1,877.87	8.02	8.08	-178.66	-316.33	-143.50	632.66	618.91	13.75	46.016		
2,199.99	2,177.58	2,011.47	1,961.12	8.44	8.57	-178.73	-342.11	-154.26	680.50	666.05	14.44	47.124		
2,299.99	2,276.05	2,099.29	2,044.37	8.87	9.06	-178.80	-367.89	-165.02	728.33	713.19	15.13	48.124		
2,399.99	2,374.53	2,187.10	2,127.63	9.29	9.55	-178.86	-393.67	-175.78	776.16	760.33	15.83	49.032		
2,499.99	2,473.00	2,274.92	2,210.88	9.71	10.05	-178.91	-419.45	-186.53	824.00	807.47	16.53	49.859		
2,599.99	2,571.47	2,362.73	2,294.13	10.14	10.55	-178.95	-445.23	-197.29	871.83	854.61	17.22	50.616		
2,699.99	2,669.94	2,450.54	2,377.38	10.56	11.05	-178.99	-471.02	-208.05	919.67	901.75	17.92	51.310		
2,799.99	2,768.41	2,538.36	2,460.63	10.99	11.55	-179.03	-496.80	-218.81	967.51	948.88	18.62	51.950		
2,899.99	2,866.88	2,626.17	2,543.89	11.41	12.05	-179.06	-522.58	-229.56	1,015.34	996.02	19.32	52.541		
2,999.99	2,965.35	2,713.99	2,627.14	11.84	12.55	-179.10	-548.36	-240.32	1,063.18	1,043.15	20.03	53.088		
3,099.99	3,063.82	2,801.80	2,710.39	12.26	13.05	-179.12	-574.14	-251.08	1,111.02	1,090.29	20.73	53.596		
3,199.99	3,162.29	2,889.62	2,793.64	12.69	13.56	-179.15	-599.92	-261.84	1,158.86	1,137.42	21.43	54.069		
3,299.99	3,260.76	2,977.43	2,876.90	13.11	14.06	-179.17	-625.70	-272.59	1,206.69	1,184.56	22.14	54.510		
3,399.99	3,359.23	3,065.24	2,960.15	13.54	14.56	-179.19	-651.48	-283.35	1,254.53	1,231.69	22.84	54.922		
3,499.99	3,457.70	3,153.06	3,043.40	13.96	15.07	-179.21	-677.26	-294.11	1,302.37	1,278.82	23.55	55.309		
3,599.99	3,556.18	3,240.87	3,126.65	14.39	15.57	-179.23	-703.05	-304.87	1,350.21	1,325.95	24.25	55.671		
3,699.99	3,654.65	3,328.69	3,209.90	14.82	16.08	-179.25	-728.83	-315.62	1,398.04	1,373.08	24.96	56.012		
3,799.99	3,753.12	3,416.50	3,293.16	15.24	16.59	-179.27	-754.61	-326.38	1,445.88	1,420.22	25.67	56.334		
3,899.99	3,851.59	3,504.31	3,376.41	15.67	17.09	-179.28	-780.39	-337.14	1,493.72	1,467.35	26.37	56.636		
3,999.99	3,950.06	3,592.13	3,459.66	16.09	17.60	-179.29	-806.17	-347.90	1,541.56	1,514.48	27.08	56.923		
4,099.98	4,048.53	3,679.94	3,542.91	16.52	18.11	-179.31	-831.95	-358.65	1,589.40	1,561.61	27.79	57.193		
4,199.98	4,147.00	3,767.76	3,626.17	16.95	18.62	-179.32	-857.73	-369.41	1,637.23	1,608.74	28.50	57.450		
4,299.98	4,245.47	3,855.57	3,709.42	17.37	19.12	-179.33	-883.51	-380.17	1,685.07	1,655.87	29.21	57.693		
4,314.67	4,259.93	3,868.47	3,721.65	17.44	19.20	-179.33	-887.30	-381.75	1,692.10	1,662.79	29.31	57.727		
4,349.98	4,294.62	4,269.69	4,092.07	17.59	20.98	-160.63	-918.78	-514.12	1,706.76	1,674.94	31.82	53.644		
4,399.98	4,343.26	4,695.05	4,360.18	17.81	21.97	-136.49	-761.44	-792.81	1,717.97	1,683.44	34.54	49.743		
4,449.98	4,391.11	4,831.27	4,397.69	18.04	22.56	-123.48	-678.46	-893.70	1,726.57	1,690.23	36.34	47.509		
4,499.98	4,437.84	4,954.26	4,409.01	18.28	23.64	-113.55	-595.24	-983.22	1,735.54	1,697.28	38.26	45.367		
4,549.98	4,483.19	4,968.82	4,409.13	18.52	23.80	-108.55	-585.05	-993.62	1,745.31	1,706.45	38.87	44.907		
4,599.98	4,526.87	4,991.91	4,409.28	18.77	24.09	-104.25	-568.88	-1,010.10	1,756.08	1,716.64	39.44	44.529		
4,649.98	4,568.61	5,018.39	4,409.45	19.02	24.43	-100.48	-550.33	-1,029.01	1,767.62	1,727.67	39.94	44.254		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 514H - Slot 2
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:	# 514H	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		
4,699.98	4,608.15	5,048.12	4,409.64	19.28	24.83	-97.09	-529.52	-1,050.23	1,779.69	1,739.09	40.60	43.830		
4,749.98	4,645.26	5,080.89	4,409.85	19.55	25.31	-93.98	-506.57	-1,073.62	1,792.07	1,750.59	41.48	43.201		
4,799.98	4,679.69	5,116.52	4,410.07	19.85	25.89	-91.11	-481.62	-1,099.05	1,804.50	1,762.04	42.47	42.492		
4,849.98	4,711.24	5,154.77	4,410.32	20.16	26.53	-88.49	-454.83	-1,126.36	1,816.75	1,773.33	43.43	41.834		
4,899.98	4,739.72	5,195.42	4,410.57	20.51	27.23	-86.11	-426.36	-1,155.38	1,828.60	1,784.09	44.50	41.090		
4,949.98	4,764.94	5,238.22	4,410.85	20.89	28.01	-83.98	-396.39	-1,185.93	1,839.81	1,794.15	45.66	40.291		
4,999.98	4,786.76	5,282.89	4,411.13	21.32	28.84	-82.10	-365.11	-1,217.82	1,850.21	1,803.28	46.93	39.424		
5,049.98	4,805.03	5,329.17	4,411.42	21.81	29.74	-80.50	-332.70	-1,250.85	1,859.61	1,811.31	48.31	38.497		
5,099.98	4,819.65	5,376.77	4,411.73	22.35	30.68	-79.18	-299.37	-1,284.83	1,867.87	1,818.08	49.78	37.519		
5,149.98	4,830.53	5,425.39	4,412.03	22.94	31.66	-78.14	-265.32	-1,319.54	1,874.85	1,823.49	51.37	36.500		
5,199.98	4,837.60	5,474.74	4,412.35	23.59	32.68	-77.39	-230.76	-1,354.77	1,880.47	1,827.43	53.04	35.453		
5,249.98	4,840.81	5,524.51	4,412.66	24.28	33.73	-76.94	-195.90	-1,390.29	1,884.65	1,829.85	54.80	34.391		
5,261.78	4,841.00	5,536.29	4,412.74	24.45	33.99	-76.87	-187.66	-1,398.70	1,885.42	1,830.19	55.23	34.139		
5,299.98	4,841.27	5,574.41	4,412.98	25.02	34.80	-76.89	-160.96	-1,425.91	1,887.79	1,831.16	56.63	33.336		
5,399.98	4,841.99	5,674.21	4,413.62	26.61	36.99	-76.93	-91.07	-1,497.15	1,893.99	1,833.54	60.44	31.335		
5,499.98	4,842.71	5,774.01	4,414.25	28.35	39.22	-76.97	-21.19	-1,568.39	1,900.19	1,835.76	64.43	29.493		
5,599.98	4,843.43	5,873.80	4,414.88	30.20	41.50	-77.01	48.70	-1,639.63	1,906.39	1,837.83	68.56	27.807		
5,699.98	4,844.15	5,973.60	4,415.52	32.15	43.81	-77.05	118.59	-1,710.87	1,912.59	1,839.78	72.80	26.271		
5,799.98	4,844.87	6,073.40	4,416.15	34.18	46.15	-77.09	188.47	-1,782.11	1,918.79	1,841.65	77.15	24.872		
5,899.98	4,845.59	6,173.20	4,416.79	36.27	48.52	-77.13	258.36	-1,853.35	1,924.99	1,843.43	81.57	23.600		
5,999.98	4,846.31	6,273.00	4,417.42	38.41	50.91	-77.17	328.25	-1,924.59	1,931.20	1,845.14	86.06	22.440		
6,099.98	4,847.03	6,372.80	4,418.05	40.59	53.32	-77.21	398.14	-1,995.82	1,937.40	1,846.80	90.61	21.383		
6,199.98	4,847.74	6,472.59	4,418.69	42.82	55.74	-77.25	468.02	-2,067.06	1,943.61	1,848.41	95.20	20.415		
6,299.98	4,848.46	6,572.39	4,419.32	45.07	58.18	-77.29	537.91	-2,138.30	1,949.82	1,849.98	99.84	19.529		
6,399.98	4,849.18	6,672.19	4,419.96	47.35	60.63	-77.33	607.80	-2,209.54	1,956.03	1,851.51	104.52	18.715		
6,499.98	4,849.90	6,771.99	4,420.59	49.66	63.10	-77.36	677.69	-2,280.78	1,962.24	1,853.01	109.22	17.965		
6,599.98	4,850.62	6,871.79	4,421.22	51.98	65.57	-77.40	747.57	-2,352.02	1,968.45	1,854.49	113.96	17.274		
6,699.98	4,851.34	6,971.58	4,421.86	54.32	68.05	-77.44	817.46	-2,423.26	1,974.66	1,855.94	118.71	16.634		
6,799.97	4,852.06	7,071.38	4,422.49	56.68	70.54	-77.48	887.35	-2,494.50	1,980.87	1,857.37	123.49	16.040		
6,899.97	4,852.78	7,171.18	4,423.13	59.05	73.04	-77.51	957.24	-2,565.74	1,987.08	1,858.79	128.29	15.489		
6,999.97	4,853.49	7,270.98	4,423.76	61.43	75.54	-77.55	1,027.12	-2,636.98	1,993.29	1,860.19	133.11	14.975		
7,099.97	4,854.21	7,370.78	4,424.39	63.83	78.05	-77.59	1,097.01	-2,708.22	1,999.51	1,861.57	137.94	14.496		
7,199.97	4,854.93	7,470.57	4,425.03	66.23	80.57	-77.62	1,166.90	-2,779.45	2,005.72	1,862.94	142.78	14.047		
7,299.97	4,855.65	7,570.37	4,425.66	68.64	83.08	-77.66	1,236.79	-2,850.69	2,011.94	1,864.30	147.64	13.627		
7,399.97	4,856.37	7,670.17	4,426.30	71.06	85.61	-77.70	1,306.67	-2,921.93	2,018.15	1,865.64	152.51	13.233		
7,499.97	4,857.09	7,769.97	4,426.93	73.48	88.14	-77.73	1,376.56	-2,993.17	2,024.37	1,866.98	157.39	12.862		
7,599.97	4,857.81	7,869.77	4,427.57	75.91	90.67	-77.77	1,446.45	-3,064.41	2,030.59	1,868.31	162.28	12.513		
7,699.97	4,858.53	7,969.57	4,428.20	78.35	93.20	-77.80	1,516.34	-3,135.65	2,036.81	1,869.63	167.18	12.184		
7,799.97	4,859.24	8,069.36	4,428.83	80.79	95.74	-77.84	1,586.22	-3,206.89	2,043.03	1,870.95	172.08	11.872		
7,899.97	4,859.96	8,169.16	4,429.47	83.23	98.28	-77.88	1,656.11	-3,278.13	2,049.25	1,872.25	177.00	11.578		
7,999.97	4,860.68	8,268.96	4,430.10	85.68	100.82	-77.91	1,726.00	-3,349.37	2,055.47	1,873.56	181.92	11.299		
8,099.97	4,861.40	8,368.76	4,430.74	88.14	103.37	-77.94	1,795.89	-3,420.61	2,061.69	1,874.85	186.84	11.034		
8,199.97	4,862.12	8,468.56	4,431.37	90.59	105.92	-77.98	1,865.77	-3,491.84	2,067.92	1,876.14	191.77	10.783		
8,299.97	4,862.84	8,568.35	4,432.00	93.05	108.47	-78.01	1,935.66	-3,563.08	2,074.14	1,877.43	196.71	10.544		
8,399.97	4,863.56	8,668.15	4,432.64	95.52	111.02	-78.05	2,005.55	-3,634.32	2,080.36	1,878.71	201.66	10.316		
8,499.97	4,864.28	8,767.95	4,433.27	97.98	113.58	-78.08	2,075.44	-3,705.56	2,086.59	1,879.98	206.60	10.099		
8,599.97	4,865.00	8,867.75	4,433.91	100.45	116.13	-78.12	2,145.32	-3,776.80	2,092.81	1,881.26	211.56	9.892		
8,699.97	4,865.71	8,967.55	4,434.54	102.92	118.69	-78.15	2,215.21	-3,848.04	2,099.04	1,882.53	216.51	9.695		
8,799.97	4,866.43	9,067.34	4,435.17	105.39	121.25	-78.18	2,285.10	-3,919.28	2,105.27	1,883.79	221.48	9.506		
8,899.97	4,867.15	9,167.14	4,435.81	107.87	123.81	-78.22	2,354.99	-3,990.52	2,111.49	1,885.05	226.44	9.325		
8,999.97	4,867.87	9,266.94	4,436.44	110.35	126.37	-78.25	2,424.87	-4,061.76	2,117.72	1,886.31	231.41	9.151		
9,099.97	4,868.59	9,365.32	4,437.00	112.82	128.64	-78.28	2,486.77	-4,124.85	2,123.98	1,887.91	236.07	8.997		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 514H - Slot 2
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:	# 514H	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+HDDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,199.97	4,869.31	9,355.32	4,437.00	115.30	128.64	-78.28	2,486.77	-4,124.85	2,133.08	1,895.01	238.07	8.960		
9,299.97	4,870.03	9,355.32	4,437.00	117.79	128.64	-78.28	2,486.77	-4,124.85	2,146.81	1,907.25	239.56	8.961		
9,399.97	4,870.75	9,355.32	4,437.00	120.27	128.64	-78.28	2,486.77	-4,124.85	2,165.07	1,924.53	240.54	9.001		
9,499.96	4,871.46	9,355.32	4,437.00	122.75	128.64	-78.28	2,486.77	-4,124.85	2,187.75	1,946.72	241.03	9.077		
9,599.96	4,872.18	9,355.32	4,437.00	125.24	128.64	-78.28	2,486.77	-4,124.85	2,214.73	1,973.66	241.06	9.187		
9,699.96	4,872.90	9,355.32	4,437.00	127.73	128.64	-78.28	2,486.77	-4,124.85	2,245.83	2,005.16	240.66	9.332		
9,799.96	4,873.62	9,355.32	4,437.00	130.21	128.64	-78.28	2,486.77	-4,124.85	2,280.90	2,041.02	239.87	9.509		
9,899.96	4,874.34	9,355.32	4,437.00	132.70	128.64	-78.28	2,486.77	-4,124.85	2,319.75	2,081.01	238.73	9.717		
9,999.96	4,875.06	9,355.32	4,437.00	135.19	128.64	-78.28	2,486.77	-4,124.85	2,362.20	2,124.92	237.28	9.955		
10,099.96	4,875.78	9,355.32	4,437.00	137.68	128.64	-78.28	2,486.77	-4,124.85	2,408.05	2,172.49	235.56	10.223		
10,199.96	4,876.50	9,355.32	4,437.00	140.18	128.64	-78.28	2,486.77	-4,124.85	2,457.12	2,223.52	233.61	10.518		
10,299.96	4,877.21	9,355.32	4,437.00	142.67	128.64	-78.28	2,486.77	-4,124.85	2,509.22	2,277.76	231.46	10.841		
10,399.96	4,877.93	9,355.32	4,437.00	145.16	128.64	-78.28	2,486.77	-4,124.85	2,564.16	2,335.00	229.16	11.189		
10,499.96	4,878.65	9,355.32	4,437.00	147.66	128.64	-78.28	2,486.77	-4,124.85	2,621.77	2,395.03	226.74	11.563		
10,599.96	4,879.37	9,355.32	4,437.00	150.15	128.64	-78.28	2,486.77	-4,124.85	2,681.87	2,457.64	224.23	11.961		
10,699.96	4,880.09	9,355.32	4,437.00	152.65	128.64	-78.28	2,486.77	-4,124.85	2,744.29	2,522.65	221.64	12.382		
10,799.96	4,880.81	9,355.32	4,437.00	155.15	128.64	-78.28	2,486.77	-4,124.85	2,808.89	2,589.88	219.01	12.825		
10,899.96	4,881.53	9,355.32	4,437.00	157.64	128.64	-78.28	2,486.77	-4,124.85	2,875.52	2,659.16	216.36	13.291		
10,999.96	4,882.25	9,355.32	4,437.00	160.14	128.64	-78.28	2,486.77	-4,124.85	2,944.04	2,730.34	213.69	13.777		
11,099.96	4,882.97	9,355.32	4,437.00	162.64	128.64	-78.28	2,486.77	-4,124.85	3,014.32	2,803.28	211.04	14.283		
11,199.96	4,883.68	9,355.32	4,437.00	165.14	128.64	-78.28	2,486.77	-4,124.85	3,086.23	2,877.84	208.40	14.809		
11,299.96	4,884.40	9,355.32	4,437.00	167.64	128.64	-78.28	2,486.77	-4,124.85	3,159.68	2,953.89	205.79	15.354		
11,399.96	4,885.12	9,355.32	4,437.00	170.14	128.64	-78.28	2,486.77	-4,124.85	3,234.55	3,031.34	203.21	15.917		
11,499.96	4,885.84	9,355.32	4,437.00	172.64	128.64	-78.28	2,486.77	-4,124.85	3,310.75	3,110.07	200.68	16.498		
11,599.96	4,886.56	9,355.32	4,437.00	175.14	128.64	-78.28	2,486.77	-4,124.85	3,388.18	3,189.99	198.20	17.095		
11,699.96	4,887.28	9,355.32	4,437.00	177.64	128.64	-78.28	2,486.77	-4,124.85	3,466.77	3,271.01	195.76	17.709		
11,799.96	4,888.00	9,355.32	4,437.00	180.14	128.64	-78.28	2,486.77	-4,124.85	3,546.44	3,353.06	193.39	18.338		
11,899.96	4,888.72	9,355.32	4,437.00	182.65	128.64	-78.28	2,486.77	-4,124.85	3,627.12	3,436.05	191.07	18.983		
11,999.96	4,889.43	9,355.32	4,437.00	185.15	128.64	-78.28	2,486.77	-4,124.85	3,708.74	3,519.93	188.81	19.643		
12,099.96	4,890.15	9,355.32	4,437.00	187.65	128.64	-78.28	2,486.77	-4,124.85	3,791.24	3,604.63	186.61	20.317		
12,199.95	4,890.87	9,355.32	4,437.00	190.15	128.64	-78.28	2,486.77	-4,124.85	3,874.56	3,690.09	184.47	21.004		
12,299.95	4,891.59	9,355.32	4,437.00	192.66	128.64	-78.28	2,486.77	-4,124.85	3,958.65	3,776.27	182.39	21.705		
12,399.95	4,892.31	9,355.32	4,437.00	195.16	128.64	-78.28	2,486.77	-4,124.85	4,043.47	3,863.11	180.37	22.418		
12,499.95	4,893.03	9,355.32	4,437.00	197.67	128.64	-78.28	2,486.77	-4,124.85	4,128.97	3,950.57	178.40	23.144		
12,599.95	4,893.75	9,355.32	4,437.00	200.17	128.64	-78.28	2,486.77	-4,124.85	4,215.11	4,038.61	176.50	23.882		
12,699.95	4,894.47	9,355.32	4,437.00	202.68	128.64	-78.28	2,486.77	-4,124.85	4,301.85	4,127.20	174.65	24.632		
12,799.95	4,895.18	9,355.32	4,437.00	205.18	128.64	-78.28	2,486.77	-4,124.85	4,389.15	4,216.30	172.85	25.392		
12,899.95	4,895.90	9,355.32	4,437.00	207.69	128.64	-78.28	2,486.77	-4,124.85	4,476.98	4,305.87	171.11	26.164		
12,999.95	4,896.62	9,355.32	4,437.00	210.19	128.64	-78.28	2,486.77	-4,124.85	4,565.31	4,395.89	169.43	26.946		
13,099.95	4,897.34	9,355.32	4,437.00	212.70	128.64	-78.28	2,486.77	-4,124.85	4,654.12	4,486.33	167.79	27.738		
13,199.95	4,898.06	9,355.32	4,437.00	215.20	128.64	-78.28	2,486.77	-4,124.85	4,743.37	4,577.17	166.20	28.540		
13,299.95	4,898.78	9,355.32	4,437.00	217.71	128.64	-78.28	2,486.77	-4,124.85	4,833.04	4,668.38	164.66	29.351		
13,399.95	4,899.50	9,355.32	4,437.00	220.22	128.64	-78.28	2,486.77	-4,124.85	4,923.11	4,759.94	163.17	30.172		
13,499.95	4,900.22	9,355.32	4,437.00	222.72	128.64	-78.28	2,486.77	-4,124.85	5,013.56	4,851.84	161.72	31.001		
13,599.95	4,900.93	9,355.32	4,437.00	225.23	128.64	-78.28	2,486.77	-4,124.85	5,104.36	4,944.04	160.32	31.839		
13,699.95	4,901.65	9,355.32	4,437.00	227.74	128.64	-78.28	2,486.77	-4,124.85	5,195.50	5,036.54	158.96	32.685		
13,799.95	4,902.37	9,355.32	4,437.00	230.25	128.64	-78.28	2,486.77	-4,124.85	5,286.96	5,129.33	157.64	33.539		
13,899.95	4,903.09	9,355.32	4,437.00	232.75	128.64	-78.28	2,486.77	-4,124.85	5,378.73	5,222.37	156.36	34.400		
13,999.95	4,903.81	9,355.32	4,437.00	235.26	128.64	-78.28	2,486.77	-4,124.85	5,470.78	5,315.67	155.11	35.270		
14,099.95	4,904.53	9,355.32	4,437.00	237.77	128.64	-78.28	2,486.77	-4,124.85	5,563.11	5,409.20	153.91	36.146		
14,199.95	4,905.25	9,355.32	4,437.00	240.28	128.64	-78.28	2,486.77	-4,124.85	5,655.70	5,502.96	152.73	37.030		
14,299.95	4,905.97	9,355.32	4,437.00	242.79	128.64	-78.28	2,486.77	-4,124.85	5,748.53	5,596.94	151.60	37.920		



Lonestar Consulting, LLC
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 514H - Slot 2
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:	# 514H	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		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
14,399.95	4,906.69	9,355.32	4,437.00	245.30	128.64	-78.28	2,486.77	-4,124.85	5,841.61	5,691.12	150.49	38.817		
14,499.95	4,907.40	9,355.32	4,437.00	247.80	128.64	-78.28	2,486.77	-4,124.85	5,934.91	5,785.49	149.42	39.720		
14,599.95	4,908.12	9,355.32	4,437.00	250.31	128.64	-78.28	2,486.77	-4,124.85	6,028.42	5,880.04	148.38	40.629		
14,699.95	4,908.84	9,355.32	4,437.00	252.82	128.64	-78.28	2,486.77	-4,124.85	6,122.14	5,974.77	147.37	41.544		
14,721.97	4,909.00	9,355.32	4,437.00	253.38	128.64	-78.28	2,486.77	-4,124.85	6,142.81	5,995.66	147.15	41.746		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 514H - Slot 2
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:	# 514H	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		
0.00	0.00	0.00	0.00	0.00	0.00	55.89	22.57	33.32	40.25					
100.00	100.00	100.00	100.00	0.15	0.15	55.89	22.57	33.32	40.25	39.94	0.31	130.552		
200.00	200.00	200.00	200.00	0.51	0.51	55.89	22.57	33.32	40.25	39.22	1.03	39.257		
300.00	300.00	300.00	300.00	0.87	0.87	55.89	22.57	33.32	40.25	38.50	1.74	23.102		
400.00	400.00	400.00	400.00	1.23	1.23	55.89	22.57	33.32	40.25	37.79	2.46	16.366		
500.00	499.98	499.70	499.68	1.59	1.57	37.57	21.30	34.50	39.15	35.99	3.16	12.389		
600.00	599.84	598.89	598.73	1.95	1.91	50.38	17.51	38.01	37.07	33.22	3.85	9.620		
636.53	636.26	634.90	634.63	2.08	2.04	57.51	15.51	39.86	36.78	32.67	4.11	8.951	CC, ES	
700.00	699.45	697.57	697.08	2.31	2.26	71.94	11.59	43.49	37.74	33.18	4.55	8.285		
800.00	798.70	796.01	795.16	2.68	2.61	94.86	5.42	49.21	43.84	38.57	5.27	8.319		
901.57	899.01	895.39	894.17	3.07	2.97	113.75	-0.81	54.98	56.63	50.62	6.01	9.426		
1,000.00	995.93	991.34	989.77	3.46	3.33	125.99	-6.83	60.55	73.75	67.03	6.72	10.968		
1,100.00	1,094.40	1,088.82	1,086.90	3.86	3.69	133.57	-12.94	66.21	93.24	85.79	7.45	12.519		
1,200.00	1,192.87	1,186.30	1,184.02	4.26	4.05	138.50	-19.05	71.87	113.77	105.59	8.17	13.920		
1,300.00	1,291.35	1,283.79	1,281.15	4.67	4.41	141.91	-25.16	77.53	134.85	125.95	8.90	15.155		
1,399.99	1,389.82	1,381.27	1,378.28	5.09	4.78	144.40	-31.27	83.19	156.28	146.65	9.63	16.235		
1,499.99	1,488.29	1,478.75	1,475.40	5.50	5.14	146.29	-37.38	88.85	177.91	167.56	10.35	17.183		
1,599.99	1,586.76	1,576.23	1,572.53	5.92	5.51	147.77	-43.49	94.50	199.69	188.61	11.08	18.017		
1,699.99	1,685.23	1,673.72	1,669.66	6.34	5.88	148.95	-49.61	100.16	221.58	209.76	11.81	18.755		
1,799.99	1,783.70	1,771.20	1,766.78	6.76	6.24	149.93	-55.72	105.82	243.53	230.99	12.55	19.412		
1,899.99	1,882.17	1,868.68	1,863.91	7.18	6.61	150.74	-61.83	111.48	265.55	252.27	13.28	19.999		
1,999.99	1,980.64	1,966.17	1,961.04	7.60	6.98	151.43	-67.94	117.14	287.60	273.59	14.01	20.527		
2,099.99	2,079.11	2,063.65	2,058.16	8.02	7.35	152.02	-74.05	122.80	309.69	294.95	14.74	21.004		
2,199.99	2,177.58	2,161.13	2,155.29	8.44	7.72	152.53	-80.16	128.46	331.81	316.33	15.48	21.438		
2,299.99	2,276.05	2,258.62	2,252.42	8.87	8.09	152.98	-86.27	134.12	353.95	337.74	16.21	21.832		
2,399.99	2,374.53	2,356.10	2,349.54	9.29	8.45	153.37	-92.39	139.78	376.11	359.16	16.95	22.193		
2,499.99	2,473.00	2,453.58	2,446.67	9.71	8.82	153.73	-98.50	145.44	398.28	380.60	17.68	22.525		
2,599.99	2,571.47	2,551.07	2,543.80	10.14	9.19	154.04	-104.61	151.10	420.47	402.05	18.42	22.830		
2,699.99	2,669.94	2,648.55	2,640.92	10.56	9.56	154.32	-110.72	156.76	442.66	423.51	19.15	23.112		
2,799.99	2,768.41	2,746.03	2,738.05	10.99	9.93	154.58	-116.83	162.42	464.87	444.98	19.89	23.373		
2,899.99	2,866.88	2,843.51	2,835.17	11.41	10.30	154.81	-122.94	168.08	487.08	466.46	20.62	23.616		
2,999.99	2,965.35	2,941.00	2,932.30	11.84	10.67	155.02	-129.06	173.74	509.30	487.94	21.36	23.843		
3,099.99	3,063.82	3,038.48	3,029.43	12.26	11.04	155.22	-135.17	179.40	531.53	509.43	22.10	24.054		
3,199.99	3,162.29	3,135.96	3,126.55	12.69	11.41	155.40	-141.28	185.06	553.76	530.93	22.83	24.252		
3,299.99	3,260.76	3,233.45	3,223.68	13.11	11.78	155.56	-147.39	190.72	576.00	552.43	23.57	24.437		
3,399.99	3,359.23	3,330.93	3,320.81	13.54	12.15	155.71	-153.50	196.38	598.24	573.93	24.31	24.611		
3,499.99	3,457.70	3,428.41	3,417.93	13.96	12.52	155.86	-159.61	202.04	620.48	595.44	25.04	24.775		
3,599.99	3,556.18	3,525.90	3,515.06	14.39	12.89	155.99	-165.72	207.70	642.73	616.95	25.78	24.930		
3,699.99	3,654.65	3,623.38	3,612.19	14.82	13.25	156.11	-171.84	213.36	664.98	638.46	26.52	25.076		
3,799.99	3,753.12	3,720.86	3,709.31	15.24	13.62	156.23	-177.95	219.02	687.24	659.98	27.26	25.214		
3,899.99	3,851.59	4,137.91	4,110.44	15.67	14.82	163.26	-115.78	162.99	692.00	664.43	27.57	25.099		
3,999.99	3,950.06	4,442.79	4,326.88	16.09	16.15	179.55	40.19	21.52	656.98	630.23	26.76	24.554		
4,099.98	4,048.53	4,578.02	4,386.01	16.52	17.36	-169.30	130.03	-60.03	614.98	586.27	28.71	21.420		
4,199.98	4,147.00	4,647.87	4,406.14	16.95	18.17	-162.68	179.53	-104.98	580.03	548.66	31.37	18.490		
4,299.98	4,245.47	4,689.57	4,414.62	17.37	18.72	-158.54	209.74	-132.42	557.92	524.15	33.77	16.520		
4,314.67	4,259.93	4,694.30	4,415.41	17.44	18.78	-158.06	213.19	-135.56	555.96	521.90	34.07	16.320		
4,349.98	4,294.62	4,705.79	4,417.19	17.59	18.94	-143.21	221.59	-143.18	552.76	518.04	34.72	15.921		
4,385.77	4,329.50	4,718.22	4,418.89	17.75	19.11	-132.00	230.71	-151.47	551.69	516.39	35.30	15.629		
4,399.98	4,343.26	4,723.36	4,419.52	17.81	19.19	-128.37	234.48	-154.89	551.86	516.36	35.50	15.545		
4,449.98	4,391.11	4,742.12	4,421.47	18.04	19.46	-118.11	248.30	-167.44	555.01	518.91	36.09	15.378		
4,499.98	4,437.84	4,761.81	4,422.92	18.28	19.75	-110.29	262.83	-180.64	561.89	525.40	36.49	15.397		
4,549.98	4,483.19	4,782.23	4,423.79	18.52	20.06	-103.81	277.93	-194.36	572.10	535.38	36.72	15.580		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 514H - Slot 2
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:	# 514H	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													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		
4,599.98	4,526.87	4,804.61	4,424.07	18.77	20.41	-97.98	294.50	-209.41	585.18	548.36	36.83	15.890		
4,649.98	4,568.61	4,831.56	4,424.26	19.02	20.85	-92.35	314.44	-227.53	600.47	563.55	36.92	16.265		
4,699.98	4,608.15	4,861.72	4,424.46	19.28	21.35	-86.99	336.77	-247.81	617.27	580.27	37.00	16.683		
4,749.98	4,645.26	4,894.92	4,424.69	19.55	21.90	-81.92	361.34	-270.14	634.92	597.81	37.11	17.109		
4,799.98	4,679.69	4,930.95	4,424.94	19.85	22.54	-77.23	388.00	-294.36	652.80	615.48	37.31	17.496		
4,849.98	4,711.24	4,969.59	4,425.21	20.16	23.24	-72.96	416.60	-320.34	670.34	632.74	37.60	17.827		
4,899.98	4,739.72	5,010.59	4,425.49	20.51	23.99	-69.17	446.95	-347.92	687.05	649.04	38.01	18.076		
4,949.98	4,764.94	5,053.72	4,425.79	20.89	24.82	-65.89	478.87	-376.91	702.50	663.94	38.56	18.218		
4,999.98	4,786.76	5,098.69	4,426.10	21.32	25.69	-63.13	512.15	-407.15	716.32	677.08	39.24	18.253		
5,049.98	4,805.03	5,145.23	4,426.42	21.81	26.63	-60.88	546.60	-438.45	728.21	688.11	40.09	18.162		
5,099.98	4,819.65	5,193.07	4,426.76	22.35	27.60	-59.13	582.00	-470.61	737.91	696.82	41.09	17.958		
5,149.98	4,830.53	5,241.89	4,427.09	22.94	28.62	-57.86	618.14	-503.44	745.23	702.97	42.25	17.637		
5,199.98	4,837.60	5,291.40	4,427.44	23.59	29.66	-57.05	654.79	-536.74	750.03	706.47	43.57	17.216		
5,249.98	4,840.81	5,341.30	4,427.78	24.28	30.73	-56.71	691.72	-570.29	752.23	707.19	45.04	16.702		
5,261.78	4,841.00	5,353.10	4,427.86	24.45	30.99	-56.69	700.45	-578.22	752.37	706.96	45.41	16.569		
5,299.98	4,841.27	5,391.30	4,428.13	25.02	31.82	-56.70	728.73	-603.91	752.56	705.93	46.63	16.139		
5,399.98	4,841.99	5,491.30	4,428.82	26.61	34.02	-56.73	802.74	-671.15	753.08	703.13	49.96	15.075		
5,499.98	4,842.71	5,591.30	4,429.51	28.35	36.27	-56.75	876.75	-738.39	753.60	700.17	53.43	14.103		
5,599.98	4,843.43	5,691.29	4,430.20	30.20	38.55	-56.77	950.76	-805.63	754.12	697.08	57.03	13.222		
5,699.98	4,844.15	5,791.29	4,430.89	32.15	40.86	-56.80	1,024.77	-872.87	754.63	693.90	60.73	12.425		
5,799.98	4,844.87	5,891.29	4,431.58	34.18	43.20	-56.82	1,098.79	-940.11	755.15	690.64	64.52	11.705		
5,899.98	4,845.59	5,991.29	4,432.28	36.27	45.55	-56.84	1,172.80	-1,007.35	755.67	687.30	68.37	11.053		
5,999.98	4,846.31	6,091.28	4,432.97	38.41	47.93	-56.87	1,246.81	-1,074.59	756.19	683.91	72.28	10.463		
6,099.98	4,847.03	6,191.28	4,433.66	40.59	50.31	-56.89	1,320.82	-1,141.83	756.71	680.47	76.23	9.926		
6,199.98	4,847.74	6,291.28	4,434.35	42.82	52.71	-56.91	1,394.84	-1,209.07	757.22	676.99	80.23	9.438		
6,299.98	4,848.46	6,391.28	4,435.04	45.07	55.13	-56.94	1,468.85	-1,276.31	757.74	673.48	84.26	8.993		
6,399.98	4,849.18	6,491.28	4,435.73	47.35	57.55	-56.96	1,542.86	-1,343.55	758.26	669.93	88.33	8.585		
6,499.98	4,849.90	6,591.27	4,436.43	49.66	59.98	-56.98	1,616.87	-1,410.80	758.78	666.36	92.42	8.210		
6,599.98	4,850.62	6,691.27	4,437.12	51.98	62.41	-57.00	1,690.88	-1,478.04	759.30	662.77	96.53	7.866		
6,699.98	4,851.34	6,791.27	4,437.81	54.32	64.86	-57.03	1,764.90	-1,545.28	759.82	659.15	100.67	7.548		
6,799.97	4,852.06	6,891.27	4,438.50	56.68	67.31	-57.05	1,838.91	-1,612.52	760.34	655.52	104.82	7.254		
6,899.97	4,852.78	6,991.27	4,439.19	59.05	69.76	-57.07	1,912.92	-1,679.76	760.86	651.87	108.99	6.981		
6,999.97	4,853.49	7,091.26	4,439.88	61.43	72.22	-57.10	1,986.93	-1,747.00	761.38	648.20	113.17	6.728		
7,099.97	4,854.21	7,191.26	4,440.58	63.83	74.68	-57.12	2,060.95	-1,814.24	761.89	644.53	117.37	6.491		
7,199.97	4,854.93	7,291.26	4,441.27	66.23	77.15	-57.14	2,134.96	-1,881.48	762.41	640.84	121.58	6.271		
7,299.97	4,855.65	7,391.26	4,441.96	68.64	79.62	-57.17	2,208.97	-1,948.72	762.93	637.13	125.80	6.065		
7,399.97	4,856.37	7,491.25	4,442.65	71.06	82.10	-57.19	2,282.98	-2,015.96	763.45	633.42	130.03	5.871		
7,499.97	4,857.09	7,591.25	4,443.34	73.48	84.58	-57.21	2,356.99	-2,083.20	763.97	629.70	134.27	5.690		
7,599.97	4,857.81	7,691.25	4,444.03	75.91	87.06	-57.23	2,431.01	-2,150.44	764.49	625.98	138.52	5.519		
7,699.97	4,858.53	7,791.25	4,444.73	78.35	89.54	-57.26	2,505.02	-2,217.68	765.01	622.24	142.77	5.358		
7,799.97	4,859.24	7,891.25	4,445.42	80.79	92.03	-57.28	2,579.03	-2,284.92	765.53	618.50	147.04	5.206		
7,899.97	4,859.96	7,991.24	4,446.11	83.23	94.51	-57.30	2,653.04	-2,352.16	766.05	614.75	151.31	5.063		
7,999.97	4,860.68	8,091.24	4,446.80	85.68	97.00	-57.32	2,727.06	-2,419.40	766.57	610.99	155.59	4.927		
8,099.97	4,861.40	8,191.24	4,447.49	88.14	99.49	-57.35	2,801.07	-2,486.64	767.10	607.23	159.87	4.798		
8,199.97	4,862.12	8,291.24	4,448.18	90.59	101.99	-57.37	2,875.08	-2,553.88	767.62	603.46	164.16	4.676		
8,299.97	4,862.84	8,391.23	4,448.88	93.05	104.48	-57.39	2,949.09	-2,621.12	768.14	599.68	168.45	4.560		
8,399.97	4,863.56	8,491.23	4,449.57	95.52	106.97	-57.41	3,023.10	-2,688.36	768.66	595.91	172.75	4.449		
8,499.97	4,864.28	8,591.23	4,450.26	97.98	109.47	-57.44	3,097.12	-2,755.60	769.18	592.12	177.06	4.344		
8,599.97	4,865.00	8,691.23	4,450.95	100.45	111.97	-57.46	3,171.13	-2,822.84	769.70	588.33	181.37	4.244		
8,699.97	4,865.71	8,791.23	4,451.64	102.92	114.47	-57.48	3,245.14	-2,890.09	770.22	584.54	185.68	4.148		
8,799.97	4,866.43	8,891.22	4,452.33	105.39	116.97	-57.50	3,319.15	-2,957.33	770.74	580.74	190.00	4.057		
8,899.97	4,867.15	8,991.22	4,453.03	107.87	119.47	-57.53	3,393.17	-3,024.57	771.26	576.94	194.32	3.969		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 514H - Slot 2
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:	# 514H	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		
8,999.97	4,867.87	9,091.22	4,453.72	110.35	121.97	-57.55	3,467.18	-3,091.81	771.79	573.14	198.65	3.885		
9,099.97	4,868.59	9,191.22	4,454.41	112.82	124.48	-57.57	3,541.19	-3,159.05	772.31	569.33	202.98	3.805		
9,199.97	4,869.31	9,291.21	4,455.10	115.30	126.98	-57.59	3,615.20	-3,226.29	772.83	565.52	207.31	3.728		
9,299.97	4,870.03	9,391.21	4,455.79	117.79	129.48	-57.61	3,689.21	-3,293.53	773.35	561.70	211.65	3.654		
9,399.97	4,870.75	9,491.21	4,456.48	120.27	131.99	-57.64	3,763.23	-3,360.77	773.87	557.88	215.99	3.583		
9,499.96	4,871.46	9,591.21	4,457.18	122.75	134.50	-57.66	3,837.24	-3,428.01	774.40	554.06	220.33	3.515		
9,599.96	4,872.18	9,691.21	4,457.87	125.24	137.00	-57.68	3,911.25	-3,495.25	774.92	550.24	224.68	3.449		
9,699.96	4,872.90	9,791.20	4,458.56	127.73	139.51	-57.70	3,985.26	-3,562.49	775.44	546.41	229.03	3.386		
9,799.96	4,873.62	9,891.20	4,459.25	130.21	142.02	-57.72	4,059.28	-3,629.73	775.96	542.58	233.39	3.325		
9,899.96	4,874.34	9,991.20	4,459.94	132.70	144.53	-57.75	4,133.29	-3,696.97	776.49	538.74	237.74	3.266		
9,999.96	4,875.06	10,091.20	4,460.63	135.19	147.04	-57.77	4,207.30	-3,764.21	777.01	534.91	242.10	3.209		
10,099.96	4,875.78	10,191.20	4,461.33	137.68	149.55	-57.79	4,281.31	-3,831.45	777.53	531.07	246.47	3.155		
10,199.96	4,876.50	10,291.19	4,462.02	140.18	152.06	-57.81	4,355.32	-3,898.69	778.05	527.22	250.83	3.102		
10,299.96	4,877.21	10,391.19	4,462.71	142.67	154.57	-57.83	4,429.34	-3,965.93	778.58	523.38	255.20	3.051		
10,399.96	4,877.93	10,491.19	4,463.40	145.16	157.08	-57.86	4,503.35	-4,033.17	779.10	519.53	259.57	3.002		
10,499.96	4,878.65	10,591.19	4,464.09	147.66	159.59	-57.88	4,577.36	-4,100.41	779.62	515.68	263.94	2.954		
10,599.96	4,879.37	10,691.18	4,464.78	150.15	162.10	-57.90	4,651.37	-4,167.65	780.15	511.83	268.32	2.908		
10,699.96	4,880.09	10,791.18	4,465.48	152.65	164.62	-57.92	4,725.38	-4,234.89	780.67	507.97	272.70	2.863		
10,799.96	4,880.81	10,891.18	4,466.17	155.15	167.13	-57.94	4,799.40	-4,302.14	781.19	504.12	277.08	2.819		
10,899.96	4,881.53	10,991.18	4,466.86	157.64	169.64	-57.96	4,873.41	-4,369.38	781.72	500.26	281.46	2.777		
10,999.96	4,882.25	11,091.18	4,467.55	160.14	172.15	-57.99	4,947.42	-4,436.62	782.24	496.39	285.85	2.737		
11,099.96	4,882.97	11,191.17	4,468.24	162.64	174.67	-58.01	5,021.43	-4,503.86	782.77	492.53	290.24	2.697		
11,199.96	4,883.68	11,291.17	4,468.93	165.14	177.18	-58.03	5,095.45	-4,571.10	783.29	488.66	294.63	2.659		
11,299.96	4,884.40	11,391.17	4,469.63	167.64	179.70	-58.05	5,169.46	-4,638.34	783.81	484.80	299.02	2.621		
11,399.96	4,885.12	11,491.17	4,470.32	170.14	182.21	-58.07	5,243.47	-4,705.58	784.34	480.92	303.41	2.585		
11,499.96	4,885.84	11,591.16	4,471.01	172.64	184.73	-58.09	5,317.48	-4,772.82	784.86	477.05	307.81	2.550		
11,599.96	4,886.56	11,691.16	4,471.70	175.14	187.24	-58.12	5,391.49	-4,840.06	785.39	473.18	312.21	2.516		
11,699.96	4,887.28	11,791.16	4,472.39	177.64	189.76	-58.14	5,465.51	-4,907.30	785.91	469.30	316.61	2.482		
11,799.96	4,888.00	11,891.16	4,473.08	180.14	192.27	-58.16	5,539.52	-4,974.54	786.44	465.42	321.02	2.450		
11,899.96	4,888.72	11,991.16	4,473.78	182.65	194.79	-58.18	5,613.53	-5,041.78	786.96	461.54	325.42	2.418		
11,999.96	4,889.43	12,091.15	4,474.47	185.15	197.30	-58.20	5,687.54	-5,109.02	787.49	457.66	329.83	2.388		
12,099.96	4,890.15	12,191.15	4,475.16	187.65	199.82	-58.22	5,761.56	-5,176.26	788.01	453.77	334.24	2.358		
12,199.95	4,890.87	12,291.15	4,475.85	190.15	202.34	-58.24	5,835.57	-5,243.50	788.54	449.88	338.65	2.328		
12,299.95	4,891.59	12,391.15	4,476.54	192.66	204.85	-58.27	5,909.58	-5,310.74	789.06	445.99	343.07	2.300		
12,399.95	4,892.31	12,491.15	4,477.23	195.16	207.37	-58.29	5,983.59	-5,377.98	789.59	442.10	347.49	2.272		
12,499.95	4,893.03	12,591.14	4,477.93	197.67	209.89	-58.31	6,057.60	-5,445.22	790.11	438.21	351.90	2.245		
12,599.95	4,893.75	12,691.14	4,478.62	200.17	212.41	-58.33	6,131.62	-5,512.46	790.64	434.32	356.32	2.219		
12,699.95	4,894.47	12,791.14	4,479.31	202.68	214.92	-58.35	6,205.63	-5,579.70	791.17	430.42	360.75	2.193		
12,799.95	4,895.18	12,891.14	4,480.00	205.18	217.44	-58.37	6,279.64	-5,646.94	791.69	426.52	365.17	2.168		
12,899.95	4,895.90	12,991.13	4,480.69	207.69	219.96	-58.39	6,353.65	-5,714.18	792.22	422.62	369.60	2.143		
12,999.95	4,896.62	13,091.13	4,481.38	210.19	222.48	-58.41	6,427.67	-5,781.43	792.74	418.72	374.02	2.119		
13,099.95	4,897.34	13,191.13	4,482.08	212.70	224.99	-58.43	6,501.68	-5,848.67	793.27	414.82	378.45	2.096		
13,199.95	4,898.06	13,291.13	4,482.77	215.20	227.51	-58.46	6,575.69	-5,915.91	793.80	410.91	382.89	2.073		
13,299.95	4,898.78	13,391.13	4,483.46	217.71	230.03	-58.48	6,649.70	-5,983.15	794.32	407.00	387.32	2.051		
13,399.95	4,899.50	13,491.12	4,484.15	220.22	232.55	-58.50	6,723.71	-6,050.39	794.85	403.09	391.76	2.029		
13,499.95	4,900.22	13,591.12	4,484.84	222.72	235.07	-58.52	6,797.73	-6,117.63	795.38	399.18	396.19	2.008		
13,599.95	4,900.93	13,691.12	4,485.53	225.23	237.59	-58.54	6,871.74	-6,184.87	795.90	395.27	400.63	1.987		
13,699.95	4,901.65	13,791.12	4,486.23	227.74	240.11	-58.56	6,945.75	-6,252.11	796.43	391.36	405.07	1.966		
13,799.95	4,902.37	13,891.11	4,486.92	230.25	242.62	-58.58	7,019.76	-6,319.35	796.96	387.44	409.52	1.946		
13,899.95	4,903.09	13,991.11	4,487.61	232.75	245.14	-58.60	7,093.78	-6,386.59	797.48	383.52	413.96	1.926		
13,999.95	4,903.81	14,091.11	4,488.30	235.26	247.66	-58.62	7,167.79	-6,453.83	798.01	379.60	418.41	1.907		
14,099.95	4,904.53	14,191.15	4,488.99	237.77	250.18	-58.64	7,241.83	-6,521.09	798.53	375.68	422.86	1.888 SF		



Lonestar Consulting, LLC
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 514H - Slot 2
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:	# 514H	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		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
14,199.95	4,905.25	14,192.58	4,489.00	240.28	250.22	-58.64	7,242.89	-6,522.05	805.11	384.00	421.12	1.912	
14,299.95	4,905.97	14,192.58	4,489.00	242.79	250.22	-58.64	7,242.89	-6,522.05	823.87	410.62	413.24	1.994	
14,399.95	4,906.69	14,192.58	4,489.00	245.30	250.22	-58.64	7,242.89	-6,522.05	853.99	453.60	400.39	2.133	
14,499.95	4,907.40	14,192.58	4,489.00	247.80	250.22	-58.64	7,242.89	-6,522.05	894.34	510.29	384.05	2.329	
14,599.95	4,908.12	14,192.58	4,489.00	250.31	250.22	-58.64	7,242.89	-6,522.05	943.61	577.91	365.70	2.580	
14,699.95	4,908.84	14,192.58	4,489.00	252.82	250.22	-58.64	7,242.89	-6,522.05	1,000.47	653.89	346.58	2.887	
14,721.97	4,909.00	14,192.58	4,489.00	253.38	250.22	-58.64	7,242.89	-6,522.05	1,013.90	671.53	342.37	2.961	



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 514H - Slot 2
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:	# 514H	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

Coordinates are relative to: # 514H - Slot 2

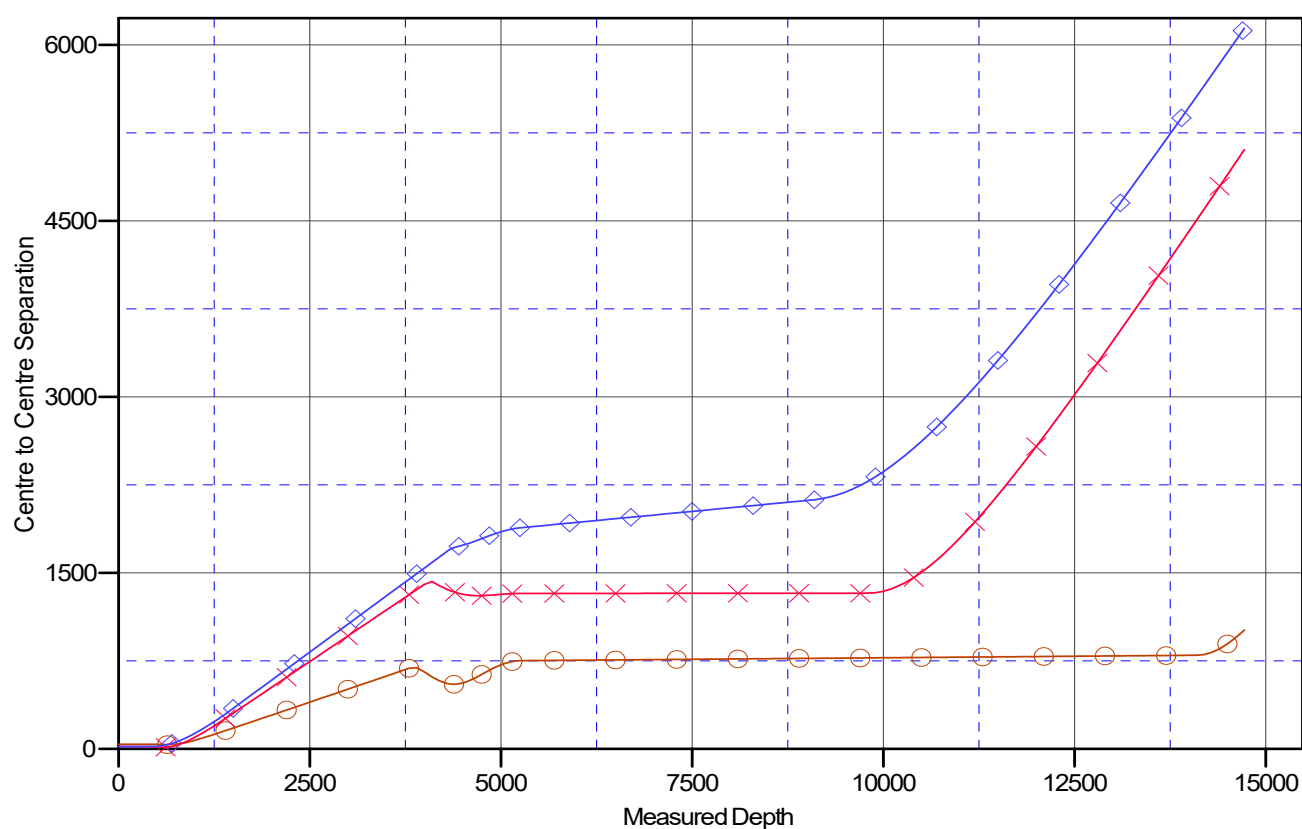
Offset Depths are relative to Offset Datum

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

Central Meridian is -107.8333333

Grid Convergence at Surface is: 0.03°

Ladder Plot



LEGEND

#602H Original Drilling, APDVO
 #513H Original Drilling, APDVO
 #601H Original Drilling, APDVO



Lonestar Consulting, LLC
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 514H - Slot 2
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:	# 514H	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

Coordinates are relative to: # 514H - Slot 2

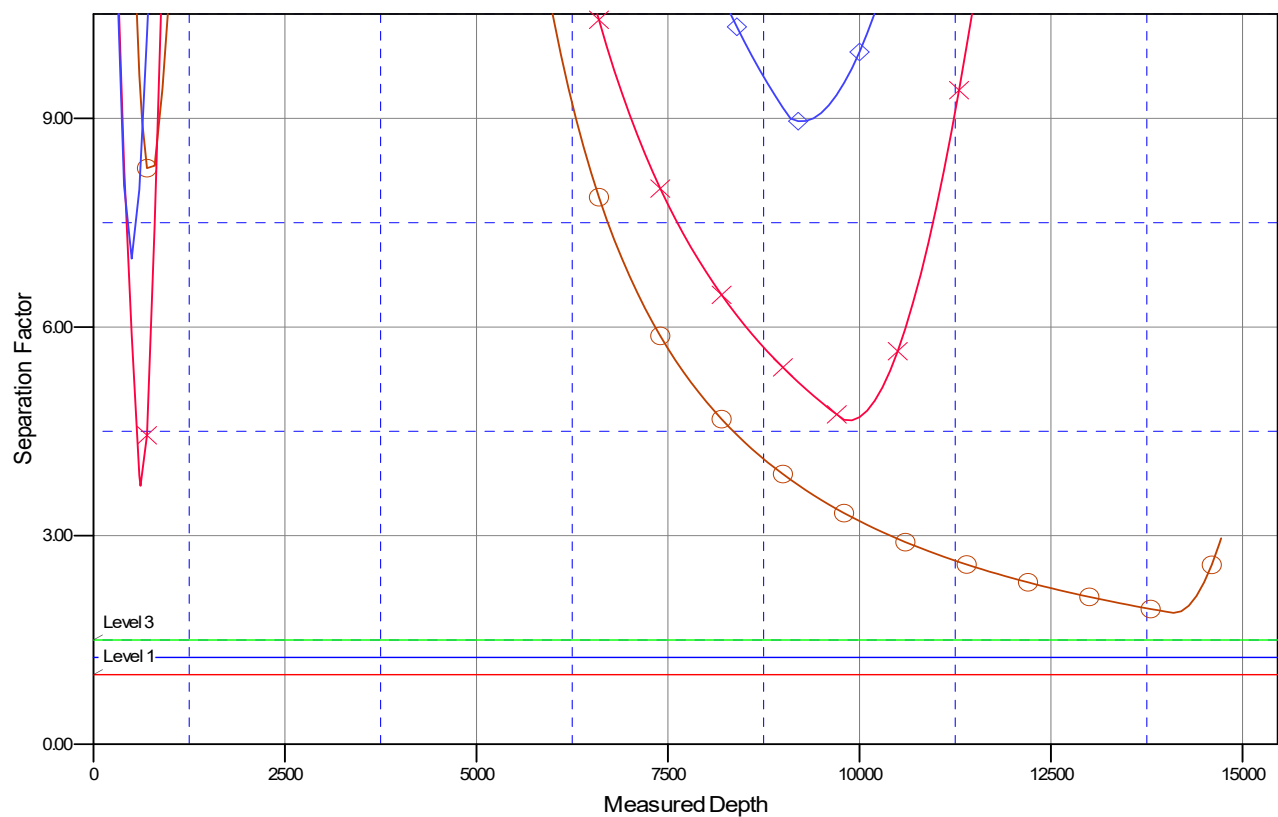
Offset Depths are relative to Offset Datum

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

Central Meridian is -107.83333333

Grid Convergence at Surface is: 0.03°

Separation Factor Plot



LEGEND

○ # 602H Original Drilling, APDVO
 ✕ # 513H Original Drilling, APDVO
 ◇ # 601H Original Drilling, APDVO

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 of 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 26438

COMMENTS

Operator:	DJR OPERATING, LLC	1 Road 3263	Aztec, NM87410	OGRID:	371838	Action Number:	26438	Action Type:	C-103A
Created By	Comment					Comment Date			
kpickford	KP GEO Review 4/30/2021					04/30/2021			

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CONDITIONS

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CONDITIONS OF APPROVAL

Operator:	DJR OPERATING, LLC	1 Road 3263	Aztec, NM87410	OGRID:	371838	Action Number:	26438	Action Type:	C-103A
OCD Reviewer	Condition								
kpickford	Adhere to previous NMOCD Conditions of Approval								