

Form 3160-3
(June 2015)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

1a. Type of work: ☐ DRILL ☐ REENTER		5. Lease Serial No.
1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator		8. Lease Name and Well No.
3a. Address	3b. Phone No. (include area code)	9. API Well No. 30-043-21482
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		10. Field and Pool, or Exploratory
14. Distance in miles and direction from nearest town or post office*		11. Sec., T. R. M. or Blk. and Survey or Area
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)		12. County or Parish
16. No of acres in lease		13. State
17. Spacing Unit dedicated to this well		
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.		
19. Proposed Depth		
20. BLM/BIA Bond No. in file		
21. Elevations (Show whether DF, KDB, RT, GL, etc.)		
22. Approximate date work will start*		23. Estimated duration
24. Attachments		
The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)		
1. Well plat certified by a registered surveyor.		4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
2. A Drilling Plan.		5. Operator certification.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).		6. Such other site specific information and/or plans as may be requested by the BLM.
25. Signature	Name (Printed/Typed)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
Title		
Office		
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		
Conditions of approval, if any, are attached.		
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.		

(Continued on page 2)

*(Instructions on page 2)



Approval Date: 01/06/2022

Dean R. McIlure 01/31/2022

DISTRICT I1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720**DISTRICT II**811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720**DISTRICT III**1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170**DISTRICT IV**1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462State of New Mexico
Energy, Minerals & Natural Resources DepartmentForm C-102
Revised August 1, 2011Submit one copy to appropriate
District OfficeOIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-043-21482	² Pool Code 13379	³ Pool Name COUNSELORS GALLUP - DAKOTA POOL
⁴ Property Code 325207	⁵ Property Name GALLO CANYON UNIT	⁶ Well Number 309H
⁷ OGRID No. 371838	⁸ Operator Name DJR OPERATING, LLC	⁹ Elevation 6954'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	26	23N	6W		881'	SOUTH	481'	WEST	SANDOVAL

¹¹ Bottom Hole Location If Different From Surface

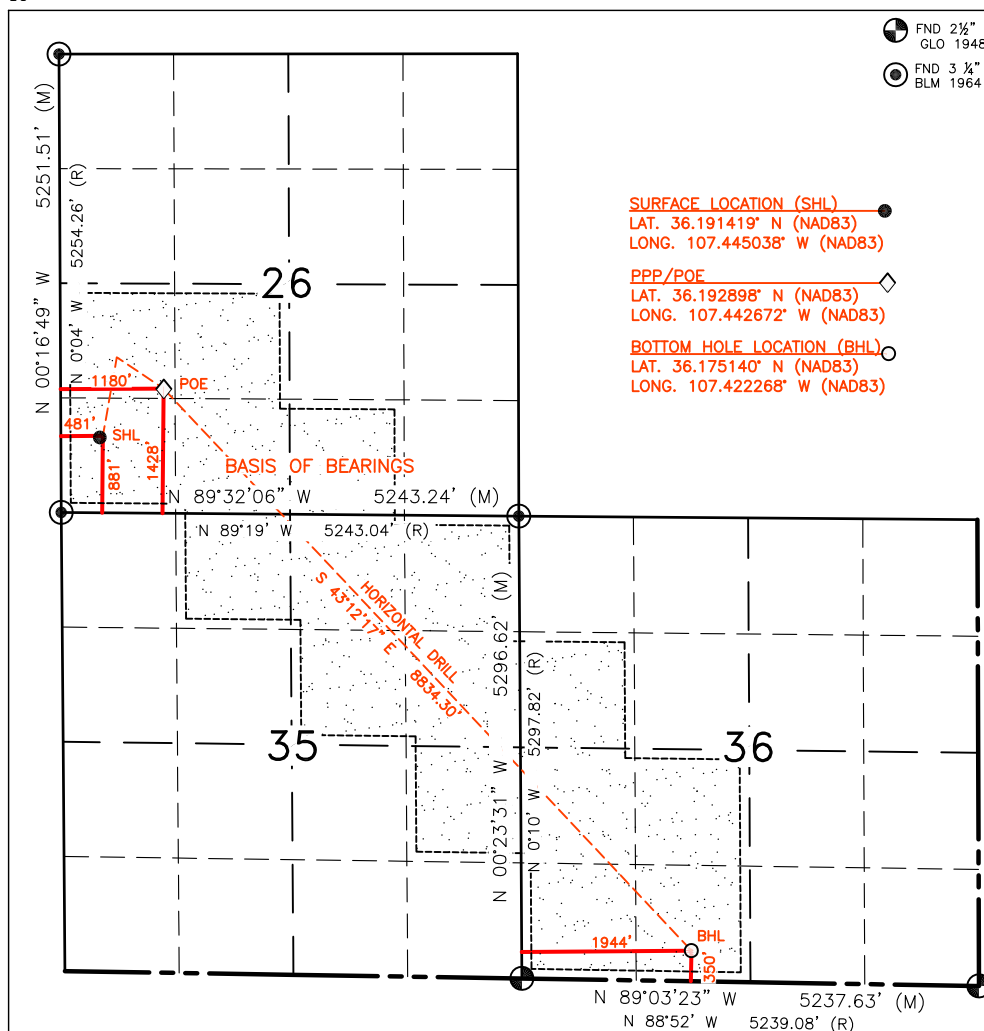
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	36	23N	6W		350'	SOUTH	1944'	WEST	SANDOVAL

¹² Dedicated Acres
PENETRATED SPACING UNIT;
SEC 26: SW/4 & SW/SE (200 AC.); SEC 35:
NE/NW, NE/4 & NE/SE (240 AC.); SEC 36:
SW/NW & SW/4 (200 AC.) = 640 ACRES¹³ Joint or Infill¹⁴ Consolidation Code¹⁵ Order No.

R-13718A

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

16



● FND 2 1/2" BC
GLO 1948

● FND 3 1/4" BC
BLM 1964

¹⁷ OPERATOR CERTIFICATION

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

Shaw-Marie Ford 12/14/20
Signature Date

Shaw-Marie Ford

Printed Name

sford@djrlc.com

E-mail Address

SURVEYOR CERTIFICATION

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

AUGUST 8, 2020

Date of Survey

Signature and Seal of Professional Surveyor:



Certificate Number

11393

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: _DJR Operating, LLC_ **OGRID:** _371838_ **Date:** _01 / _19 / _2022_

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Gallo Canyon Unit 303H	TBD	M-26-23N-6W	890 FSL x 499 FWL	340	500	120
Gallo Canyon Unit 304H	TBD	M-26-23N-6W	862 FSL x 446 FWL	380	575	140
Gallo Canyon Unit 305H	TBD	M-26-23N-6W	852 FSL x 428 FWL	250	370	90
Gallo Canyon Unit 307H	TBD	M-26-23N-6W	871 FSL x 464 FWL	410	610	150
Gallo Canyon Unit 308H	TBD	M-26-23N-6W	843 FSL x 411 FWL	270	400	95
Gallo Canyon Unit 309H	TBD	M-26-23N-6W	881 FSL x 1944 FWL	425	630	150

IV. Central Delivery Point Name: _Chaco Processing Plant_ [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Gallo Canyon Unit 303H	TBD	04/08/2022	04/16/2022	08/28/2022	09/23/2022	10/23/2022
Gallo Canyon Unit 304H	TBD	04/16/2022	04/24/2022	09/01/2022	09/25/2022	10/23/2022
Gallo Canyon Unit 305H	TBD	04/24/2022	05/02/2022	09/05/2022	09/27/2022	10/23/2022
Gallo Canyon Unit 307H	TBD	05/02/2022	05/09/2022	09/09/2022	09/29/2022	10/23/2022
Gallo Canyon Unit 308H	TBD	05/09/2022	05/17/2022	09/13/2022	10/01/2022	10/23/2022
Gallo Canyon Unit 309H	TBD	05/17/2022	05/30/2022	09/17/2022	10/03/2022	10/23/2022

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☐ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

If Operator checks this box, Operator will select one of the following:

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature: <i>Shaw-Marie Ford</i>
Printed Name: Shaw-Marie Ford
Title: Regulatory Specialist
E-mail Address: sford@djrlc.com
Date: 01/19/2022
Phone: 505-716-3297
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:



DJR OPERATING, LLC.
OGRID NO: 371838
NATURAL GAS MANAGEMENT PLAN
GALLO CANYON UNIT 303H, 304H, 305H, 307H, 308H, 309H
SSW M-26-23N-06W

SEPARATION EQUIPMENT

DJR Operating, LLC (DJR) has pulled representative pressurized samples from wells in the same producing formation. DJR has utilized these samples in process simulations to determine the amount of gas anticipated in each stage of the process and utilized this information with a safety factor to size the equipment listed below:

Separation equipment will be set as follows:

- Individual 3 phase separators will be set for each individual well.
- The separators will be sized based on the anticipated volume of the well and the pressure of the lines utilized for oil, gas, and water takeaway.
- The 3 phase production separators will each be equipped with a 0.75 MMBtu/hr indirect fired heater.

Heater treaters will be set as follows:

- Individual heater treaters will be set for each individual well.
- The heater treaters are sized based on the anticipated combined volume of oil and produced water predicted to come from the initial 3 phase separators.
- Oil will be separated from the produced water and the produced water will be sent to its respective tanks.
- The combined oil and natural gas stream is routed to the Vapor Recovery Tower.

Vapor Recovery Equipment will be set as follows:

- The Vapor Recovery Tower has been sized, based on the anticipated volume of gas from the heater treater and oil and water tanks.
- The Vapor Recovery Unit has been sized, based on the anticipated volume of gas from the heater treater and oil and water tanks. The Vapor Recovery Unit is utilized to push the recovered gas into the sales pipeline.

Production storage tanks will be set as follows:

- The oil and produced water tanks utilize a closed vent capture system to ensure all breathing, working, and flashing losses are routed to the Vapor Recovery Tower and Vapor Recovery Unit.
- Each of the production storage tanks will be equipped with a 0.5 MMBtu/hr indirect heater.



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OPERATIONAL PRACTICES

19.15.27.8 A. Venting and Flaring of Natural Gas

DJR Operating, LLC (DJR) understands the requirements of NMAC 19.15.27.8 which states that the venting and flaring of natural gas during drilling, completion or production that constitutes waste as defined in 19.15.2 are prohibited.

19.15.27.8 B. Venting and flaring during drilling operations

- DJR shall capture or combust natural gas if technically feasible during drilling operations using best industry practices.
- A flare stack with a 100% capacity for expected volumes will be set on location of the facility at least 100 feet from the nearest surface hole location, well heads, and storage tanks.
- In the event of an emergency, DJR will vent natural gas in order to avoid substantial impact. DJR shall report the vented or flared gas to the NMOCD.

19.15.27.8 E. Venting and flaring during completion or recompletion operations

During Completion Operations, DJR utilizes the following:

- DJR facilities are built and ready from day 1 of Flowback.
- Individual well test separators will be set to properly separate gas and liquids. Temporary test separator will be utilized initially to process volumes. In addition, separators will be tied into flowback tanks which will be tied into the gas processing equipment for sales down a pipeline. See Separation Equipment for details.
- Should the facility not yet be capable of processing gas, or the gas does not meet quality standards, then storage tanks will be set that are tied into gas busters or temporary flare to manage natural gas. This flare would meet the following requirements:
 - 1) An appropriately sized flare stack with an automatic igniter.
 - 2) DJR analyzes the natural gas samples twice per week.
 - 3) DJR routes the natural gas into a gathering pipeline as soon as the pipeline specifications are met.
 - 4) DJR provides the NMOCD with pipeline specifications and natural gas data.



19.15.27.8 D. Venting and flaring during production operations

During Production Operations DJR will not vent or flare natural gas except under the following circumstances:

1. During an emergency or malfunction
2. To unload or clean-up liquid holdup in a well to atmospheric pressure, provided:
 - a. DJR does not vent after the well achieves a stabilized rate and pressure.
 - b. DJR will remain present on-site during liquids unloading by manual purging and take all reasonable actions to achieve a stabilized rate and pressure at the earliest practical time.
 - c. DJR will optimize the system to minimize natural gas venting on any well equipped with a plunger lift or auto control system.
 - d. Best Management Practices will be used during downhole well maintenance.
3. During the first year of production from an exploratory well provided:
 - a. DJR receives approval from the NMOCD.
 - b. DJR remains in compliance with the NM gas capture requirements.
 - c. DJR submits an updated C-129 form to the NMOCD.
4. During the following activities unless prohibited:
 - a. Gauging or sampling a storage tank or low-pressure production vessel.
 - b. Loading out liquids from a storage tank.
 - c. Repair and maintenance.
 - d. Normal operation of gas activated pneumatic controller or pump.
 - e. Normal operation of a storage tank but not including venting from a thief hatch.
 - f. Normal operation of dehydration units.
 - g. Normal operations of compressors, compressor engines, turbines, valves, flanges, and connectors.
 - h. During a bradenhead, packer leakage test, or production test lasting less than 24-hours.
 - i. When natural gas does not meet the gathering pipeline specifications.
 - j. Commissioning of pipelines, equipment, or facilities only for as long as necessary to purge introduced impurities.

19.15.27.8 E. Performance standards

1. DJR has utilized process simulations with a safety factor to design all separation and storage equipment. The equipment is routed to a Vapor Recovery System and utilizes a flare as back up for periods of startup, shutdown, maintenance, or malfunction of the VRU System.
2. DJR will install a flare that designed to handle the full volume of vapors from the facility in case of the VRU failure and it is designed with an auto ignition system.
3. Flare stacks will appropriately sized and designed to ensure proper combustion efficiency.



- a. Flare stacks installed or replaced will be equipped with an automatic ignitor or continuous pilot.
 - b. Previously installed flare stacks will be retrofitted with an automatic ignitor, continuous pilot, or technology that alerts DJR of flare malfunction within 18 months after May 25, 2021.
 - c. Flare stacks replaced after May 25, 2021, will be equipped with an automatic ignitor or continuous pilot if located at a well or facility with average daily production of 60,000 cubic feet of natural gas or less.
 - d. Flare stacks will be located at least 100 feet from the well and storage tanks and securely anchored.
4. DJR will conduct an AVO inspection on all components for leaks and defects on a weekly basis.
 5. DJR will make and keep records of AVO inspections which will be available to the NMOCD for at least 5 years.
 6. DJR may use a remote or automated monitoring technology to detect leaks and releases in lieu of AVO inspections with prior NMOCD approval.
 7. Facilities will be designed to minimize waste.
 8. DJR will resolve emergencies as promptly as possible.

19.15.27.8 F. Measurement or estimation of vented and flared natural gas

1. DJR will have meters on both the low- and high-pressure sides of the flares and the volumes will be recorded in DJR's SCADA system.
2. DJR will install equipment to measure the volume of flared natural gas that has an average daily production of 60,000 cubic feet or greater of natural gas.
3. DJR's measuring equipment will conform to the industry standards.
4. The measurement system is designed such that it cannot be bypassed except for inspections and servicing meters.
5. DJR will estimate the volume of vented or flared natural gas using a methodology that can be independently verified if metering is not practicable due to low flow rate or pressure.
6. DJR will estimate the volume of flared and vented natural gas based on the results of an annual GOR test for wells that do not require measuring equipment reported on Form C-116.
7. DJR will install measuring equipment whenever the NMOCD determines that metering is necessary.



DJR OPERATING, LLC.
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SWSW M-26-23N-06W

BEST MANAGEMENT PRACTICES

DJR Operating, LLC (DJR) utilizes the following Best Management Practices to minimize venting during active and planned maintenance.

DJR has a closed vent capture system to route emissions from the heater treater, tanks, and vapor recovery to the vapor recovery unit with an enclosed combustion device (ECD) for backup. The system is designed such that if the vapor recovery unit is taken out of service for any reason, the vapors will be routed to the ECD for combustion.

DJR will isolate and attempt to route all vapors to the vapor recovery unit or ECD prior to opening any lines for maintenance to minimize venting from the equipment.

DJR shall notify the NMOCD of venting or flaring that exceeds 50 MCF but less than 500 MCF in volume that either resulted from an emergency or malfunction, or an event lasting over eight hours or more cumulatively within any 24-hour period from a single event by filing a form C-129 no later than 15 days following the discovery or commencement of venting or flaring.

DJR shall notify the NMOCD verbally or by e-mail within 24-hours following discovery or commencement of venting or flaring that exceeds 500 MCF in volume or otherwise qualifies as a major release as defined in 19.15.29.7 NMAC from a single event and provide the information required in form C-129 to the NMOCD no later than 15 days that verifies, updates, or corrects the verbal or e-mail notification.

DJR will install measuring equipment to conform to industry standards such as American Petroleum Institute (API) Manual of Petroleum Measurement Standards (MPMS) Chapter 14.10 Measurement of Flow to Flares.

DJR's measuring equipment shall not be designed or equipped with a manifold that allows the diversion of natural gas around the metering element except for the sole purpose of inspecting and servicing the measurement equipment.

DJR shall report the volume of vented and flared natural gas for each well or facility at which venting or flaring occurred on a monthly basis.

Rev 2



DRILLING PLAN

Gallo Canyon #309H

Sandoval County, New Mexico

Surface Location

481-ft FWL & 881-ft FSL
 Sec 26 T23N R06W
 Graded Elevation 6954' MSL
 RKB Elevation 6968' (14' KB)

SHL Geographical Coordinates (NAD-83)

Latitude 36.1914190° N
 Longitude 107.4450380° W

Kick Off Point for Horizontal Build Curve

4463-ft MD
 4352-ft TVD

Local Coordinates (from SHL)

901-ft North
 160-ft East

Heel Location (Pay zone entry)

1180-ft FWL & 1428-ft FSL
 Sec 26 T23N R06W

Heel Geographical Coordinates (NAD-83)

Latitude 36.1928984° N
 Longitude 107.44267200° W

Bottom Hole Location (TD)

1944-ft FWL & 350-ft FSL
 Sec 36 T23N R06W

BHL Geographical Coordinates (NAD-83)

Latitude 36.1751404° N
 Longitude 107.4222677° W

Well objectives

This well is planned as a 8840-ft lateral in the Mancos Silt sand.

Bottom Hole temperature and pressure

The temperature in the Mancos Silt horizontal objective is 138°F. Bottom hole pressure in the Mancos Silt is forecast to be 1985 psi.

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

Name	MD (ft)	TVD (ft)	Lithology	Pore fluid	Expected Pore Pressure (ppg)	Planned Mud Weight (ppg)
Ojo Alamo	1420	1403	Sd	W	8.3	8.4 – 8.8
Kirtland	1528	1508	Sh	-	8.3	8.4 – 8.8
Fruitland	1746	1719	C	G	8.3	9.0 - 9.5
Pictured Cliffs	1975	1941	Sd	W	8.3	9.0 - 9.5
Lewis	2081	2044	Sh	-		9.0 - 9.5
Chacra	2869	2807	Sd	-	8.3	9.0 - 9.5
Menefee	3558	3475	Sd, C	G	8.3	9.0 - 9.5
Point Lookout	4283	4178	Sd	-	8.3	9.0 - 9.5
Mancos	4485	4373	Sh	-		9.0 - 9.5
Mancos Silt	4870	4738	Slt	O/G	6.6	9.0 - 9.5
Gallup A	NP	NP	Slt	O/G	6.6	9.0 - 9.5
Gallup B	NP	NP	Sd	O/G	6.6	8.8 - 9.0
Gallup C	NP	NP	Sd	O/G	6.6	8.8 - 9.0
Target	5560	5068	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	5501	surf	5066	surface
4-1/2"	6-1/8"	11.6	P-110	BTC	5217	14394	4981	5034	5217

Note: all casing will be new



Rev 2

Casing Design Load Cases

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

Note #

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

Casing Design Factors

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

Cement Design9-5/8" Surface Casing

	Lead
Name	Redi-Mix
Type	I-II
Planned top	Surface
Density (ppg)	14.50
Yield (cf/sx)	1.61
Mix water (gal/sx)	7.41
Volume (sx)	114
Volume (bbls)	33
Volume (cu. ft.)	185
Excess %	50

7" Intermediate Casing

	Lead	Tail
	BJ Services	BJ Services
Type	III	Poz/G
Planned top	Surface	3963-ft
Density (ppg)	12.30	13.50
Yield (cf/sx)	2.34	1.50
Mix water (gal/sx)	13.26	7.20
Volume (sx)	385	246
Volume (bbls)	160	65
Volume (cu.ft.)	900	367
Excess %	55	55



Rev 2

4-1/2" Production Liner

	BJ Services
Type	Poz/G
Planned top	5217-ft
Density (ppg)	13.3
Yield (cf/sx)	1.56
Mix water (gal/sx)	7.71
Volume (sx)	772
Volume (bbls)	215
Volume (cu.ft)	1206
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 – 5501	9.0 – 9.5	38 – 45	8 – 14	<20
Production	Low solids, non-dispersed	5501 – 14394	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

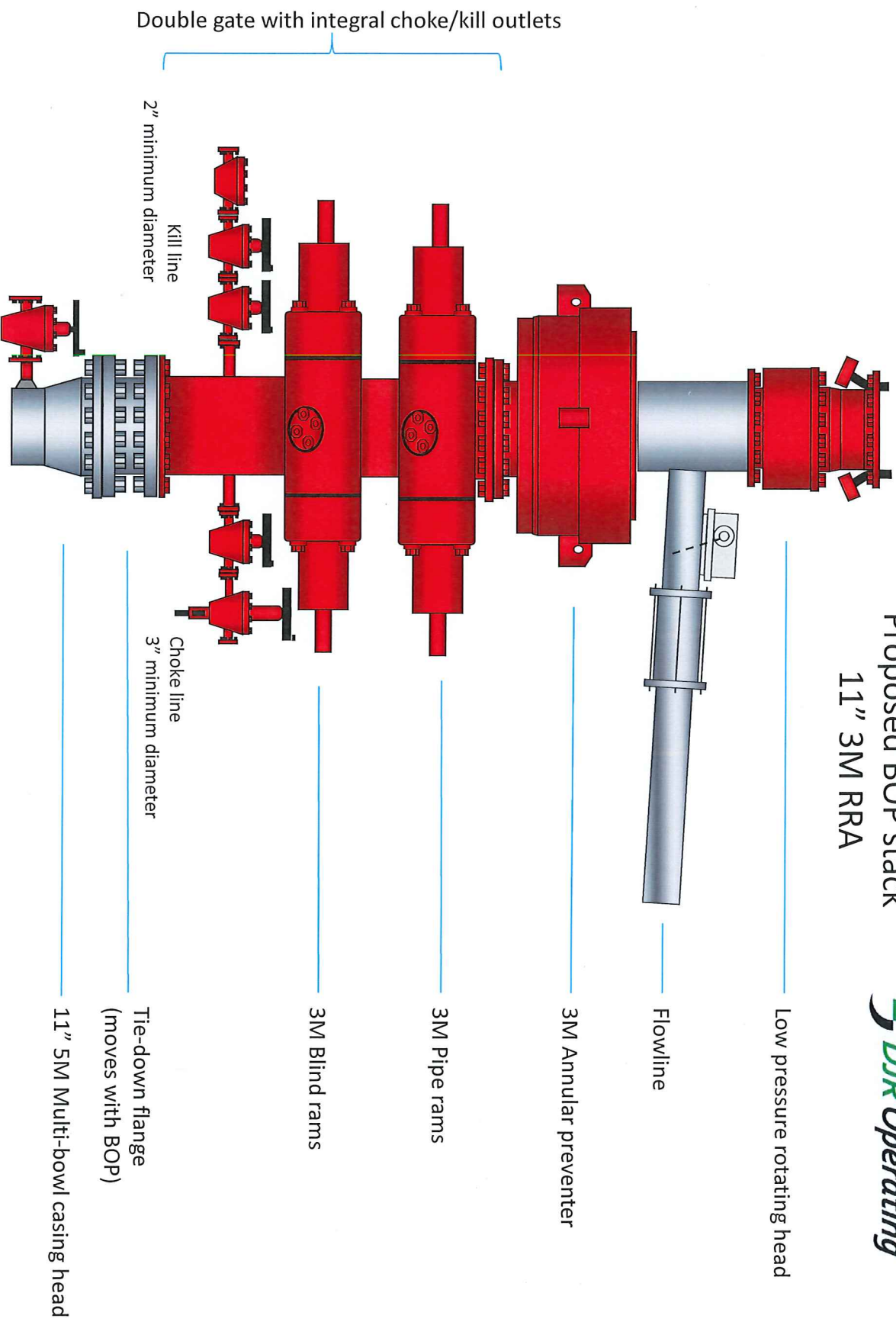
A closed loop, steel tank-based circulating system will be used. In addition to the rig solids control equipment, a dewatering centrifuge and chemical flocculation system will be operational to strip solids from the whole mud. All solids will be collected in 3-sided bins and will then be put into transports 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.



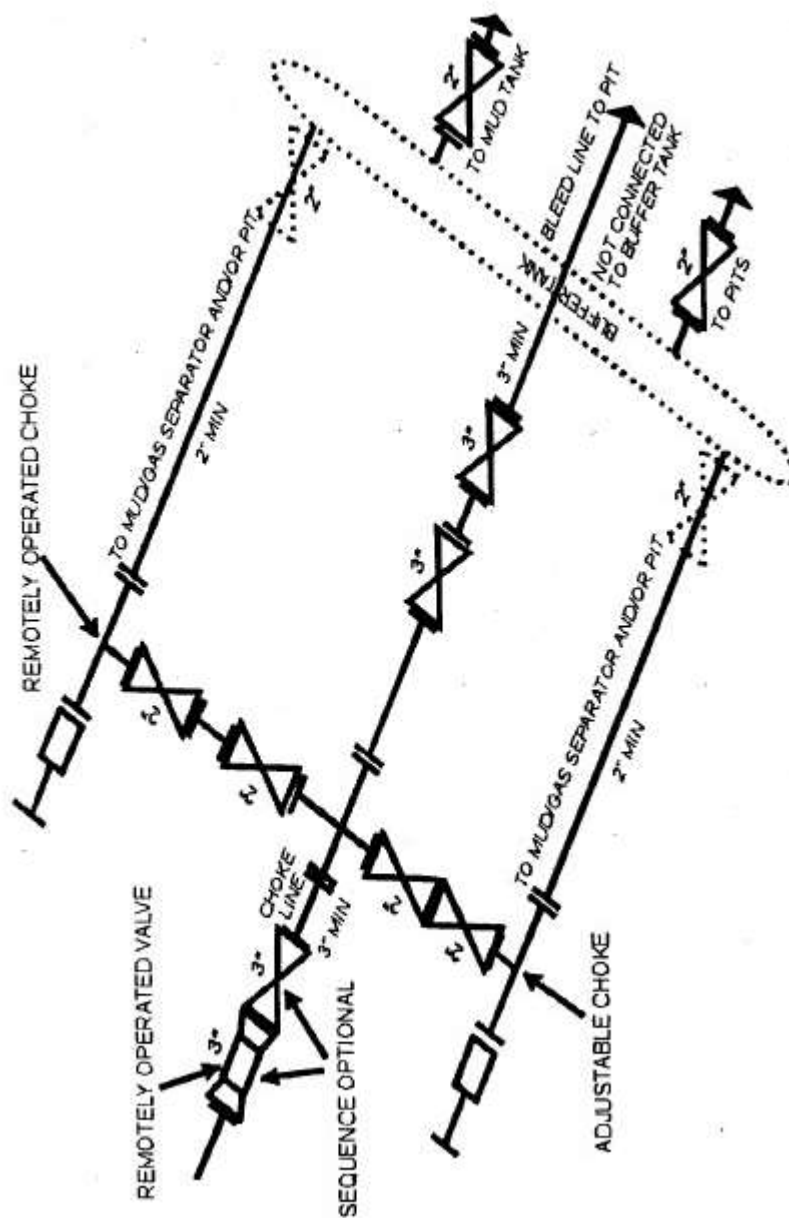
Proposed BOP stack 11" 3M RRA





Choke Manifold

Actual system to conform with Onshore Order 2





Company: DJR Operating
Project: Gallo Canyon Unit
Site: M26 2306 Pad
Well: # 309H
Wellbore: Original Drilling
Design: APD

WELL DETAILS: # 309H

+N/-S	+E/-W	Northing	Easting	Longitude
0.00	0.00	1889203.04	2837666.59	-107.44503800

GL 6954' & RKB 14' @ 6968.00usft
Latitude 36.19141900

5

Plan: APD (# 309H/Original Drilling)

Created By: Janie Collins Date: 13:33, August 10 2020

PROJECT DETAILS: Gallo Canyon Unit

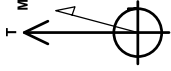
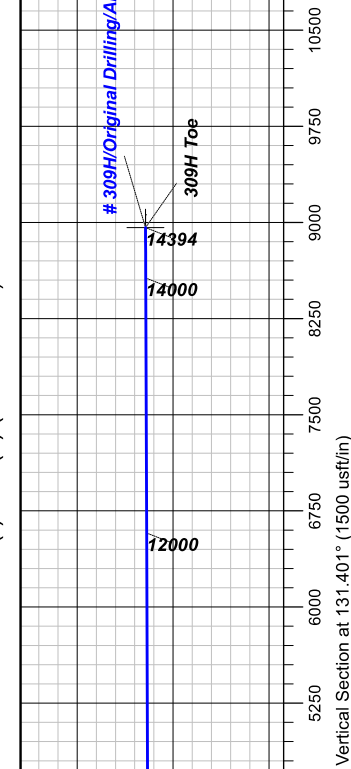
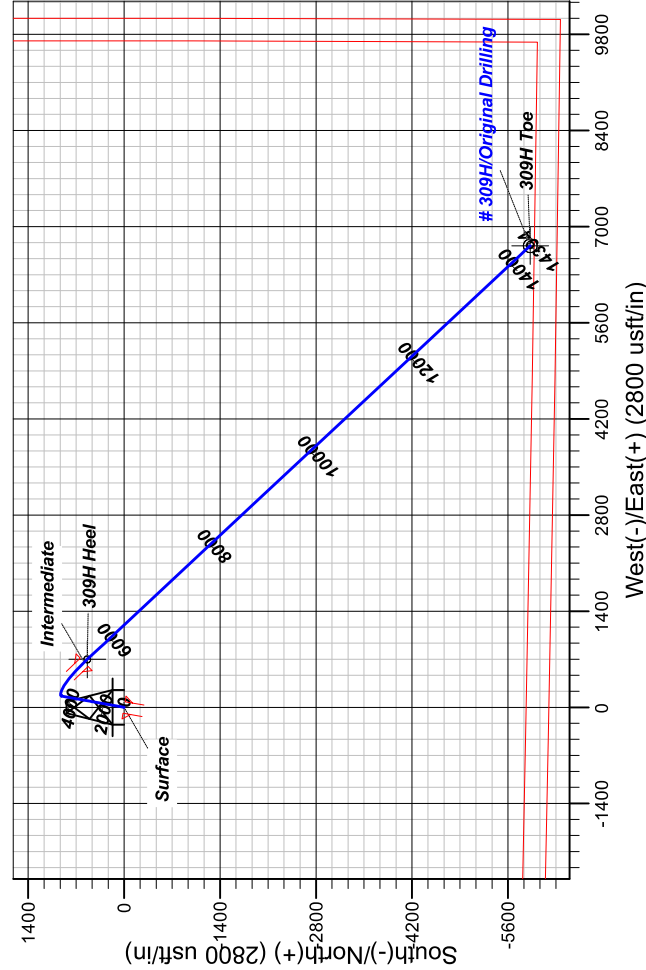
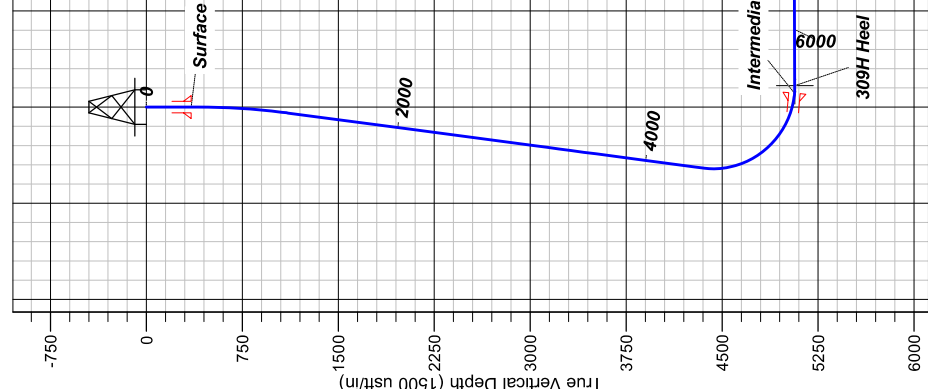
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Western Zone
System Datum: Mean Sea Level
Local North: True

DESIGN TARGET DETAILS

Time	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
309H Heel	5068.00	538.55	698.14	1889744.38	2838362.57	36.19289840	-107.44267200
309H Toe	5034.00	-5925.03	6720.34	1883304.96	2844410.60	36.17514040	-107.42226770

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	
1114.53	14.29	10.081	1107.24	87.30	15.52	2.00	10.08	-46.09	
4452.07	90.29	137.034	4381.74	538.55	698.14	0.00	128.00	167.16	309H Heel
5552.07	90.22	137.024	5034.00	-5925.03	6720.34	0.00	0.00	8959.30	309H Toe



Azimuths to True North
Magnetic North: 81.83°
Magnetic Field
Strength: 49201.12
Dip Angle: 62.12°
Date: 7/31/2020
Model: HDGM_F11E

CASING DETAILS

TVD	MD	Na
350.00	350.00	Surface
5065.53	5500.77	Intermediate

FORMATION DETAILS

MDPath	Formation
1403.00	Ojo Alamo
1508.00	Kirtland
1719.00	Fruitland
1941.00	Pictured Cliffs
2044.00	Lewis
2807.00	Chacra
3475.00	Menefee
4178.00	Point Lookout
4373.00	Mancos
4738.00	Mancos Silt



DJR Operating

Gallo Canyon Unit

M26 2306 Pad

309H - Slot 5

Original Drilling

Plan: APD

Standard Planning Report

10 August, 2020





Lonestar Consulting, LLC
Planning Report



Database:	DJR	Local Co-ordinate Reference:	Well # 309H - Slot 5
Company:	DJR Operating	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Project:	Gallo Canyon Unit	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site:	M26 2306 Pad	North Reference:	True
Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Project	Gallo Canyon Unit, Sandoval County, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site	M26 2306 Pad				
Site Position:		Northing:	1,889,165.63 usft	Latitude:	36.1913170
From:	Lat/Long	Easting:	2,837,595.93 usft	Longitude:	-107.4452780
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.23

Well	# 309H - Slot 5					
Well Position	+N/-S	37.13 usft	Northing:	1,889,203.05 usft	Latitude:	36.1914190
	+E/-W	70.82 usft	Easting:	2,837,666.60 usft	Longitude:	-107.4450380
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	6,954.00 us

Wellbore	Original Drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	7/31/2020	8.55	62.78	49,201.10000000

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	131.401

Plan Survey Tool Program	Date	8/10/2020		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	14,394.33	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	
1,114.63	14.29	10.081	1,107.24	87.30	15.52	2.00	2.00	0.00	10.08	
4,462.76	14.29	10.081	4,351.74	901.11	160.20	0.00	0.00	0.00	0.00	
5,559.97	90.22	137.024	5,068.00	538.55	698.14	9.00	6.92	11.57	126.04	309H Heel
14,394.33	90.22	137.024	5,034.00	-5,925.03	6,720.34	0.00	0.00	0.00	0.00	309H Toe



Lonestar Consulting, LLC

Planning Report



Database:	DJR	Local Co-ordinate Reference:	Well # 309H - Slot 5
Company:	DJR Operating	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Project:	Gallo Canyon Unit	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site:	M26 2306 Pad	North Reference:	True
Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/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	10.081	499.98	1.72	0.31	-0.91	2.00	2.00	0.00
600.00	4.00	10.081	599.84	6.87	1.22	-3.63	2.00	2.00	0.00
700.00	6.00	10.081	699.45	15.45	2.75	-8.16	2.00	2.00	0.00
800.00	8.00	10.081	798.70	27.45	4.88	-14.49	2.00	2.00	0.00
900.00	10.00	10.081	897.47	42.85	7.62	-22.62	2.00	2.00	0.00
1,000.00	12.00	10.081	995.62	61.64	10.96	-32.54	2.00	2.00	0.00
1,100.00	14.00	10.081	1,093.06	83.78	14.89	-44.24	2.00	2.00	0.00
1,114.63	14.29	10.081	1,107.24	87.30	15.52	-46.09	2.00	2.00	0.00
1,200.00	14.29	10.081	1,189.97	108.05	19.21	-57.05	0.00	0.00	0.00
1,300.00	14.29	10.081	1,286.87	132.36	23.53	-69.88	0.00	0.00	0.00
1,400.00	14.29	10.081	1,383.78	156.67	27.85	-82.72	0.00	0.00	0.00
1,500.00	14.29	10.081	1,480.68	180.97	32.17	-95.55	0.00	0.00	0.00
1,600.00	14.29	10.081	1,577.59	205.28	36.49	-108.38	0.00	0.00	0.00
1,700.00	14.29	10.081	1,674.49	229.59	40.82	-121.22	0.00	0.00	0.00
1,800.00	14.29	10.081	1,771.40	253.89	45.14	-134.05	0.00	0.00	0.00
1,900.00	14.29	10.081	1,868.30	278.20	49.46	-146.88	0.00	0.00	0.00
2,000.00	14.29	10.081	1,965.21	302.50	53.78	-159.71	0.00	0.00	0.00
2,100.00	14.29	10.081	2,062.11	326.81	58.10	-172.55	0.00	0.00	0.00
2,200.00	14.29	10.081	2,159.02	351.12	62.42	-185.38	0.00	0.00	0.00
2,300.00	14.29	10.081	2,255.92	375.42	66.74	-198.21	0.00	0.00	0.00
2,400.00	14.29	10.081	2,352.83	399.73	71.06	-211.05	0.00	0.00	0.00
2,500.00	14.29	10.081	2,449.73	424.04	75.39	-223.88	0.00	0.00	0.00
2,600.00	14.29	10.081	2,546.64	448.34	79.71	-236.71	0.00	0.00	0.00
2,700.00	14.29	10.081	2,643.54	472.65	84.03	-249.55	0.00	0.00	0.00
2,800.00	14.29	10.081	2,740.44	496.96	88.35	-262.38	0.00	0.00	0.00
2,900.00	14.29	10.081	2,837.35	521.26	92.67	-275.21	0.00	0.00	0.00
3,000.00	14.29	10.081	2,934.25	545.57	96.99	-288.05	0.00	0.00	0.00
3,100.00	14.29	10.081	3,031.16	569.87	101.31	-300.88	0.00	0.00	0.00
3,200.00	14.29	10.081	3,128.06	594.18	105.63	-313.71	0.00	0.00	0.00
3,300.00	14.29	10.081	3,224.97	618.49	109.96	-326.55	0.00	0.00	0.00
3,400.00	14.29	10.081	3,321.87	642.79	114.28	-339.38	0.00	0.00	0.00
3,500.00	14.29	10.081	3,418.78	667.10	118.60	-352.21	0.00	0.00	0.00
3,600.00	14.29	10.081	3,515.68	691.41	122.92	-365.05	0.00	0.00	0.00
3,700.00	14.29	10.081	3,612.59	715.71	127.24	-377.88	0.00	0.00	0.00
3,800.00	14.29	10.081	3,709.49	740.02	131.56	-390.71	0.00	0.00	0.00
3,900.00	14.29	10.081	3,806.40	764.33	135.88	-403.54	0.00	0.00	0.00
4,000.00	14.29	10.081	3,903.30	788.63	140.20	-416.38	0.00	0.00	0.00
4,100.00	14.29	10.081	4,000.21	812.94	144.52	-429.21	0.00	0.00	0.00
4,200.00	14.29	10.081	4,097.11	837.24	148.85	-442.04	0.00	0.00	0.00
4,300.00	14.29	10.081	4,194.02	861.55	153.17	-454.88	0.00	0.00	0.00
4,400.00	14.29	10.081	4,290.92	885.86	157.49	-467.71	0.00	0.00	0.00
4,462.76	14.29	10.081	4,351.74	901.11	160.20	-475.76	0.00	0.00	0.00
4,500.00	12.61	22.588	4,387.96	909.39	162.57	-479.47	9.00	-4.52	33.58
4,600.00	12.13	65.507	4,485.84	923.86	176.35	-478.69	9.00	-0.48	42.92
4,700.00	17.17	95.738	4,582.70	926.74	200.64	-462.38	9.00	5.05	30.23
4,800.00	24.55	110.487	4,676.14	917.98	234.86	-430.91	9.00	7.37	14.75
4,900.00	32.71	118.484	4,763.87	897.78	278.16	-385.08	9.00	8.16	8.00
5,000.00	41.19	123.518	4,843.74	866.65	329.46	-326.01	9.00	8.48	5.03
5,100.00	49.83	127.076	4,913.76	825.35	387.52	-255.15	9.00	8.64	3.56



Lonestar Consulting, LLC

Planning Report



Database:	DJR	Local Co-ordinate Reference:	Well # 309H - Slot 5
Company:	DJR Operating	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Project:	Gallo Canyon Unit	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site:	M26 2306 Pad	North Reference:	True
Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
5,200.00	58.55	129.822	4,972.22	774.89	450.89	-174.24	9.00	8.72	2.75	
5,300.00	67.32	132.096	5,017.68	716.53	518.02	-85.29	9.00	8.77	2.27	
5,400.00	76.12	134.094	5,049.02	651.69	587.26	9.52	9.00	8.80	2.00	
5,500.00	84.93	135.944	5,065.46	581.98	656.90	107.86	9.00	8.81	1.85	
5,559.97	90.22	137.024	5,068.00	538.55	698.14	167.51	9.00	8.82	1.80	
5,600.00	90.22	137.024	5,067.85	509.26	725.42	207.35	0.00	0.00	0.00	
5,700.00	90.22	137.024	5,067.46	436.10	793.59	306.87	0.00	0.00	0.00	
5,800.00	90.22	137.024	5,067.08	362.93	861.76	406.39	0.00	0.00	0.00	
5,900.00	90.22	137.024	5,066.69	289.77	929.93	505.91	0.00	0.00	0.00	
6,000.00	90.22	137.024	5,066.31	216.60	998.10	605.42	0.00	0.00	0.00	
6,100.00	90.22	137.024	5,065.92	143.44	1,066.26	704.94	0.00	0.00	0.00	
6,200.00	90.22	137.024	5,065.54	70.28	1,134.43	804.46	0.00	0.00	0.00	
6,300.00	90.22	137.024	5,065.15	-2.89	1,202.60	903.98	0.00	0.00	0.00	
6,400.00	90.22	137.024	5,064.77	-76.05	1,270.77	1,003.50	0.00	0.00	0.00	
6,500.00	90.22	137.024	5,064.38	-149.22	1,338.94	1,103.01	0.00	0.00	0.00	
6,600.00	90.22	137.024	5,064.00	-222.38	1,407.11	1,202.53	0.00	0.00	0.00	
6,700.00	90.22	137.024	5,063.61	-295.54	1,475.27	1,302.05	0.00	0.00	0.00	
6,800.00	90.22	137.024	5,063.23	-368.71	1,543.44	1,401.57	0.00	0.00	0.00	
6,900.00	90.22	137.024	5,062.84	-441.87	1,611.61	1,501.09	0.00	0.00	0.00	
7,000.00	90.22	137.024	5,062.46	-515.04	1,679.78	1,600.60	0.00	0.00	0.00	
7,100.00	90.22	137.024	5,062.07	-588.20	1,747.95	1,700.12	0.00	0.00	0.00	
7,200.00	90.22	137.024	5,061.69	-661.36	1,816.11	1,799.64	0.00	0.00	0.00	
7,300.00	90.22	137.024	5,061.30	-734.53	1,884.28	1,899.16	0.00	0.00	0.00	
7,400.00	90.22	137.024	5,060.92	-807.69	1,952.45	1,998.68	0.00	0.00	0.00	
7,500.00	90.22	137.024	5,060.53	-880.85	2,020.62	2,098.19	0.00	0.00	0.00	
7,600.00	90.22	137.024	5,060.15	-954.02	2,088.79	2,197.71	0.00	0.00	0.00	
7,700.00	90.22	137.024	5,059.76	-1,027.18	2,156.96	2,297.23	0.00	0.00	0.00	
7,800.00	90.22	137.024	5,059.38	-1,100.35	2,225.12	2,396.75	0.00	0.00	0.00	
7,900.00	90.22	137.024	5,058.99	-1,173.51	2,293.29	2,496.27	0.00	0.00	0.00	
8,000.00	90.22	137.024	5,058.61	-1,246.67	2,361.46	2,595.78	0.00	0.00	0.00	
8,100.00	90.22	137.024	5,058.22	-1,319.84	2,429.63	2,695.30	0.00	0.00	0.00	
8,200.00	90.22	137.024	5,057.84	-1,393.00	2,497.80	2,794.82	0.00	0.00	0.00	
8,300.00	90.22	137.024	5,057.45	-1,466.17	2,565.96	2,894.34	0.00	0.00	0.00	
8,400.00	90.22	137.024	5,057.07	-1,539.33	2,634.13	2,993.86	0.00	0.00	0.00	
8,500.00	90.22	137.024	5,056.69	-1,612.49	2,702.30	3,093.37	0.00	0.00	0.00	
8,600.00	90.22	137.024	5,056.30	-1,685.66	2,770.47	3,192.89	0.00	0.00	0.00	
8,700.00	90.22	137.024	5,055.92	-1,758.82	2,838.64	3,292.41	0.00	0.00	0.00	
8,800.00	90.22	137.024	5,055.53	-1,831.98	2,906.81	3,391.93	0.00	0.00	0.00	
8,900.00	90.22	137.024	5,055.15	-1,905.15	2,974.97	3,491.45	0.00	0.00	0.00	
9,000.00	90.22	137.024	5,054.76	-1,978.31	3,043.14	3,590.96	0.00	0.00	0.00	
9,100.00	90.22	137.024	5,054.38	-2,051.48	3,111.31	3,690.48	0.00	0.00	0.00	
9,200.00	90.22	137.024	5,053.99	-2,124.64	3,179.48	3,790.00	0.00	0.00	0.00	
9,300.00	90.22	137.024	5,053.61	-2,197.80	3,247.65	3,889.52	0.00	0.00	0.00	
9,400.00	90.22	137.024	5,053.22	-2,270.97	3,315.81	3,989.04	0.00	0.00	0.00	
9,500.00	90.22	137.024	5,052.84	-2,344.13	3,383.98	4,088.55	0.00	0.00	0.00	
9,600.00	90.22	137.024	5,052.45	-2,417.30	3,452.15	4,188.07	0.00	0.00	0.00	
9,700.00	90.22	137.024	5,052.07	-2,490.46	3,520.32	4,287.59	0.00	0.00	0.00	
9,800.00	90.22	137.024	5,051.68	-2,563.62	3,588.49	4,387.11	0.00	0.00	0.00	
9,900.00	90.22	137.024	5,051.30	-2,636.79	3,656.66	4,486.63	0.00	0.00	0.00	
10,000.00	90.22	137.024	5,050.91	-2,709.95	3,724.82	4,586.15	0.00	0.00	0.00	
10,100.00	90.22	137.024	5,050.53	-2,783.11	3,792.99	4,685.66	0.00	0.00	0.00	
10,200.00	90.22	137.024	5,050.14	-2,856.28	3,861.16	4,785.18	0.00	0.00	0.00	
10,300.00	90.22	137.024	5,049.76	-2,929.44	3,929.33	4,884.70	0.00	0.00	0.00	
10,400.00	90.22	137.024	5,049.37	-3,002.61	3,997.50	4,984.22	0.00	0.00	0.00	



Lonestar Consulting, LLC

Planning Report



Database:	DJR	Local Co-ordinate Reference:	Well # 309H - Slot 5
Company:	DJR Operating	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Project:	Gallo Canyon Unit	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site:	M26 2306 Pad	North Reference:	True
Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
10,500.00	90.22	137.024	5,048.99	-3,075.77	4,065.66	5,083.74	0.00	0.00	0.00	
10,600.00	90.22	137.024	5,048.60	-3,148.93	4,133.83	5,183.25	0.00	0.00	0.00	
10,700.00	90.22	137.024	5,048.22	-3,222.10	4,202.00	5,282.77	0.00	0.00	0.00	
10,800.00	90.22	137.024	5,047.83	-3,295.26	4,270.17	5,382.29	0.00	0.00	0.00	
10,900.00	90.22	137.024	5,047.45	-3,368.43	4,338.34	5,481.81	0.00	0.00	0.00	
11,000.00	90.22	137.024	5,047.06	-3,441.59	4,406.51	5,581.33	0.00	0.00	0.00	
11,100.00	90.22	137.024	5,046.68	-3,514.75	4,474.67	5,680.84	0.00	0.00	0.00	
11,200.00	90.22	137.024	5,046.29	-3,587.92	4,542.84	5,780.36	0.00	0.00	0.00	
11,300.00	90.22	137.024	5,045.91	-3,661.08	4,611.01	5,879.88	0.00	0.00	0.00	
11,400.00	90.22	137.024	5,045.52	-3,734.25	4,679.18	5,979.40	0.00	0.00	0.00	
11,500.00	90.22	137.024	5,045.14	-3,807.41	4,747.35	6,078.92	0.00	0.00	0.00	
11,600.00	90.22	137.024	5,044.75	-3,880.57	4,815.51	6,178.43	0.00	0.00	0.00	
11,700.00	90.22	137.024	5,044.37	-3,953.74	4,883.68	6,277.95	0.00	0.00	0.00	
11,800.00	90.22	137.024	5,043.98	-4,026.90	4,951.85	6,377.47	0.00	0.00	0.00	
11,900.00	90.22	137.024	5,043.60	-4,100.06	5,020.02	6,476.99	0.00	0.00	0.00	
12,000.00	90.22	137.024	5,043.21	-4,173.23	5,088.19	6,576.51	0.00	0.00	0.00	
12,100.00	90.22	137.024	5,042.83	-4,246.39	5,156.36	6,676.02	0.00	0.00	0.00	
12,200.00	90.22	137.024	5,042.45	-4,319.56	5,224.52	6,775.54	0.00	0.00	0.00	
12,300.00	90.22	137.024	5,042.06	-4,392.72	5,292.69	6,875.06	0.00	0.00	0.00	
12,400.00	90.22	137.024	5,041.68	-4,465.88	5,360.86	6,974.58	0.00	0.00	0.00	
12,500.00	90.22	137.024	5,041.29	-4,539.05	5,429.03	7,074.10	0.00	0.00	0.00	
12,600.00	90.22	137.024	5,040.91	-4,612.21	5,497.20	7,173.61	0.00	0.00	0.00	
12,700.00	90.22	137.024	5,040.52	-4,685.38	5,565.36	7,273.13	0.00	0.00	0.00	
12,800.00	90.22	137.024	5,040.14	-4,758.54	5,633.53	7,372.65	0.00	0.00	0.00	
12,900.00	90.22	137.024	5,039.75	-4,831.70	5,701.70	7,472.17	0.00	0.00	0.00	
13,000.00	90.22	137.024	5,039.37	-4,904.87	5,769.87	7,571.69	0.00	0.00	0.00	
13,100.00	90.22	137.024	5,038.98	-4,978.03	5,838.04	7,671.20	0.00	0.00	0.00	
13,200.00	90.22	137.024	5,038.60	-5,051.19	5,906.21	7,770.72	0.00	0.00	0.00	
13,300.00	90.22	137.024	5,038.21	-5,124.36	5,974.37	7,870.24	0.00	0.00	0.00	
13,400.00	90.22	137.024	5,037.83	-5,197.52	6,042.54	7,969.76	0.00	0.00	0.00	
13,500.00	90.22	137.024	5,037.44	-5,270.69	6,110.71	8,069.28	0.00	0.00	0.00	
13,600.00	90.22	137.024	5,037.06	-5,343.85	6,178.88	8,168.79	0.00	0.00	0.00	
13,700.00	90.22	137.024	5,036.67	-5,417.01	6,247.05	8,268.31	0.00	0.00	0.00	
13,800.00	90.22	137.024	5,036.29	-5,490.18	6,315.21	8,367.83	0.00	0.00	0.00	
13,900.00	90.22	137.024	5,035.90	-5,563.34	6,383.38	8,467.35	0.00	0.00	0.00	
14,000.00	90.22	137.024	5,035.52	-5,636.51	6,451.55	8,566.87	0.00	0.00	0.00	
14,100.00	90.22	137.024	5,035.13	-5,709.67	6,519.72	8,666.38	0.00	0.00	0.00	
14,200.00	90.22	137.024	5,034.75	-5,782.83	6,587.89	8,765.90	0.00	0.00	0.00	
14,300.00	90.22	137.024	5,034.36	-5,856.00	6,656.06	8,865.42	0.00	0.00	0.00	
14,394.33	90.22	137.024	5,034.00	-5,925.03	6,720.34	8,959.30	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude		Longitude
309H Toe - hit/miss target - Shape	0.00	0.000	5,034.00	-5,925.03	6,720.34	1,883,304.96	2,844,410.60	36.17514040		-107.42226770
309H Heel - plan hits target center - Circle (radius 100.00)	0.00	0.000	5,068.00	538.55	698.14	1,889,744.38	2,838,362.57	36.19289840		-107.44267200



Lonestar Consulting, LLC
Planning Report



Database:	DJR	Local Co-ordinate Reference:	Well # 309H - Slot 5
Company:	DJR Operating	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Project:	Gallo Canyon Unit	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site:	M26 2306 Pad	North Reference:	True
Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
350.00	350.00	Surface	9.62	12.25	
5,500.77	5,065.53	Intermediate	7.00	8.75	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,419.84	1,403.00	Ojo Alamo		0.00	0.000	
1,528.19	1,508.00	Kirtland		0.00	0.000	
1,745.93	1,719.00	Fruitland		0.00	0.000	
1,975.02	1,941.00	Pictured Cliffs		0.00	0.000	
2,081.31	2,044.00	Lewis		0.00	0.000	
2,868.68	2,807.00	Chacra		0.00	0.000	
3,558.02	3,475.00	Menefee		0.00	0.000	
4,283.47	4,178.00	Point Lookout		0.00	0.000	
4,484.65	4,373.00	Mancos		0.00	0.000	
4,869.67	4,738.00	Mancos Silt		0.00	0.000	



DJR Operating

Gallo Canyon Unit

M26 2306 Pad

309H

Original Drilling

APD

Anticollision Report

10 August, 2020





Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	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	8/10/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	14,394.33	APD (Original Drilling)	MWD+HDGM	OWSG MWD + HDGM	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
M26 2306 Pad						
# 303H - Original Drilling - APD	585.92	585.92	15.84	12.08	4.217	CC, ES
# 303H - Original Drilling - APD	600.00	599.87	15.95	12.10	4.140	SF
# 304H - Original Drilling - APD	400.00	400.00	39.98	37.52	16.258	CC, ES
# 304H - Original Drilling - APD	13,300.00	12,319.32	1,183.79	782.96	2.953	SF
# 305H - Original Drilling - APD	543.63	545.46	59.65	56.16	17.074	CC
# 305H - Original Drilling - APD	600.00	601.82	60.00	56.10	15.394	ES
# 305H - Original Drilling - APD	900.00	900.80	75.81	69.73	12.482	SF
# 307H - Original Drilling - APD	400.00	400.00	19.82	17.36	8.058	CC
# 307H - Original Drilling - APD	1,000.00	1,002.47	21.33	14.46	3.104	ES
# 307H - Original Drilling - APD	1,114.63	1,117.16	22.83	15.04	2.931	SF
# 308H - Original Drilling - APD Rev 1	400.00	400.00	79.96	77.50	32.516	CC, ES
# 308H - Original Drilling - APD Rev 1	700.00	690.85	103.34	98.78	22.640	SF

Offset Design												M26 2306 Pad - # 303H - 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	62.80	9.10	17.70	19.91							
100.00	100.00	100.00	100.00	0.15	0.15	62.80	9.10	17.70	19.91	19.60	0.31	64.572				
200.00	200.00	200.00	200.00	0.51	0.51	62.80	9.10	17.70	19.91	18.88	1.03	19.417				
300.00	300.00	300.00	300.00	0.87	0.87	62.80	9.10	17.70	19.91	18.16	1.74	11.426				
400.00	400.00	400.00	400.00	1.23	1.23	62.80	9.10	17.70	19.91	17.45	2.46	8.095				
500.00	499.98	500.30	500.28	1.59	1.57	61.66	7.37	17.40	18.00	14.84	3.16	5.697				
585.92	585.79	585.92	585.79	1.90	1.86	90.01	3.16	16.65	15.84	12.08	3.75	4.217 CC, ES				
600.00	599.84	599.87	599.71	1.95	1.91	96.75	2.24	16.48	15.95	12.10	3.85	4.140 SF				
700.00	699.45	697.99	697.46	2.32	2.25	139.90	-6.14	14.99	24.90	20.34	4.57	5.455				
800.00	798.70	794.01	792.77	2.68	2.60	159.18	-17.53	12.96	46.09	40.82	5.27	8.749				
900.00	897.47	889.26	887.05	3.06	2.96	167.12	-30.89	10.58	74.53	68.57	5.96	12.498				
1,000.00	995.62	983.69	980.50	3.46	3.32	170.94	-44.18	8.21	106.93	100.27	6.66	16.054				
1,100.00	1,093.06	1,076.90	1,072.76	3.88	3.69	173.14	-57.31	5.88	142.83	135.47	7.35	19.421				
1,114.63	1,107.24	1,090.43	1,086.15	3.94	3.74	173.38	-59.21	5.54	148.36	140.90	7.46	19.880				
1,200.00	1,189.97	1,169.29	1,164.20	4.32	4.05	174.57	-70.31	3.56	180.90	172.85	8.04	22.490				
1,300.00	1,286.87	1,261.67	1,255.63	4.77	4.42	175.52	-83.32	1.24	219.07	210.34	8.73	25.101				



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M26 2306 Pad - # 303H - 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		
1,400.00	1,383.78	1,354.05	1,347.06	5.22	4.79	176.19	-96.32	-1.07	257.27	247.85	9.42	27.322		
1,500.00	1,480.68	1,446.43	1,438.49	5.68	5.17	176.68	-109.33	-3.39	295.50	285.39	10.11	29.233		
1,600.00	1,577.59	1,538.81	1,529.92	6.15	5.54	177.06	-122.33	-5.70	333.74	322.93	10.80	30.891		
1,700.00	1,674.49	1,631.19	1,621.35	6.62	5.92	177.37	-135.34	-8.02	371.99	360.49	11.50	32.342		
1,800.00	1,771.40	1,723.57	1,712.78	7.09	6.29	177.61	-148.34	-10.34	410.25	398.05	12.20	33.622		
1,900.00	1,868.30	1,815.95	1,804.21	7.56	6.67	177.82	-161.34	-12.65	448.51	435.61	12.90	34.759		
2,000.00	1,965.21	1,908.32	1,895.64	8.04	7.05	177.99	-174.35	-14.97	486.78	473.17	13.61	35.775		
2,100.00	2,062.11	2,000.70	1,987.07	8.51	7.43	178.14	-187.35	-17.28	525.05	510.74	14.31	36.688		
2,200.00	2,159.02	2,093.08	2,078.50	8.99	7.81	178.26	-200.36	-19.60	563.33	548.31	15.02	37.512		
2,300.00	2,255.92	2,185.46	2,169.93	9.47	8.19	178.37	-213.36	-21.92	601.60	585.88	15.72	38.261		
2,400.00	2,352.83	2,277.84	2,261.36	9.95	8.56	178.47	-226.37	-24.23	639.88	623.45	16.43	38.943		
2,500.00	2,449.73	2,370.22	2,352.79	10.43	8.94	178.56	-239.37	-26.55	678.16	661.02	17.14	39.567		
2,600.00	2,546.64	2,462.60	2,444.22	10.92	9.33	178.64	-252.38	-28.86	716.44	698.59	17.85	40.140		
2,700.00	2,643.54	2,554.98	2,535.65	11.40	9.71	178.71	-265.38	-31.18	754.72	736.16	18.56	40.668		
2,800.00	2,740.44	2,647.36	2,627.08	11.88	10.09	178.77	-278.38	-33.50	793.00	773.73	19.27	41.156		
2,900.00	2,837.35	2,739.74	2,718.51	12.36	10.47	178.83	-291.39	-35.81	831.28	811.31	19.98	41.608		
3,000.00	2,934.25	2,832.11	2,809.94	12.85	10.85	178.88	-304.39	-38.13	869.57	848.88	20.69	42.028		
3,100.00	3,031.16	2,924.49	2,901.37	13.33	11.23	178.92	-317.40	-40.44	907.85	886.45	21.40	42.419		
3,200.00	3,128.06	3,016.87	2,992.80	13.82	11.61	178.97	-330.40	-42.76	946.14	924.02	22.11	42.785		
3,300.00	3,224.97	3,109.25	3,084.23	14.30	11.99	179.01	-343.41	-45.08	984.42	961.59	22.83	43.127		
3,400.00	3,321.87	3,201.63	3,175.66	14.79	12.37	179.05	-356.41	-47.39	1,022.71	999.17	23.54	43.448		
3,500.00	3,418.78	3,294.01	3,267.09	15.27	12.76	179.08	-369.42	-49.71	1,060.99	1,036.74	24.25	43.749		
3,600.00	3,515.68	3,386.39	3,358.52	15.76	13.14	179.11	-382.42	-52.03	1,099.28	1,074.31	24.97	44.032		
3,700.00	3,612.59	3,478.77	3,449.95	16.24	13.52	179.14	-395.43	-54.34	1,137.56	1,111.89	25.68	44.300		
3,800.00	3,709.49	3,571.15	3,541.37	16.73	13.90	179.17	-408.43	-56.66	1,175.85	1,149.46	26.39	44.552		
3,900.00	3,806.40	3,663.52	3,632.80	17.22	14.28	179.20	-421.43	-58.97	1,214.14	1,187.03	27.11	44.790		
4,000.00	3,903.30	3,755.90	3,724.23	17.70	14.67	179.22	-434.44	-61.29	1,252.42	1,224.60	27.82	45.016		
4,100.00	4,000.21	3,848.28	3,815.66	18.19	15.05	179.25	-447.44	-63.61	1,290.71	1,262.18	28.54	45.231		
4,200.00	4,097.11	3,940.66	3,907.09	18.68	15.43	179.27	-460.45	-65.92	1,329.00	1,299.75	29.25	45.434		
4,300.00	4,194.02	4,033.04	3,998.52	19.16	15.81	179.29	-473.45	-68.24	1,367.29	1,337.32	29.97	45.627		
4,400.00	4,290.92	4,125.42	4,089.95	19.65	16.19	179.31	-486.46	-70.55	1,405.57	1,374.89	30.68	45.811		
4,462.76	4,351.74	4,183.40	4,147.33	19.96	16.43	179.32	-494.62	-72.01	1,429.60	1,398.47	31.13	45.922		
4,500.00	4,387.96	5,676.50	5,060.13	20.13	26.05	-159.48	15.65	-730.99	1,431.45	1,391.77	39.68	36.079		
4,550.00	4,436.88	5,678.99	5,060.14	20.35	26.10	-178.71	17.41	-732.75	1,418.16	1,377.69	40.46	35.049		
4,600.00	4,485.84	5,677.55	5,060.13	20.54	26.07	160.88	16.39	-731.74	1,406.38	1,365.24	41.14	34.185		
4,650.00	4,534.55	5,672.20	5,060.10	20.72	25.98	144.33	12.60	-727.96	1,396.22	1,354.52	41.70	33.483		
4,700.00	4,582.70	5,662.97	5,060.06	20.86	25.81	132.67	6.06	-721.45	1,387.73	1,345.60	42.13	32.936		
4,750.00	4,629.99	5,649.92	5,059.99	20.99	25.58	124.60	-3.20	-712.25	1,380.91	1,338.47	42.44	32.536		
4,800.00	4,676.14	5,633.12	5,059.90	21.10	25.27	118.76	-15.11	-700.40	1,375.73	1,333.11	42.62	32.278		
4,850.00	4,720.86	5,612.68	5,059.79	21.19	24.91	114.26	-29.60	-685.99	1,372.10	1,329.42	42.68	32.152		
4,900.00	4,763.87	5,588.73	5,059.67	21.26	24.50	110.59	-46.58	-669.10	1,369.89	1,327.27	42.62	32.139		
4,950.00	4,804.92	5,561.41	5,059.52	21.31	24.04	107.44	-65.95	-649.84	1,368.95	1,326.47	42.48	32.225		
4,967.73	4,818.95	5,550.95	5,059.47	21.33	23.87	106.42	-73.37	-642.46	1,368.88	1,326.47	42.41	32.277		
5,000.00	4,843.74	5,530.90	5,059.36	21.35	23.54	104.66	-87.58	-628.32	1,369.09	1,326.83	42.25	32.403		
5,050.00	4,880.09	5,497.37	5,059.18	21.37	23.00	102.14	-111.35	-604.67	1,370.09	1,328.13	41.96	32.653		
5,100.00	4,913.76	5,459.93	5,058.98	21.38	22.43	99.80	-137.90	-578.27	1,371.74	1,330.12	41.63	32.954		
5,150.00	4,944.53	5,392.07	5,054.79	21.38	21.45	96.87	-185.58	-530.21	1,373.38	1,332.49	40.89	33.586		
5,200.00	4,972.22	5,331.19	5,044.96	21.36	20.65	94.30	-227.36	-487.07	1,374.61	1,334.26	40.36	34.063		
5,250.00	4,996.65	5,275.88	5,031.13	21.34	20.00	92.05	-264.17	-448.19	1,375.51	1,335.52	39.99	34.393		
5,300.00	5,017.68	5,225.02	5,014.39	21.31	19.47	90.06	-296.81	-412.98	1,376.09	1,336.31	39.79	34.588		
5,350.00	5,035.17	5,177.76	4,995.47	21.27	19.08	88.31	-325.90	-380.93	1,376.37	1,336.67	39.70	34.665		
5,400.00	5,049.02	5,133.45	4,974.88	21.23	18.93	86.76	-351.96	-351.61	1,376.33	1,336.54	39.79	34.589		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M26 2306 Pad - # 303H - 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		
5,450.00	5,059.14	5,091.58	4,952.98	21.75	18.87	85.41	-375.39	-324.69	1,375.96	1,336.03	39.92	34.464		
5,500.00	5,065.46	5,051.73	4,930.03	22.36	18.84	84.23	-396.50	-299.89	1,375.21	1,335.05	40.16	34.242		
5,550.00	5,067.96	5,013.59	4,906.21	23.01	18.80	83.22	-415.55	-277.00	1,374.07	1,333.59	40.48	33.944		
5,559.97	5,068.00	5,006.16	4,901.37	23.14	18.79	83.04	-419.12	-272.64	1,373.79	1,333.25	40.55	33.881		
5,600.00	5,067.85	4,977.65	4,882.19	23.69	18.76	82.23	-432.40	-256.26	1,372.91	1,332.05	40.86	33.601		
5,638.20	5,067.70	4,952.56	4,864.56	24.25	18.73	81.49	-443.51	-242.28	1,372.62	1,331.43	41.20	33.320		
5,700.00	5,067.46	4,915.92	4,837.60	25.18	18.69	80.36	-458.71	-222.69	1,373.44	1,331.65	41.79	32.863		
5,800.00	5,067.08	4,865.59	4,798.36	26.81	18.61	78.71	-477.55	-197.44	1,378.59	1,335.71	42.89	32.146		
5,900.00	5,066.69	4,824.23	4,764.37	28.57	18.54	77.29	-491.18	-178.24	1,388.99	1,344.93	44.07	31.520		
6,000.00	5,066.31	4,789.93	4,735.09	30.44	18.48	76.07	-501.18	-163.43	1,405.01	1,359.73	45.28	31.029		
6,100.00	5,065.92	4,761.17	4,709.85	32.39	18.43	75.02	-508.62	-151.83	1,426.79	1,380.30	46.48	30.694		
6,200.00	5,065.54	4,736.80	4,688.01	34.42	18.38	74.12	-514.24	-142.61	1,454.31	1,406.67	47.64	30.527		
6,300.00	5,065.15	4,715.95	4,669.02	36.51	18.33	73.34	-518.55	-135.16	1,487.43	1,438.70	48.73	30.527		
6,400.00	5,064.77	4,700.00	4,654.31	38.65	18.29	72.73	-521.53	-129.75	1,525.90	1,476.16	49.74	30.678		
6,500.00	5,064.38	4,682.25	4,637.78	40.84	18.25	72.06	-524.52	-124.03	1,569.43	1,518.81	50.62	31.004		
6,600.00	5,064.00	4,668.48	4,624.84	43.06	18.22	71.53	-526.60	-119.80	1,617.67	1,566.25	51.42	31.460		
6,700.00	5,063.61	4,650.00	4,607.33	45.32	18.17	70.83	-529.07	-114.43	1,670.30	1,618.23	52.07	32.079		
6,800.00	5,063.23	4,650.00	4,607.33	47.61	18.17	70.83	-529.07	-114.43	1,726.88	1,674.11	52.77	32.727		
6,900.00	5,062.84	4,650.00	4,607.33	49.92	18.17	70.83	-529.07	-114.43	1,787.27	1,733.90	53.36	33.493		
7,000.00	5,062.46	4,627.05	4,585.38	52.25	18.11	69.94	-531.60	-108.25	1,850.66	1,796.96	53.69	34.467		
7,100.00	5,062.07	4,619.16	4,577.78	54.60	18.09	69.64	-532.34	-106.26	1,917.22	1,863.15	54.07	35.458		
7,200.00	5,061.69	4,600.00	4,559.24	56.96	18.03	68.90	-533.85	-101.67	1,986.61	1,932.32	54.29	36.592		
7,300.00	5,061.30	4,600.00	4,559.24	59.34	18.03	68.90	-533.85	-101.67	2,058.24	2,003.64	54.60	37.694		
7,400.00	5,060.92	4,600.00	4,559.24	61.74	18.03	68.90	-533.85	-101.67	2,132.16	2,077.29	54.87	38.862		
7,500.00	5,060.53	4,600.00	4,559.24	64.14	18.03	68.90	-533.85	-101.67	2,208.13	2,153.05	55.08	40.089		
7,600.00	5,060.15	4,600.00	4,559.24	66.56	18.03	68.90	-533.85	-101.67	2,285.95	2,230.69	55.26	41.370		
7,700.00	5,059.76	4,600.00	4,559.24	68.98	18.03	68.90	-533.85	-101.67	2,365.44	2,310.04	55.40	42.697		
7,800.00	5,059.38	4,579.84	4,539.60	71.42	17.97	68.13	-534.98	-97.27	2,446.08	2,390.70	55.38	44.169		
7,900.00	5,058.99	4,575.79	4,535.64	73.86	17.96	67.97	-535.16	-96.44	2,528.28	2,472.83	55.45	45.596		
8,000.00	5,058.61	4,572.02	4,531.95	76.31	17.95	67.82	-535.30	-95.68	2,611.69	2,556.19	55.50	47.057		
8,100.00	5,058.22	4,550.00	4,510.33	78.76	17.88	66.98	-535.83	-91.55	2,696.51	2,641.10	55.41	48.662		
8,200.00	5,057.84	4,550.00	4,510.33	81.22	17.88	66.98	-535.83	-91.55	2,781.95	2,726.48	55.46	50.159		
8,300.00	5,057.45	4,550.00	4,510.33	83.68	17.88	66.98	-535.83	-91.55	2,868.32	2,812.82	55.50	51.682		
8,400.00	5,057.07	4,550.00	4,510.33	86.15	17.88	66.98	-535.83	-91.55	2,955.55	2,900.02	55.53	53.228		
8,500.00	5,056.69	4,550.00	4,510.33	88.62	17.88	66.98	-535.83	-91.55	3,043.57	2,988.02	55.54	54.795		
8,600.00	5,056.30	4,550.00	4,510.33	91.10	17.88	66.98	-535.83	-91.55	3,132.30	3,076.75	55.56	56.382		
8,700.00	5,055.92	4,550.00	4,510.33	93.58	17.88	66.98	-535.83	-91.55	3,221.70	3,166.14	55.56	57.986		
8,800.00	5,055.53	4,550.00	4,510.33	96.07	17.88	66.98	-535.83	-91.55	3,311.70	3,256.14	55.56	59.606		
8,900.00	5,055.15	4,550.00	4,510.33	98.55	17.88	66.98	-535.83	-91.55	3,402.27	3,346.71	55.56	61.240		
9,000.00	5,054.76	4,550.00	4,510.33	101.04	17.88	66.98	-535.83	-91.55	3,493.34	3,437.79	55.55	62.888		
9,100.00	5,054.38	4,550.00	4,510.33	103.54	17.88	66.98	-535.83	-91.55	3,584.89	3,529.36	55.54	64.547		
9,200.00	5,053.99	4,550.00	4,510.33	106.03	17.88	66.98	-535.83	-91.55	3,676.89	3,621.36	55.53	66.218		
9,300.00	5,053.61	4,550.00	4,510.33	108.53	17.88	66.98	-535.83	-91.55	3,769.29	3,713.77	55.51	67.898		
9,400.00	5,053.22	4,550.00	4,510.33	111.03	17.88	66.98	-535.83	-91.55	3,862.07	3,806.57	55.50	69.588		
9,500.00	5,052.84	4,550.00	4,510.33	113.53	17.88	66.98	-535.83	-91.55	3,955.20	3,899.71	55.48	71.285		
9,600.00	5,052.45	4,550.00	4,510.33	116.03	17.88	66.98	-535.83	-91.55	4,048.66	3,993.19	55.47	72.991		
9,700.00	5,052.07	4,550.00	4,510.33	118.54	17.88	66.98	-535.83	-91.55	4,142.42	4,086.97	55.45	74.703		
9,800.00	5,051.68	4,550.00	4,510.33	121.04	17.88	66.98	-535.83	-91.55	4,236.47	4,181.03	55.44	76.421		
9,900.00	5,051.30	4,550.00	4,510.33	123.55	17.88	66.98	-535.83	-91.55	4,330.78	4,275.36	55.42	78.145		
10,000.00	5,050.91	4,550.00	4,510.33	126.06	17.88	66.98	-535.83	-91.55	4,425.35	4,369.95	55.40	79.873		
10,100.00	5,050.53	4,527.40	4,488.03	128.57	17.81	66.11	-535.81	-87.86	4,519.71	4,464.44	55.27	81.779		
10,200.00	5,050.14	4,526.18	4,486.83	131.09	17.81	66.07	-535.79	-87.67	4,614.68	4,559.43	55.25	83.527		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M26 2306 Pad - # 303H - 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 (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
10,300.00	5,049.76	4,525.02	4,485.68	133.60	17.80	66.02	-535.78	-87.50	4,709.85	4,654.63	55.23	85.280		
10,400.00	5,049.37	4,523.90	4,484.57	136.12	17.80	65.98	-535.76	-87.33	4,805.22	4,750.01	55.21	87.036		
10,500.00	5,048.99	4,522.81	4,483.50	138.63	17.79	65.94	-535.74	-87.17	4,900.78	4,845.58	55.19	88.794		
10,600.00	5,048.60	4,500.00	4,460.90	141.15	17.72	65.07	-535.02	-84.12	4,996.91	4,941.85	55.06	90.756		
10,700.00	5,048.22	4,500.00	4,460.90	143.67	17.72	65.07	-535.02	-84.12	5,092.76	5,037.71	55.05	92.512		
10,800.00	5,047.83	4,500.00	4,460.90	146.19	17.72	65.07	-535.02	-84.12	5,188.77	5,133.73	55.04	94.269		
10,900.00	5,047.45	4,500.00	4,460.90	148.71	17.72	65.07	-535.02	-84.12	5,284.92	5,229.89	55.03	96.029		
11,000.00	5,047.06	4,500.00	4,460.90	151.23	17.72	65.07	-535.02	-84.12	5,381.22	5,326.19	55.03	97.790		
11,100.00	5,046.68	4,500.00	4,460.90	153.75	17.72	65.07	-535.02	-84.12	5,477.65	5,422.62	55.02	99.552		
11,200.00	5,046.29	4,500.00	4,460.90	156.27	17.72	65.07	-535.02	-84.12	5,574.20	5,519.18	55.02	101.314		
11,300.00	5,045.91	4,500.00	4,460.90	158.80	17.72	65.07	-535.02	-84.12	5,670.87	5,615.86	55.02	103.078		
11,400.00	5,045.52	4,500.00	4,460.90	161.32	17.72	65.07	-535.02	-84.12	5,767.66	5,712.65	55.01	104.842		
11,500.00	5,045.14	4,500.00	4,460.90	163.84	17.72	65.07	-535.02	-84.12	5,864.55	5,809.54	55.01	106.606		
11,600.00	5,044.75	4,500.00	4,460.90	166.37	17.72	65.07	-535.02	-84.12	5,961.55	5,906.54	55.01	108.370		
11,700.00	5,044.37	4,500.00	4,460.90	168.90	17.72	65.07	-535.02	-84.12	6,058.65	6,003.63	55.01	110.134		
11,800.00	5,043.98	4,500.00	4,460.90	171.42	17.72	65.07	-535.02	-84.12	6,155.83	6,100.82	55.01	111.898		
11,900.00	5,043.60	4,500.00	4,460.90	173.95	17.72	65.07	-535.02	-84.12	6,253.11	6,198.09	55.02	113.661		
12,000.00	5,043.21	4,500.00	4,460.90	176.48	17.72	65.07	-535.02	-84.12	6,350.47	6,295.45	55.02	115.424		
12,100.00	5,042.83	4,500.00	4,460.90	179.00	17.72	65.07	-535.02	-84.12	6,447.91	6,392.89	55.02	117.185		
12,200.00	5,042.45	4,500.00	4,460.90	181.53	17.72	65.07	-535.02	-84.12	6,545.43	6,490.40	55.03	118.946		
12,300.00	5,042.06	4,500.00	4,460.90	184.06	17.72	65.07	-535.02	-84.12	6,643.02	6,587.99	55.04	120.705		
12,400.00	5,041.68	4,500.00	4,460.90	186.59	17.72	65.07	-535.02	-84.12	6,740.69	6,685.64	55.04	122.464		
12,500.00	5,041.29	4,500.00	4,460.90	189.12	17.72	65.07	-535.02	-84.12	6,838.42	6,783.37	55.05	124.220		
12,600.00	5,040.91	4,500.00	4,460.90	191.65	17.72	65.07	-535.02	-84.12	6,936.21	6,881.15	55.06	125.976		
12,700.00	5,040.52	4,500.00	4,460.90	194.18	17.72	65.07	-535.02	-84.12	7,034.07	6,979.00	55.07	127.729		
12,800.00	5,040.14	4,500.00	4,460.90	196.71	17.72	65.07	-535.02	-84.12	7,131.99	7,076.91	55.08	129.481		
12,900.00	5,039.75	4,500.00	4,460.90	199.25	17.72	65.07	-535.02	-84.12	7,229.96	7,174.87	55.09	131.231		
13,000.00	5,039.37	4,500.00	4,460.90	201.78	17.72	65.07	-535.02	-84.12	7,327.99	7,272.88	55.11	132.979		
13,100.00	5,038.98	4,500.00	4,460.90	204.31	17.72	65.07	-535.02	-84.12	7,426.07	7,370.95	55.12	134.725		
13,200.00	5,038.60	4,500.00	4,460.90	206.84	17.72	65.07	-535.02	-84.12	7,524.20	7,469.07	55.13	136.469		
13,300.00	5,038.21	4,500.00	4,460.90	209.37	17.72	65.07	-535.02	-84.12	7,622.38	7,567.23	55.15	138.211		
13,400.00	5,037.83	4,500.00	4,460.90	211.91	17.72	65.07	-535.02	-84.12	7,720.61	7,665.44	55.17	139.950		
13,500.00	5,037.44	4,500.00	4,460.90	214.44	17.72	65.07	-535.02	-84.12	7,818.88	7,763.70	55.18	141.686		
13,600.00	5,037.06	4,500.00	4,460.90	216.97	17.72	65.07	-535.02	-84.12	7,917.20	7,862.00	55.20	143.421		
13,700.00	5,036.67	4,500.00	4,460.90	219.51	17.72	65.07	-535.02	-84.12	8,015.56	7,960.33	55.22	145.152		
13,800.00	5,036.29	4,500.00	4,460.90	222.04	17.72	65.07	-535.02	-84.12	8,113.95	8,058.71	55.24	146.881		
13,900.00	5,035.90	4,500.00	4,460.90	224.58	17.72	65.07	-535.02	-84.12	8,212.39	8,157.13	55.26	148.607		
14,000.00	5,035.52	4,500.00	4,460.90	227.11	17.72	65.07	-535.02	-84.12	8,310.86	8,255.58	55.28	150.330		
14,100.00	5,035.13	4,500.00	4,460.90	229.65	17.72	65.07	-535.02	-84.12	8,409.37	8,354.06	55.31	152.050		
14,200.00	5,034.75	4,500.00	4,460.90	232.18	17.72	65.07	-535.02	-84.12	8,507.91	8,452.58	55.33	153.768		
14,300.00	5,034.36	4,500.00	4,460.90	234.72	17.72	65.07	-535.02	-84.12	8,606.49	8,551.14	55.35	155.482		
14,394.33	5,034.00	4,500.00	4,460.90	237.11	17.72	65.07	-535.02	-84.12	8,699.51	8,644.13	55.38	157.097		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M26 2306 Pad - # 304H - 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 (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
0.00	0.00	0.00	0.00	0.00	0.00	-117.67	-18.57	-35.41	39.98					
100.00	100.00	100.00	100.00	0.15	0.15	-117.67	-18.57	-35.41	39.98	39.67	0.31	129.688		
200.00	200.00	200.00	200.00	0.51	0.51	-117.67	-18.57	-35.41	39.98	38.96	1.03	38.997		
300.00	300.00	300.00	300.00	0.87	0.87	-117.67	-18.57	-35.41	39.98	38.24	1.74	22.949		
400.00	400.00	400.00	400.00	1.23	1.23	-117.67	-18.57	-35.41	39.98	37.52	2.46	16.258 CC, ES		
500.00	499.98	499.10	499.08	1.59	1.57	-131.50	-20.27	-35.61	42.12	38.96	3.16	13.341		
600.00	599.84	597.48	597.32	1.95	1.90	-140.58	-25.32	-36.21	49.44	45.58	3.85	12.833		
700.00	699.45	694.64	694.13	2.32	2.24	-150.53	-33.58	-37.20	63.47	58.91	4.55	13.934		
800.00	798.70	792.20	791.20	2.68	2.59	-158.16	-43.19	-38.34	83.15	77.89	5.26	15.804		
900.00	897.47	888.92	887.45	3.06	2.94	-163.34	-52.72	-39.48	107.01	101.05	5.97	17.933		
1,000.00	995.62	984.71	982.76	3.46	3.30	-166.93	-62.16	-40.60	134.72	128.04	6.67	20.191		
1,100.00	1,093.06	1,079.43	1,077.02	3.88	3.65	-169.50	-71.49	-41.71	166.04	158.67	7.37	22.519		
1,114.63	1,107.24	1,093.20	1,090.71	3.94	3.70	-169.81	-72.84	-41.87	170.92	163.44	7.48	22.842		
1,200.00	1,189.97	1,173.43	1,170.55	4.32	4.01	-171.43	-80.75	-42.81	199.68	191.60	8.07	24.737		
1,300.00	1,286.87	1,267.41	1,264.06	4.77	4.36	-172.81	-90.01	-43.92	233.49	224.72	8.76	26.640		
1,400.00	1,383.78	1,361.39	1,357.58	5.22	4.72	-173.85	-99.27	-45.02	267.39	257.93	9.46	28.262		
1,500.00	1,480.68	1,455.37	1,451.10	5.68	5.08	-174.65	-108.52	-46.12	301.35	291.19	10.16	29.658		
1,600.00	1,577.59	1,549.35	1,544.62	6.15	5.44	-175.29	-117.78	-47.23	335.36	324.49	10.86	30.871		
1,700.00	1,674.49	1,643.33	1,638.13	6.62	5.80	-175.82	-127.04	-48.33	369.39	357.82	11.57	31.932		
1,800.00	1,771.40	1,737.31	1,731.65	7.09	6.16	-176.25	-136.30	-49.43	403.45	391.18	12.27	32.869		
1,900.00	1,868.30	1,831.30	1,825.17	7.56	6.52	-176.62	-145.56	-50.53	437.52	424.54	12.98	33.700		
2,000.00	1,965.21	1,925.28	1,918.69	8.04	6.88	-176.93	-154.82	-51.64	471.61	457.92	13.69	34.444		
2,100.00	2,062.11	2,019.26	2,012.21	8.51	7.24	-177.20	-164.08	-52.74	505.71	491.31	14.40	35.112		
2,200.00	2,159.02	2,113.24	2,105.72	8.99	7.60	-177.44	-173.33	-53.84	539.82	524.71	15.11	35.715		
2,300.00	2,255.92	2,207.22	2,199.24	9.47	7.96	-177.65	-182.59	-54.94	573.94	558.11	15.83	36.263		
2,400.00	2,352.83	2,301.20	2,292.76	9.95	8.32	-177.83	-191.85	-56.05	608.06	591.52	16.54	36.762		
2,500.00	2,449.73	2,395.18	2,386.28	10.43	8.69	-178.00	-201.11	-57.15	642.18	624.93	17.25	37.219		
2,600.00	2,546.64	2,489.16	2,479.79	10.92	9.05	-178.15	-210.37	-58.25	676.31	658.34	17.97	37.638		
2,700.00	2,643.54	2,583.15	2,573.31	11.40	9.41	-178.28	-219.63	-59.35	710.45	691.76	18.68	38.024		
2,800.00	2,740.44	2,677.13	2,666.83	11.88	9.77	-178.41	-228.89	-60.46	744.59	725.19	19.40	38.381		
2,900.00	2,837.35	2,771.11	2,760.35	12.36	10.14	-178.52	-238.14	-61.56	778.73	758.61	20.12	38.712		
3,000.00	2,934.25	2,865.09	2,853.86	12.85	10.50	-178.62	-247.40	-62.66	812.87	792.04	20.83	39.020		
3,100.00	3,031.16	2,959.07	2,947.38	13.33	10.86	-178.71	-256.66	-63.77	847.01	825.46	21.55	39.306		
3,200.00	3,128.06	3,053.05	3,040.90	13.82	11.23	-178.80	-265.92	-64.87	881.16	858.89	22.27	39.573		
3,300.00	3,224.97	3,147.03	3,134.42	14.30	11.59	-178.88	-275.18	-65.97	915.31	892.32	22.98	39.824		
3,400.00	3,321.87	3,241.02	3,227.94	14.79	11.95	-178.96	-284.44	-67.07	949.46	925.76	23.70	40.058		
3,500.00	3,418.78	3,335.00	3,321.45	15.27	12.32	-179.03	-293.70	-68.18	983.61	959.19	24.42	40.279		
3,600.00	3,515.68	3,428.98	3,414.97	15.76	12.68	-179.09	-302.95	-69.28	1,017.76	992.62	25.14	40.486		
3,700.00	3,612.59	3,522.96	3,508.49	16.24	13.04	-179.15	-312.21	-70.38	1,051.91	1,026.06	25.86	40.682		
3,800.00	3,709.49	3,616.94	3,602.01	16.73	13.41	-179.21	-321.47	-71.48	1,086.07	1,059.49	26.58	40.867		
3,900.00	3,806.40	3,710.92	3,695.52	17.22	13.77	-179.26	-330.73	-72.59	1,120.22	1,092.93	27.30	41.041		
4,000.00	3,903.30	3,804.90	3,789.04	17.70	14.13	-179.31	-339.99	-73.69	1,154.38	1,126.36	28.01	41.207		
4,100.00	4,000.21	3,898.89	3,882.56	18.19	14.50	-179.36	-349.25	-74.79	1,188.53	1,159.80	28.73	41.363		
4,200.00	4,097.11	3,992.87	3,976.08	18.68	14.86	-179.40	-358.51	-75.89	1,222.69	1,193.24	29.45	41.512		
4,300.00	4,194.02	4,086.85	4,069.60	19.16	15.22	-179.45	-367.76	-77.00	1,256.85	1,226.68	30.17	41.654		
4,400.00	4,290.92	4,180.83	4,163.11	19.65	15.59	-179.49	-377.02	-78.10	1,291.01	1,260.11	30.89	41.788		
4,462.76	4,351.74	4,239.81	4,221.80	19.96	15.82	-179.51	-382.83	-78.79	1,312.45	1,281.10	31.35	41.870		
4,500.00	4,387.96	4,275.02	4,256.83	20.13	15.95	-179.52	-386.30	-79.20	1,324.57	1,292.95	31.61	41.900		
4,550.00	4,436.88	4,322.77	4,304.36	20.35	16.14	-179.52	-391.01	-79.76	1,338.90	1,306.93	31.97	41.884		
4,600.00	4,485.84	4,370.83	4,352.17	20.54	16.32	-179.52	-395.74	-80.33	1,350.96	1,318.64	32.32	41.803		
4,650.00	4,534.55	4,418.88	4,399.99	20.72	16.51	-179.52	-400.47	-80.89	1,360.71	1,328.05	32.66	41.662		
4,700.00	4,582.70	4,466.63	4,447.51	20.86	16.69	-179.52	-405.18	-81.45	1,368.16	1,335.16	33.00	41.463		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M26 2306 Pad - # 304H - 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		
4,750.00	4,629.99	4,493.53	4,474.26	20.99	16.80	86.06	-407.99	-81.61	1,373.62	1,340.45	33.18	41.403		
4,800.00	4,676.14	4,514.93	4,495.47	21.10	16.88	80.42	-410.76	-81.22	1,377.72	1,344.41	33.31	41.364		
4,850.00	4,720.86	4,536.30	4,516.57	21.19	16.97	76.51	-414.05	-80.34	1,380.46	1,347.03	33.43	41.292		
4,900.00	4,763.87	4,550.00	4,530.03	21.26	17.03	73.64	-416.42	-79.51	1,381.93	1,348.44	33.49	41.264		
4,950.00	4,804.92	4,578.93	4,558.29	21.31	17.15	71.87	-422.10	-77.10	1,381.99	1,348.30	33.69	41.020		
5,000.00	4,843.74	4,600.00	4,578.70	21.35	17.24	70.60	-426.82	-74.77	1,380.84	1,347.00	33.84	40.806		
5,050.00	4,880.09	4,621.34	4,599.18	21.37	17.33	69.82	-432.09	-71.93	1,378.45	1,344.43	34.02	40.520		
5,100.00	4,913.76	4,650.00	4,626.36	21.38	17.46	69.59	-439.93	-67.36	1,374.93	1,340.62	34.31	40.076		
5,150.00	4,944.53	4,663.45	4,638.97	21.38	17.52	69.37	-443.90	-64.92	1,370.20	1,335.70	34.50	39.721		
5,200.00	4,972.22	4,684.35	4,658.38	21.36	17.62	69.59	-450.45	-60.75	1,364.45	1,329.64	34.82	39.191		
5,250.00	4,996.65	4,700.00	4,672.74	21.34	17.69	69.92	-455.65	-57.33	1,357.75	1,322.60	35.15	38.631		
5,300.00	5,017.68	4,725.78	4,696.05	21.31	17.82	70.75	-464.74	-51.15	1,350.11	1,314.45	35.66	37.857		
5,350.00	5,035.17	4,750.00	4,717.54	21.27	17.93	71.76	-473.89	-44.73	1,341.70	1,305.46	36.24	37.021		
5,400.00	5,049.02	4,766.51	4,731.94	21.23	18.02	72.72	-480.44	-40.02	1,332.58	1,295.75	36.83	36.185		
5,450.00	5,059.14	4,786.53	4,749.12	21.75	18.12	73.96	-488.74	-33.95	1,322.87	1,285.35	37.52	35.254		
5,500.00	5,065.46	4,800.00	4,760.49	22.36	18.19	75.12	-494.54	-29.65	1,312.72	1,274.50	38.22	34.347		
5,550.00	5,067.96	4,825.65	4,781.72	23.01	18.32	76.85	-506.02	-20.97	1,302.19	1,263.08	39.11	33.292		
5,559.97	5,068.00	4,829.47	4,784.83	23.14	18.34	77.17	-507.79	-19.63	1,300.07	1,260.78	39.29	33.090		
5,600.00	5,067.85	4,850.00	4,801.33	23.69	18.45	77.91	-517.47	-12.17	1,291.99	1,251.92	40.07	32.240		
5,700.00	5,067.46	4,890.06	4,832.35	25.18	18.68	79.31	-537.39	3.48	1,275.63	1,233.62	42.00	30.371		
5,800.00	5,067.08	4,943.54	4,871.18	26.81	19.01	81.07	-565.99	26.57	1,264.45	1,220.23	44.22	28.594		
5,900.00	5,066.69	5,007.58	4,913.44	28.57	19.45	83.00	-602.99	57.27	1,257.79	1,211.12	46.67	26.951		
6,000.00	5,066.31	5,083.90	4,957.22	30.44	20.07	85.02	-650.51	97.80	1,254.72	1,205.34	49.38	25.411		
6,100.00	5,065.92	5,173.51	4,998.69	32.39	20.94	86.93	-710.16	150.12	1,253.98	1,201.59	52.39	23.934		
6,102.24	5,065.91	5,175.66	4,999.55	32.44	20.96	86.97	-711.64	151.44	1,253.98	1,201.52	52.46	23.901		
6,200.00	5,065.54	5,275.73	5,031.93	34.42	22.15	88.46	-781.87	214.78	1,254.21	1,198.43	55.78	22.484		
6,300.00	5,065.15	5,387.20	5,050.12	36.51	23.72	89.31	-862.43	289.44	1,254.15	1,194.60	59.55	21.059		
6,400.00	5,064.77	5,493.85	5,051.77	38.65	25.42	89.41	-939.77	362.80	1,253.23	1,189.78	63.45	19.750		
6,500.00	5,064.38	5,593.85	5,051.35	40.84	27.17	89.41	-1,012.22	431.72	1,252.19	1,184.76	67.43	18.571		
6,600.00	5,064.00	5,693.84	5,050.93	43.06	29.04	89.40	-1,084.66	500.64	1,251.15	1,179.59	71.56	17.485		
6,700.00	5,063.61	5,793.83	5,050.50	45.32	31.01	89.40	-1,157.11	569.57	1,250.11	1,174.30	75.81	16.489		
6,800.00	5,063.23	5,893.83	5,050.08	47.61	33.06	89.40	-1,229.56	638.49	1,249.07	1,168.89	80.18	15.578		
6,900.00	5,062.84	5,993.82	5,049.66	49.92	35.18	89.40	-1,302.00	707.41	1,248.03	1,163.40	84.63	14.746		
7,000.00	5,062.46	6,093.82	5,049.24	52.25	37.36	89.39	-1,374.45	776.33	1,246.99	1,157.83	89.16	13.986		
7,100.00	5,062.07	6,193.81	5,048.82	54.60	39.58	89.39	-1,446.90	845.25	1,245.95	1,152.20	93.75	13.289		
7,200.00	5,061.69	6,293.81	5,048.40	56.96	41.84	89.39	-1,519.34	914.18	1,244.91	1,146.51	98.40	12.651		
7,300.00	5,061.30	6,393.80	5,047.98	59.34	44.13	89.39	-1,591.79	983.10	1,243.87	1,140.78	103.09	12.066		
7,400.00	5,060.92	6,493.80	5,047.55	61.74	46.45	89.39	-1,664.24	1,052.02	1,242.83	1,135.01	107.82	11.527		
7,500.00	5,060.53	6,593.79	5,047.13	64.14	48.80	89.38	-1,736.68	1,120.94	1,241.79	1,129.20	112.59	11.029		
7,600.00	5,060.15	6,693.79	5,046.71	66.56	51.16	89.38	-1,809.13	1,189.86	1,240.75	1,123.37	117.38	10.570		
7,700.00	5,059.76	6,793.78	5,046.29	68.98	53.55	89.38	-1,881.58	1,258.79	1,239.71	1,117.51	122.20	10.145		
7,800.00	5,059.38	6,893.77	5,045.87	71.42	55.95	89.38	-1,954.02	1,327.71	1,238.67	1,111.62	127.05	9.750		
7,900.00	5,058.99	6,993.77	5,045.45	73.86	58.36	89.38	-2,026.47	1,396.63	1,237.63	1,105.72	131.91	9.382		
8,000.00	5,058.61	7,093.76	5,045.03	76.31	60.79	89.37	-2,098.92	1,465.55	1,236.59	1,099.79	136.80	9.040		
8,100.00	5,058.22	7,193.76	5,044.60	78.76	63.22	89.37	-2,171.36	1,534.47	1,235.55	1,093.86	141.69	8.720		
8,200.00	5,057.84	7,293.75	5,044.18	81.22	65.67	89.37	-2,243.81	1,603.39	1,234.51	1,087.90	146.61	8.421		
8,300.00	5,057.45	7,393.75	5,043.76	83.68	68.12	89.37	-2,316.26	1,672.32	1,233.47	1,081.94	151.53	8.140		
8,400.00	5,057.07	7,493.74	5,043.34	86.15	70.58	89.36	-2,388.70	1,741.24	1,232.43	1,075.96	156.47	7.876		
8,500.00	5,056.69	7,593.74	5,042.92	88.62	73.05	89.36	-2,461.15	1,810.16	1,231.39	1,069.97	161.42	7.628		
8,600.00	5,056.30	7,693.73	5,042.50	91.10	75.52	89.36	-2,533.60	1,879.08	1,230.35	1,063.97	166.38	7.395		
8,700.00	5,055.92	7,793.73	5,042.08	93.58	78.00	89.36	-2,606.04	1,948.00	1,229.31	1,057.97	171.34	7.174		
8,800.00	5,055.53	7,893.72	5,041.65	96.07	80.49	89.35	-2,678.49	2,016.93	1,228.27	1,051.95	176.32	6.966		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M26 2306 Pad - # 304H - Original Drilling - APD													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
8,900.00	5,055.15	7,993.72	5,041.23	98.55	82.98	89.35	-2,750.94	2,085.85	1,227.23	1,045.93	181.30	6.769		
9,000.00	5,054.76	8,093.71	5,040.81	101.04	85.47	89.35	-2,823.38	2,154.77	1,226.19	1,039.90	186.29	6.582		
9,100.00	5,054.38	8,193.70	5,040.39	103.54	87.97	89.35	-2,895.83	2,223.69	1,225.15	1,033.86	191.29	6.405		
9,200.00	5,053.99	8,293.70	5,039.97	106.03	90.47	89.35	-2,968.28	2,292.61	1,224.11	1,027.82	196.29	6.236		
9,300.00	5,053.61	8,393.69	5,039.55	108.53	92.97	89.34	-3,040.72	2,361.54	1,223.07	1,021.78	201.29	6.076		
9,400.00	5,053.22	8,493.69	5,039.12	111.03	95.48	89.34	-3,113.17	2,430.46	1,222.03	1,015.73	206.30	5.923		
9,500.00	5,052.84	8,593.68	5,038.70	113.53	97.99	89.34	-3,185.61	2,499.38	1,220.99	1,009.67	211.32	5.778		
9,600.00	5,052.45	8,693.68	5,038.28	116.03	100.50	89.34	-3,258.06	2,568.30	1,219.95	1,003.61	216.34	5.639		
9,700.00	5,052.07	8,793.67	5,037.86	118.54	103.01	89.33	-3,330.51	2,637.22	1,218.91	997.55	221.36	5.506		
9,800.00	5,051.68	8,893.67	5,037.44	121.04	105.53	89.33	-3,402.95	2,706.15	1,217.87	991.48	226.39	5.380		
9,900.00	5,051.30	8,993.66	5,037.02	123.55	108.05	89.33	-3,475.40	2,775.07	1,216.83	985.41	231.42	5.258		
10,000.00	5,050.91	9,093.66	5,036.60	126.06	110.57	89.33	-3,547.85	2,843.99	1,215.79	979.34	236.45	5.142		
10,100.00	5,050.53	9,193.65	5,036.17	128.57	113.09	89.33	-3,620.29	2,912.91	1,214.75	973.26	241.49	5.030		
10,200.00	5,050.14	9,293.64	5,035.75	131.09	115.61	89.32	-3,692.74	2,981.83	1,213.71	967.18	246.53	4.923		
10,300.00	5,049.76	9,393.64	5,035.33	133.60	118.14	89.32	-3,765.19	3,050.76	1,212.67	961.10	251.57	4.820		
10,400.00	5,049.37	9,493.63	5,034.91	136.12	120.67	89.32	-3,837.63	3,119.68	1,211.63	955.01	256.62	4.722		
10,500.00	5,048.99	9,593.63	5,034.49	138.63	123.19	89.32	-3,910.08	3,188.60	1,210.59	948.93	261.66	4.627		
10,600.00	5,048.60	9,693.62	5,034.07	141.15	125.72	89.31	-3,982.53	3,257.52	1,209.55	942.84	266.71	4.535		
10,700.00	5,048.22	9,793.62	5,033.65	143.67	128.25	89.31	-4,054.97	3,326.44	1,208.51	936.75	271.76	4.447		
10,800.00	5,047.83	9,893.61	5,033.22	146.19	130.79	89.31	-4,127.42	3,395.36	1,207.47	930.65	276.82	4.362		
10,900.00	5,047.45	9,993.61	5,032.80	148.71	133.32	89.31	-4,199.87	3,464.29	1,206.43	924.56	281.87	4.280		
11,000.00	5,047.06	10,093.60	5,032.38	151.23	135.85	89.30	-4,272.31	3,533.21	1,205.39	918.46	286.93	4.201		
11,100.00	5,046.68	10,193.60	5,031.96	153.75	138.39	89.30	-4,344.76	3,602.13	1,204.35	912.36	291.99	4.125		
11,200.00	5,046.29	10,293.59	5,031.54	156.27	140.92	89.30	-4,417.21	3,671.05	1,203.31	906.26	297.05	4.051		
11,300.00	5,045.91	10,393.59	5,031.12	158.80	143.46	89.30	-4,489.65	3,739.97	1,202.27	900.16	302.11	3.980		
11,400.00	5,045.52	10,493.58	5,030.70	161.32	146.00	89.29	-4,562.10	3,808.90	1,201.23	894.06	307.17	3.911		
11,500.00	5,045.14	10,593.57	5,030.27	163.84	148.53	89.29	-4,634.55	3,877.82	1,200.19	887.96	312.23	3.844		
11,600.00	5,044.75	10,693.57	5,029.85	166.37	151.07	89.29	-4,706.99	3,946.74	1,199.15	881.85	317.30	3.779		
11,700.00	5,044.37	10,793.56	5,029.43	168.90	153.61	89.29	-4,779.44	4,015.66	1,198.11	875.74	322.37	3.717		
11,800.00	5,043.98	10,893.56	5,029.01	171.42	156.15	89.29	-4,851.89	4,084.58	1,197.07	869.64	327.43	3.656		
11,900.00	5,043.60	10,993.55	5,028.59	173.95	158.69	89.28	-4,924.33	4,153.51	1,196.03	863.53	332.50	3.597		
12,000.00	5,043.21	11,093.55	5,028.17	176.48	161.23	89.28	-4,996.78	4,222.43	1,194.99	857.42	337.57	3.540		
12,100.00	5,042.83	11,193.54	5,027.75	179.00	163.78	89.28	-5,069.23	4,291.35	1,193.95	851.31	342.64	3.485		
12,200.00	5,042.45	11,293.54	5,027.32	181.53	166.32	89.28	-5,141.67	4,360.27	1,192.91	845.19	347.72	3.431		
12,300.00	5,042.06	11,393.53	5,026.90	184.06	168.86	89.27	-5,214.12	4,429.19	1,191.87	839.08	352.79	3.378		
12,400.00	5,041.68	11,493.53	5,026.48	186.59	171.40	89.27	-5,286.57	4,498.12	1,190.83	832.97	357.86	3.328		
12,500.00	5,041.29	11,593.52	5,026.06	189.12	173.95	89.27	-5,359.01	4,567.04	1,189.79	826.85	362.94	3.278		
12,600.00	5,040.91	11,693.51	5,025.64	191.65	176.49	89.27	-5,431.46	4,635.96	1,188.75	820.74	368.01	3.230		
12,700.00	5,040.52	11,793.51	5,025.22	194.18	179.04	89.26	-5,503.91	4,704.88	1,187.71	814.62	373.09	3.183		
12,800.00	5,040.14	11,893.50	5,024.79	196.71	181.58	89.26	-5,576.35	4,773.80	1,186.67	808.50	378.17	3.138		
12,900.00	5,039.75	11,993.50	5,024.37	199.25	184.13	89.26	-5,648.80	4,842.73	1,185.63	802.39	383.24	3.094		
13,000.00	5,039.37	12,093.49	5,023.95	201.78	186.67	89.26	-5,721.25	4,911.65	1,184.59	796.27	388.32	3.051		
13,100.00	5,038.98	12,193.49	5,023.53	204.31	189.22	89.25	-5,793.69	4,980.57	1,183.55	790.15	393.40	3.008		
13,200.00	5,038.60	12,293.48	5,023.11	206.84	191.77	89.25	-5,866.14	5,049.49	1,182.51	784.03	398.48	2.968		
13,238.15	5,038.45	12,319.32	5,023.00	207.81	192.43	89.25	-5,884.85	5,067.31	1,182.17	782.09	400.07	2.955		
13,300.00	5,038.21	12,319.32	5,023.00	209.37	192.43	89.25	-5,884.85	5,067.31	1,183.79	782.96	400.83	2.953 SF		
13,400.00	5,037.83	12,319.32	5,023.00	211.91	192.43	89.25	-5,884.85	5,067.31	1,193.20	793.41	399.79	2.985		
13,500.00	5,037.44	12,319.32	5,023.00	214.44	192.43	89.25	-5,884.85	5,067.31	1,210.83	814.73	396.09	3.057		
13,600.00	5,037.06	12,319.32	5,023.00	216.97	192.43	89.25	-5,884.85	5,067.31	1,236.31	846.28	390.04	3.170		
13,700.00	5,036.67	12,319.32	5,023.00	219.51	192.43	89.25	-5,884.85	5,067.31	1,269.19	887.17	382.02	3.322		
13,800.00	5,036.29	12,319.32	5,023.00	222.04	192.43	89.25	-5,884.85	5,067.31	1,308.90	936.41	372.49	3.514		
13,900.00	5,035.90	12,319.32	5,023.00	224.58	192.43	89.25	-5,884.85	5,067.31	1,354.84	992.97	361.87	3.744		



Lonestar Consulting, LLC
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M26 2306 Pad - # 304H - 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
14,000.00	5,035.52	12,319.32	5,023.00	227.11	192.43	89.25	-5,884.85	5,067.31	1,406.40	1,055.83	350.57	4.012	
14,100.00	5,035.13	12,319.32	5,023.00	229.65	192.43	89.25	-5,884.85	5,067.31	1,462.99	1,124.06	338.93	4.316	
14,200.00	5,034.75	12,319.32	5,023.00	232.18	192.43	89.25	-5,884.85	5,067.31	1,524.05	1,196.82	327.22	4.658	
14,300.00	5,034.36	12,319.32	5,023.00	234.72	192.43	89.25	-5,884.85	5,067.31	1,589.05	1,273.40	315.65	5.034	
14,394.33	5,034.00	12,319.32	5,023.00	237.11	192.43	89.25	-5,884.85	5,067.31	1,653.56	1,348.57	305.00	5.422	



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M26 2306 Pad - # 305H - 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 (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
0.00	0.00	0.00	0.00	0.00	0.00	-117.51	-27.67	-53.11	59.89					
100.00	100.00	100.00	100.00	0.15	0.15	-117.51	-27.67	-53.11	59.89	59.58	0.31	194.258		
200.00	200.00	200.00	200.00	0.51	0.51	-117.51	-27.67	-53.11	59.89	58.86	1.03	58.413		
300.00	300.00	300.00	300.00	0.87	0.87	-117.51	-27.67	-53.11	59.89	58.14	1.74	34.375		
400.00	400.00	400.00	400.00	1.23	1.23	-117.51	-27.67	-53.11	59.89	57.43	2.46	24.353		
500.00	499.98	501.43	501.41	1.59	1.59	-127.67	-25.93	-52.66	59.76	56.58	3.18	18.791		
543.63	543.57	545.46	545.40	1.75	1.75	-127.77	-24.13	-52.18	59.65	56.16	3.49	17.074 CC		
600.00	599.84	601.82	601.71	1.95	1.96	-128.52	-21.66	-51.53	60.00	56.10	3.90	15.394 ES		
700.00	699.45	701.73	701.51	2.32	2.31	-131.70	-17.27	-50.37	62.42	57.80	4.62	13.516		
800.00	798.70	801.43	801.10	2.68	2.67	-136.71	-12.88	-49.21	67.52	62.17	5.34	12.635		
900.00	897.47	900.80	900.37	3.06	3.03	-142.58	-8.51	-48.06	75.81	69.73	6.07	12.482 SF		
1,000.00	995.62	999.72	999.19	3.46	3.39	-148.44	-4.17	-46.91	87.70	80.90	6.81	12.888		
1,100.00	1,093.06	1,098.07	1,097.44	3.88	3.74	-153.70	0.16	-45.77	103.41	95.87	7.54	13.718		
1,114.63	1,107.24	1,112.41	1,111.76	3.94	3.79	-154.41	0.79	-45.60	106.03	98.38	7.65	13.863		
1,200.00	1,189.97	1,196.00	1,195.27	4.32	4.10	-158.05	4.46	-44.63	121.80	113.53	8.27	14.732		
1,300.00	1,286.87	1,293.93	1,293.09	4.77	4.45	-161.27	8.77	-43.50	140.74	131.74	8.99	15.647		
1,400.00	1,383.78	1,391.85	1,390.91	5.22	4.80	-163.72	13.07	-42.36	160.00	150.28	9.72	16.457		
1,500.00	1,480.68	1,489.77	1,488.73	5.68	5.16	-165.65	17.38	-41.23	179.49	169.04	10.45	17.173		
1,600.00	1,577.59	1,587.69	1,586.56	6.15	5.51	-167.20	21.68	-40.09	199.13	187.95	11.18	17.806		
1,700.00	1,674.49	1,685.62	1,684.38	6.62	5.87	-168.47	25.98	-38.95	218.89	206.98	11.92	18.370		
1,800.00	1,771.40	1,783.54	1,782.20	7.09	6.22	-169.53	30.29	-37.82	238.74	226.09	12.65	18.874		
1,900.00	1,868.30	1,881.46	1,880.02	7.56	6.58	-170.42	34.59	-36.68	258.65	245.27	13.38	19.325		
2,000.00	1,965.21	1,979.39	1,977.84	8.04	6.93	-171.19	38.90	-35.55	278.62	264.50	14.12	19.733		
2,100.00	2,062.11	2,077.31	2,075.67	8.51	7.28	-171.86	43.20	-34.41	298.62	283.77	14.86	20.101		
2,200.00	2,159.02	2,175.23	2,173.49	8.99	7.64	-172.44	47.51	-33.27	318.66	303.07	15.59	20.436		
2,300.00	2,255.92	2,273.16	2,271.31	9.47	7.99	-172.95	51.81	-32.14	338.73	322.40	16.33	20.742		
2,400.00	2,352.83	2,371.08	2,369.13	9.95	8.35	-173.41	56.12	-31.00	358.82	341.75	17.07	21.022		
2,500.00	2,449.73	2,469.00	2,466.95	10.43	8.70	-173.82	60.42	-29.87	378.93	361.13	17.81	21.279		
2,600.00	2,546.64	2,566.93	2,564.78	10.92	9.06	-174.18	64.73	-28.73	399.06	380.51	18.55	21.516		
2,700.00	2,643.54	2,664.85	2,662.60	11.40	9.41	-174.51	69.03	-27.60	419.20	399.92	19.29	21.736		
2,800.00	2,740.44	2,762.77	2,760.42	11.88	9.77	-174.82	73.33	-26.46	439.36	419.33	20.03	21.939		
2,900.00	2,837.35	2,860.70	2,858.24	12.36	10.12	-175.09	77.64	-25.32	459.52	438.76	20.77	22.128		
3,000.00	2,934.25	2,958.62	2,956.06	12.85	10.48	-175.34	81.94	-24.19	479.70	458.19	21.51	22.304		
3,100.00	3,031.16	3,056.54	3,053.88	13.33	10.83	-175.57	86.25	-23.05	499.88	477.63	22.25	22.469		
3,200.00	3,128.06	3,154.46	3,151.71	13.82	11.19	-175.79	90.55	-21.92	520.07	497.08	22.99	22.623		
3,300.00	3,224.97	3,252.39	3,249.53	14.30	11.54	-175.98	94.86	-20.78	540.26	516.53	23.73	22.767		
3,400.00	3,321.87	3,350.31	3,347.35	14.79	11.90	-176.17	99.16	-19.64	560.46	535.99	24.47	22.903		
3,500.00	3,418.78	3,448.23	3,445.17	15.27	12.25	-176.34	103.47	-18.51	580.67	555.46	25.21	23.031		
3,600.00	3,515.68	3,546.16	3,542.99	15.76	12.61	-176.50	107.77	-17.37	600.88	574.93	25.95	23.151		
3,700.00	3,612.59	3,644.08	3,640.82	16.24	12.96	-176.64	112.08	-16.24	621.10	594.40	26.70	23.265		
3,800.00	3,709.49	3,742.00	3,738.64	16.73	13.32	-176.78	116.38	-15.10	641.31	613.88	27.44	23.373		
3,900.00	3,806.40	3,839.93	3,836.46	17.22	13.67	-176.91	120.68	-13.96	661.54	633.36	28.18	23.475		
4,000.00	3,903.30	3,937.85	3,934.28	17.70	14.02	-177.04	124.99	-12.83	681.76	652.84	28.92	23.571		
4,100.00	4,000.21	4,035.77	4,032.10	18.19	14.38	-177.15	129.29	-11.69	701.99	672.32	29.67	23.663		
4,200.00	4,097.11	4,133.70	4,129.93	18.68	14.73	-177.26	133.60	-10.56	722.22	691.81	30.41	23.751		
4,300.00	4,194.02	4,231.62	4,227.75	19.16	15.09	-177.37	137.90	-9.42	742.45	711.30	31.15	23.834		
4,400.00	4,290.92	4,329.54	4,325.57	19.65	15.44	-177.46	142.21	-8.28	762.69	730.80	31.89	23.913		
4,462.76	4,351.74	4,391.00	4,386.96	19.96	15.67	-177.52	144.91	-7.57	775.39	743.03	32.36	23.961		
4,500.00	4,387.96	4,427.58	4,423.50	20.13	15.80	-177.58	146.52	-7.15	782.33	749.70	32.64	23.972		
4,550.00	4,436.88	4,476.89	4,472.76	20.35	15.98	-177.63	148.68	-6.57	789.77	756.77	33.00	23.932		
4,600.00	4,485.84	4,526.15	4,521.98	20.54	16.16	-177.68	150.85	-6.00	795.04	761.69	33.36	23.834		
4,650.00	4,534.55	4,575.06	4,570.83	20.72	16.33	-177.73	153.00	-5.43	798.20	764.50	33.71	23.680		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M26 2306 Pad - # 305H - 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		
4,700.00	4,582.70	4,623.31	4,619.04	20.86	16.51	99.53	155.12	-4.88	799.35	765.30	34.05	23.477		
4,750.00	4,629.99	4,670.62	4,666.29	20.99	16.68	92.52	157.20	-4.33	798.62	764.24	34.38	23.229		
4,800.00	4,676.14	4,716.67	4,712.30	21.10	16.85	88.33	159.23	-3.79	796.22	761.51	34.71	22.942		
4,850.00	4,720.86	4,761.20	4,756.78	21.19	17.01	86.03	161.18	-3.28	792.39	757.36	35.03	22.623		
4,900.00	4,763.87	4,803.93	4,799.47	21.26	17.16	85.03	163.06	-2.78	787.40	752.06	35.34	22.278		
4,950.00	4,804.92	4,844.59	4,840.09	21.31	17.31	84.95	164.85	-2.31	781.60	745.93	35.67	21.914		
5,000.00	4,843.74	4,906.95	4,902.24	21.35	17.54	86.83	169.45	-3.43	774.80	738.65	36.16	21.430		
5,050.00	4,880.09	4,957.27	4,951.92	21.37	17.72	89.03	176.29	-7.45	767.23	730.64	36.59	20.968		
5,100.00	4,913.76	4,994.02	4,987.74	21.38	17.86	90.94	183.03	-12.14	760.11	723.12	36.99	20.549		
5,150.00	4,944.53	5,019.83	5,012.58	21.38	17.95	92.37	188.63	-16.30	754.34	716.96	37.37	20.184		
5,200.00	4,972.22	5,036.99	5,028.94	21.36	18.02	93.24	192.75	-19.46	750.56	712.81	37.75	19.883		
5,250.00	4,996.65	5,047.36	5,038.75	21.34	18.06	93.56	195.38	-21.53	749.18	711.07	38.12	19.655		
5,251.81	4,997.47	5,047.63	5,039.00	21.34	18.06	93.56	195.45	-21.58	749.18	711.05	38.13	19.648		
5,300.00	5,017.68	5,052.38	5,043.48	21.31	18.08	93.37	196.70	-22.56	750.42	711.94	38.47	19.504		
5,350.00	5,035.17	5,053.14	5,044.20	21.27	18.08	92.72	196.90	-22.73	754.33	715.51	38.82	19.430		
5,400.00	5,049.02	5,050.00	5,041.24	21.23	18.07	91.63	196.07	-22.07	760.88	721.72	39.16	19.432		
5,450.00	5,059.14	5,050.00	5,041.24	21.75	18.07	90.63	196.07	-22.07	769.93	730.40	39.53	19.477		
5,500.00	5,065.46	5,037.49	5,029.41	22.36	18.02	88.56	192.87	-19.56	781.22	741.42	39.79	19.632		
5,550.00	5,067.96	5,028.00	5,020.39	23.01	17.99	86.61	190.55	-17.77	794.54	754.46	40.09	19.821		
5,559.97	5,068.00	5,025.92	5,018.40	23.14	17.98	86.20	190.06	-17.39	797.42	757.28	40.14	19.865		
5,600.00	5,067.85	5,017.77	5,010.61	23.69	17.95	85.62	188.16	-15.94	809.94	769.58	40.36	20.066		
5,700.00	5,067.46	5,000.00	4,993.51	25.18	17.88	84.35	184.27	-13.04	848.26	807.36	40.89	20.744		
5,800.00	5,067.08	4,985.35	4,979.33	26.81	17.83	83.30	181.31	-10.90	895.67	854.31	41.36	21.657		
5,900.00	5,066.69	4,972.97	4,967.27	28.57	17.78	82.41	178.99	-9.27	950.92	909.18	41.74	22.781		
6,000.00	5,066.31	4,950.00	4,944.78	30.44	17.70	80.77	175.13	-6.70	1,012.97	971.02	41.95	24.150		
6,100.00	5,065.92	4,950.00	4,944.78	32.39	17.70	80.77	175.13	-6.70	1,080.25	1,037.98	42.26	25.560		
6,200.00	5,065.54	4,950.00	4,944.78	34.42	17.70	80.77	175.13	-6.70	1,152.29	1,109.78	42.50	27.112		
6,300.00	5,065.15	4,950.00	4,944.78	36.51	17.70	80.77	175.13	-6.70	1,228.25	1,185.57	42.68	28.781		
6,400.00	5,064.77	4,932.15	4,927.20	38.65	17.63	79.50	172.53	-5.10	1,307.12	1,264.41	42.70	30.609		
6,500.00	5,064.38	4,926.64	4,921.75	40.84	17.61	79.11	171.80	-4.67	1,388.77	1,346.00	42.77	32.467		
6,600.00	5,064.00	4,921.69	4,916.85	43.06	17.59	78.76	171.17	-4.32	1,472.64	1,429.81	42.82	34.388		
6,700.00	5,063.61	4,917.23	4,912.43	45.32	17.58	78.44	170.62	-4.03	1,558.36	1,515.51	42.86	36.361		
6,800.00	5,063.23	4,900.00	4,895.34	47.61	17.51	77.23	168.73	-3.10	1,645.84	1,603.02	42.82	38.436		
6,900.00	5,062.84	4,900.00	4,895.34	49.92	17.51	77.23	168.73	-3.10	1,734.41	1,691.55	42.85	40.473		
7,000.00	5,062.46	4,900.00	4,895.34	52.25	17.51	77.23	168.73	-3.10	1,824.15	1,781.27	42.88	42.544		
7,100.00	5,062.07	4,900.00	4,895.34	54.60	17.51	77.23	168.73	-3.10	1,914.91	1,872.02	42.89	44.644		
7,200.00	5,061.69	4,900.00	4,895.34	56.96	17.51	77.23	168.73	-3.10	2,006.55	1,963.65	42.90	46.769		
7,300.00	5,061.30	4,900.00	4,895.34	59.34	17.51	77.23	168.73	-3.10	2,098.95	2,056.04	42.91	48.915		
7,400.00	5,060.92	4,900.00	4,895.34	61.74	17.51	77.23	168.73	-3.10	2,192.02	2,149.11	42.91	51.080		
7,500.00	5,060.53	4,900.00	4,895.34	64.14	17.51	77.23	168.73	-3.10	2,285.68	2,242.76	42.92	53.260		
7,600.00	5,060.15	4,900.00	4,895.34	66.56	17.51	77.23	168.73	-3.10	2,379.85	2,336.93	42.92	55.453		
7,700.00	5,059.76	4,900.00	4,895.34	68.98	17.51	77.23	168.73	-3.10	2,474.48	2,431.56	42.92	57.657		
7,800.00	5,059.38	4,900.00	4,895.34	71.42	17.51	77.23	168.73	-3.10	2,569.52	2,526.60	42.92	59.871		
7,900.00	5,058.99	4,900.00	4,895.34	73.86	17.51	77.23	168.73	-3.10	2,664.92	2,622.00	42.92	62.094		
8,000.00	5,058.61	4,900.00	4,895.34	76.31	17.51	77.23	168.73	-3.10	2,760.64	2,717.72	42.92	64.323		
8,100.00	5,058.22	4,900.00	4,895.34	78.76	17.51	77.23	168.73	-3.10	2,856.66	2,813.74	42.92	66.558		
8,200.00	5,057.84	4,900.00	4,895.34	81.22	17.51	77.23	168.73	-3.10	2,952.94	2,910.02	42.92	68.798		
8,300.00	5,057.45	4,900.00	4,895.34	83.68	17.51	77.23	168.73	-3.10	3,049.46	3,006.54	42.93	71.041		
8,400.00	5,057.07	4,877.93	4,873.36	86.15	17.43	75.69	166.78	-2.38	3,145.75	3,102.87	42.88	73.369		
8,500.00	5,056.69	4,876.70	4,872.14	88.62	17.43	75.60	166.68	-2.36	3,242.64	3,199.76	42.88	75.623		
8,600.00	5,056.30	4,875.54	4,870.98	91.10	17.42	75.52	166.60	-2.34	3,339.71	3,296.82	42.88	77.879		
8,700.00	5,055.92	4,874.43	4,869.88	93.58	17.42	75.44	166.52	-2.32	3,436.94	3,394.05	42.89	80.136		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M26 2306 Pad - # 305H - Original Drilling - APD													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
8,800.00	5,055.53	4,873.38	4,868.83	96.07	17.42	75.37	166.44	-2.30	3,534.33	3,491.43	42.90	82.394		
8,900.00	5,055.15	4,872.38	4,867.83	98.55	17.41	75.30	166.37	-2.29	3,631.85	3,588.95	42.90	84.652		
9,000.00	5,054.76	4,871.43	4,866.88	101.04	17.41	75.24	166.31	-2.27	3,729.51	3,686.60	42.91	86.910		
9,100.00	5,054.38	4,849.10	4,844.59	103.54	17.33	73.71	165.05	-2.26	3,827.70	3,784.82	42.87	89.277		
9,200.00	5,053.99	4,849.10	4,844.59	106.03	17.33	73.71	165.05	-2.26	3,925.55	3,882.66	42.89	91.529		
9,300.00	5,053.61	4,849.10	4,844.59	108.53	17.33	73.71	165.05	-2.26	4,023.51	3,980.60	42.90	93.780		
9,400.00	5,053.22	4,849.10	4,844.59	111.03	17.33	73.71	165.05	-2.26	4,121.56	4,078.64	42.92	96.030		
9,500.00	5,052.84	4,849.10	4,844.59	113.53	17.33	73.71	165.05	-2.26	4,219.71	4,176.77	42.94	98.278		
9,600.00	5,052.45	4,849.10	4,844.59	116.03	17.33	73.71	165.05	-2.26	4,317.94	4,274.99	42.95	100.523		
9,700.00	5,052.07	4,849.10	4,844.59	118.54	17.33	73.71	165.05	-2.26	4,416.25	4,373.28	42.97	102.766		
9,800.00	5,051.68	4,849.10	4,844.59	121.04	17.33	73.71	165.05	-2.26	4,514.64	4,471.64	42.99	105.007		
9,900.00	5,051.30	4,849.10	4,844.59	123.55	17.33	73.71	165.05	-2.26	4,613.09	4,570.08	43.01	107.245		
10,000.00	5,050.91	4,849.10	4,844.59	126.06	17.33	73.71	165.05	-2.26	4,711.61	4,668.58	43.04	109.479		
10,100.00	5,050.53	4,849.10	4,844.59	128.57	17.33	73.71	165.05	-2.26	4,810.19	4,767.13	43.06	111.710		
10,200.00	5,050.14	4,849.10	4,844.59	131.09	17.33	73.71	165.05	-2.26	4,908.83	4,865.75	43.08	113.938		
10,300.00	5,049.76	4,849.10	4,844.59	133.60	17.33	73.71	165.05	-2.26	5,007.53	4,964.42	43.11	116.161		
10,400.00	5,049.37	4,849.10	4,844.59	136.12	17.33	73.71	165.05	-2.26	5,106.27	5,063.13	43.13	118.381		
10,500.00	5,048.99	4,849.10	4,844.59	138.63	17.33	73.71	165.05	-2.26	5,205.06	5,161.90	43.16	120.597		
10,600.00	5,048.60	4,849.10	4,844.59	141.15	17.33	73.71	165.05	-2.26	5,303.90	5,260.71	43.19	122.808		
10,700.00	5,048.22	4,849.10	4,844.59	143.67	17.33	73.71	165.05	-2.26	5,402.78	5,359.56	43.22	125.015		
10,800.00	5,047.83	4,849.10	4,844.59	146.19	17.33	73.71	165.05	-2.26	5,501.70	5,458.45	43.25	127.217		
10,900.00	5,047.45	4,849.10	4,844.59	148.71	17.33	73.71	165.05	-2.26	5,600.65	5,557.38	43.28	129.415		
11,000.00	5,047.06	4,849.10	4,844.59	151.23	17.33	73.71	165.05	-2.26	5,699.65	5,656.34	43.31	131.608		
11,100.00	5,046.68	4,849.10	4,844.59	153.75	17.33	73.71	165.05	-2.26	5,798.68	5,755.34	43.34	133.795		
11,200.00	5,046.29	4,849.10	4,844.59	156.27	17.33	73.71	165.05	-2.26	5,897.74	5,854.37	43.37	135.978		
11,300.00	5,045.91	4,849.10	4,844.59	158.80	17.33	73.71	165.05	-2.26	5,996.83	5,953.43	43.41	138.155		
11,400.00	5,045.52	4,849.10	4,844.59	161.32	17.33	73.71	165.05	-2.26	6,095.96	6,052.51	43.44	140.327		
11,500.00	5,045.14	4,849.10	4,844.59	163.84	17.33	73.71	165.05	-2.26	6,195.11	6,151.63	43.48	142.493		
11,600.00	5,044.75	4,849.10	4,844.59	166.37	17.33	73.71	165.05	-2.26	6,294.28	6,250.77	43.51	144.653		
11,700.00	5,044.37	4,849.10	4,844.59	168.90	17.33	73.71	165.05	-2.26	6,393.49	6,349.94	43.55	146.808		
11,800.00	5,043.98	4,849.10	4,844.59	171.42	17.33	73.71	165.05	-2.26	6,492.72	6,449.13	43.59	148.957		
11,900.00	5,043.60	4,849.10	4,844.59	173.95	17.33	73.71	165.05	-2.26	6,591.97	6,548.34	43.63	151.100		
12,000.00	5,043.21	4,849.10	4,844.59	176.48	17.33	73.71	165.05	-2.26	6,691.24	6,647.57	43.67	153.237		
12,100.00	5,042.83	4,849.10	4,844.59	179.00	17.33	73.71	165.05	-2.26	6,790.53	6,746.83	43.71	155.368		
12,200.00	5,042.45	4,849.10	4,844.59	181.53	17.33	73.71	165.05	-2.26	6,889.85	6,846.10	43.75	157.492		
12,300.00	5,042.06	4,849.10	4,844.59	184.06	17.33	73.71	165.05	-2.26	6,989.18	6,945.40	43.79	159.611		
12,400.00	5,041.68	4,849.10	4,844.59	186.59	17.33	73.71	165.05	-2.26	7,088.54	7,044.71	43.83	161.723		
12,500.00	5,041.29	4,849.10	4,844.59	189.12	17.33	73.71	165.05	-2.26	7,187.91	7,144.03	43.87	163.828		
12,600.00	5,040.91	4,849.10	4,844.59	191.65	17.33	73.71	165.05	-2.26	7,287.30	7,243.38	43.92	165.927		
12,700.00	5,040.52	4,849.10	4,844.59	194.18	17.33	73.71	165.05	-2.26	7,386.70	7,342.74	43.96	168.019		
12,800.00	5,040.14	4,849.10	4,844.59	196.71	17.33	73.71	165.05	-2.26	7,486.12	7,442.11	44.01	170.105		
12,900.00	5,039.75	4,849.10	4,844.59	199.25	17.33	73.71	165.05	-2.26	7,585.56	7,541.50	44.06	172.184		
13,000.00	5,039.37	4,849.10	4,844.59	201.78	17.33	73.71	165.05	-2.26	7,685.01	7,640.91	44.10	174.256		
13,100.00	5,038.98	4,849.10	4,844.59	204.31	17.33	73.71	165.05	-2.26	7,784.48	7,740.33	44.15	176.321		
13,200.00	5,038.60	4,849.10	4,844.59	206.84	17.33	73.71	165.05	-2.26	7,883.95	7,839.76	44.20	178.379		
13,300.00	5,038.21	4,849.10	4,844.59	209.37	17.33	73.71	165.05	-2.26	7,983.44	7,939.20	44.25	180.430		
13,400.00	5,037.83	4,849.10	4,844.59	211.91	17.33	73.71	165.05	-2.26	8,082.95	8,038.65	44.30	182.474		
13,500.00	5,037.44	4,849.10	4,844.59	214.44	17.33	73.71	165.05	-2.26	8,182.46	8,138.12	44.35	184.511		
13,600.00	5,037.06	4,849.10	4,844.59	216.97	17.33	73.71	165.05	-2.26	8,281.99	8,237.59	44.40	186.541		
13,700.00	5,036.67	4,849.10	4,844.59	219.51	17.33	73.71	165.05	-2.26	8,381.53	8,337.08	44.45	188.564		
13,800.00	5,036.29	4,849.10	4,844.59	222.04	17.33	73.71	165.05	-2.26	8,481.08	8,436.58	44.50	190.579		
13,900.00	5,035.90	4,849.10	4,844.59	224.58	17.33	73.71	165.05	-2.26	8,580.64	8,536.09	44.55	192.587		



Lonestar Consulting, LLC
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M26 2306 Pad - # 305H - 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
14,000.00	5,035.52	4,849.10	4,844.59	227.11	17.33	73.71	165.05	-2.26	8,680.21	8,635.60	44.61	194.588	
14,100.00	5,035.13	4,849.10	4,844.59	229.65	17.33	73.71	165.05	-2.26	8,779.79	8,735.13	44.66	196.581	
14,200.00	5,034.75	4,849.10	4,844.59	232.18	17.33	73.71	165.05	-2.26	8,879.38	8,834.66	44.72	198.567	
14,300.00	5,034.36	4,849.10	4,844.59	234.72	17.33	73.71	165.05	-2.26	8,978.98	8,934.21	44.77	200.546	
14,394.33	5,034.00	4,848.59	4,844.08	237.11	17.32	73.67	165.02	-2.26	9,072.94	9,028.12	44.82	202.411	



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M26 2306 Pad - # 307H - 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	-118.53	-9.46	-17.41	19.82					
100.00	100.00	100.00	100.00	0.15	0.15	-118.53	-9.46	-17.41	19.82	19.51	0.31	64.278		
200.00	200.00	200.00	200.00	0.51	0.51	-118.53	-9.46	-17.41	19.82	18.79	1.03	19.328		
300.00	300.00	300.00	300.00	0.87	0.87	-118.53	-9.46	-17.41	19.82	18.07	1.74	11.374		
400.00	400.00	400.00	400.00	1.23	1.23	-118.53	-9.46	-17.41	19.82	17.36	2.46	8.058 CC		
500.00	499.98	500.42	500.39	1.59	1.59	-128.49	-7.72	-17.16	19.86	16.68	3.18	6.251		
600.00	599.84	600.83	600.67	1.95	1.95	-128.14	-2.50	-16.40	19.98	16.09	3.89	5.131		
700.00	699.45	701.24	700.69	2.32	2.32	-127.56	6.20	-15.15	20.19	15.57	4.62	4.374		
800.00	798.70	801.65	800.34	2.68	2.69	-126.77	18.36	-13.40	20.48	15.13	5.35	3.830		
900.00	897.47	902.06	899.50	3.06	3.07	-125.80	33.97	-11.15	20.86	14.76	6.10	3.421		
1,000.00	995.62	1,002.47	998.04	3.46	3.47	-124.65	53.01	-8.40	21.33	14.46	6.87	3.104 ES		
1,100.00	1,093.06	1,102.54	1,095.77	3.88	3.89	-125.76	74.31	-5.33	22.50	14.82	7.67	2.932		
1,114.63	1,107.24	1,117.16	1,110.05	3.94	3.95	-126.48	77.43	-4.88	22.83	15.04	7.79	2.931 SF		
1,200.00	1,189.97	1,202.49	1,193.36	4.32	4.31	-130.71	95.65	-2.25	25.02	16.55	8.47	2.954		
1,300.00	1,286.87	1,302.43	1,290.95	4.77	4.74	-134.78	117.00	0.83	27.71	18.45	9.26	2.991		
1,400.00	1,383.78	1,402.38	1,388.54	5.22	5.18	-138.12	138.34	3.91	30.52	20.47	10.06	3.035		
1,500.00	1,480.68	1,502.32	1,486.13	5.68	5.62	-140.89	159.69	6.99	33.42	22.57	10.85	3.080		
1,600.00	1,577.59	1,602.27	1,583.72	6.15	6.06	-143.22	181.03	10.07	36.39	24.74	11.64	3.125		
1,700.00	1,674.49	1,702.22	1,681.32	6.62	6.51	-145.19	202.38	13.14	39.40	26.96	12.44	3.168		
1,800.00	1,771.40	1,802.16	1,778.91	7.09	6.96	-146.88	223.73	16.22	42.46	29.23	13.23	3.209		
1,900.00	1,868.30	1,902.11	1,876.50	7.56	7.41	-148.34	245.07	19.30	45.54	31.52	14.02	3.248		
2,000.00	1,965.21	2,002.05	1,974.09	8.04	7.86	-149.61	266.42	22.38	48.65	33.84	14.81	3.284		
2,100.00	2,062.11	2,102.00	2,071.68	8.51	8.31	-150.74	287.76	25.46	51.79	36.18	15.61	3.318		
2,200.00	2,159.02	2,201.95	2,169.27	8.99	8.76	-151.73	309.11	28.54	54.94	38.54	16.40	3.350		
2,300.00	2,255.92	2,301.89	2,266.87	9.47	9.22	-152.61	330.45	31.62	58.10	40.91	17.19	3.380		
2,400.00	2,352.83	2,401.84	2,364.46	9.95	9.67	-153.41	351.80	34.69	61.28	43.30	17.98	3.408		
2,500.00	2,449.73	2,501.78	2,462.05	10.43	10.13	-154.12	373.14	37.77	64.47	45.69	18.78	3.434		
2,600.00	2,546.64	2,601.73	2,559.64	10.92	10.58	-154.77	394.49	40.85	67.67	48.10	19.57	3.458		
2,700.00	2,643.54	2,701.68	2,657.23	11.40	11.04	-155.36	415.84	43.93	70.87	50.51	20.36	3.481		
2,800.00	2,740.44	2,801.62	2,754.82	11.88	11.49	-155.90	437.18	47.01	74.09	52.93	21.16	3.502		
2,900.00	2,837.35	2,901.57	2,852.41	12.36	11.95	-156.39	458.53	50.09	77.30	55.35	21.95	3.522		
3,000.00	2,934.25	3,001.52	2,950.01	12.85	12.41	-156.84	479.87	53.17	80.53	57.78	22.74	3.541		
3,100.00	3,031.16	3,101.46	3,047.60	13.33	12.86	-157.26	501.22	56.24	83.76	60.22	23.54	3.558		
3,200.00	3,128.06	3,201.41	3,145.19	13.82	13.32	-157.65	522.56	59.32	86.99	62.66	24.33	3.575		
3,300.00	3,224.97	3,301.35	3,242.78	14.30	13.78	-158.01	543.91	62.40	90.22	65.10	25.13	3.591		
3,400.00	3,321.87	3,401.30	3,340.37	14.79	14.24	-158.35	565.25	65.48	93.46	67.54	25.92	3.606		
3,500.00	3,418.78	3,501.25	3,437.96	15.27	14.69	-158.66	586.60	68.56	96.71	69.99	26.72	3.620		
3,600.00	3,515.68	3,601.19	3,535.56	15.76	15.15	-158.95	607.95	71.64	99.95	72.44	27.51	3.633		
3,700.00	3,612.59	3,701.14	3,633.15	16.24	15.61	-159.22	629.29	74.72	103.20	74.89	28.31	3.646		
3,800.00	3,709.49	3,801.08	3,730.74	16.73	16.07	-159.48	650.64	77.80	106.45	77.35	29.10	3.658		
3,900.00	3,806.40	3,901.03	3,828.33	17.22	16.53	-159.72	671.98	80.87	109.70	79.80	29.90	3.669		
4,000.00	3,903.30	4,000.98	3,925.92	17.70	16.98	-159.95	693.33	83.95	112.95	82.26	30.69	3.680		
4,100.00	4,000.21	4,100.92	4,023.51	18.19	17.44	-160.17	714.67	87.03	116.21	84.72	31.49	3.691		
4,200.00	4,097.11	4,200.87	4,121.10	18.68	17.90	-160.37	736.02	90.11	119.47	87.18	32.28	3.701		
4,300.00	4,194.02	4,300.81	4,218.70	19.16	18.36	-160.56	757.36	93.19	122.73	89.65	33.08	3.710		
4,400.00	4,290.92	4,400.76	4,316.29	19.65	18.82	-160.75	778.71	96.27	125.98	92.11	33.87	3.719		
4,462.76	4,351.74	4,463.49	4,377.54	19.96	19.11	-160.86	792.11	98.20	128.03	93.66	34.37	3.725		
4,500.00	4,387.96	4,500.70	4,413.87	20.13	19.28	-172.70	800.05	99.35	128.93	94.24	34.69	3.716		
4,550.00	4,436.88	4,550.49	4,462.49	20.35	19.51	168.67	810.69	100.88	129.25	94.03	35.21	3.670		
4,600.00	4,485.84	4,599.79	4,510.62	20.54	19.73	150.87	821.22	102.40	128.91	93.06	35.85	3.595		
4,649.03	4,533.61	4,647.82	4,557.43	20.71	19.96	139.33	831.93	103.42	128.60	91.94	36.66	3.508		
4,650.00	4,534.55	4,648.75	4,558.34	20.72	19.96	139.18	832.15	103.41	128.60	91.92	36.68	3.506		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M26 2306 Pad - # 307H - 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 (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
4,700.00	4,582.70	4,694.69	4,602.54	20.86	20.19	135.01	844.57	102.13	129.81	91.98	37.83	3.432		
4,750.00	4,629.99	4,735.79	4,641.40	20.99	20.41	135.55	857.54	99.01	135.43	96.28	39.15	3.460		
4,800.00	4,676.14	4,771.44	4,674.46	21.10	20.60	137.80	870.17	94.78	148.02	107.78	40.24	3.678		
4,850.00	4,720.86	4,800.00	4,700.44	21.19	20.76	139.42	881.20	90.40	168.65	127.93	40.72	4.142		
4,900.00	4,763.87	4,826.10	4,723.74	21.26	20.91	140.68	891.95	85.62	196.76	155.92	40.84	4.818		
4,950.00	4,804.92	4,850.00	4,744.66	21.31	21.05	141.23	902.35	80.61	231.07	190.27	40.80	5.664		
5,000.00	4,843.74	4,860.67	4,753.87	21.35	21.11	137.68	907.16	78.17	269.94	229.74	40.19	6.716		
5,050.00	4,880.09	4,871.59	4,763.21	21.37	21.18	133.29	912.19	75.56	312.26	272.46	39.80	7.845		
5,100.00	4,913.76	4,878.94	4,769.43	21.38	21.22	126.39	915.63	73.73	357.00	317.54	39.46	9.048		
5,150.00	4,944.53	4,883.16	4,772.99	21.38	21.25	116.40	917.63	72.65	403.35	364.18	39.17	10.297		
5,200.00	4,972.22	4,884.65	4,774.24	21.36	21.26	103.09	918.34	72.27	450.70	411.74	38.95	11.570		
5,250.00	4,996.65	4,883.77	4,773.50	21.34	21.25	87.48	917.92	72.49	498.55	459.75	38.80	12.849		
5,300.00	5,017.68	4,880.83	4,771.03	21.31	21.24	72.01	916.53	73.25	546.50	507.79	38.71	14.119		
5,350.00	5,035.17	4,876.10	4,767.03	21.27	21.21	58.94	914.30	74.44	594.21	555.55	38.66	15.369		
5,400.00	5,049.02	4,869.80	4,761.68	21.23	21.17	48.93	911.36	75.99	641.39	602.73	38.66	16.590		
5,450.00	5,059.14	4,850.00	4,744.66	21.75	21.05	40.34	902.35	80.61	688.03	649.65	38.38	17.926		
5,500.00	5,065.46	4,850.00	4,744.66	22.36	21.05	35.96	902.35	80.61	733.26	694.57	38.69	18.954		
5,550.00	5,067.96	4,850.00	4,744.66	23.01	21.05	32.59	902.35	80.61	777.57	738.57	39.00	19.937		
5,559.97	5,068.00	4,850.00	4,744.66	23.14	21.05	32.01	902.35	80.61	786.29	747.22	39.06	20.129		
5,600.00	5,067.85	4,833.01	4,729.82	23.69	20.95	31.18	894.90	84.23	821.04	782.07	38.97	21.071		
5,700.00	5,067.46	4,800.00	4,700.44	25.18	20.76	29.69	881.20	90.40	909.56	870.64	38.92	23.369		
5,800.00	5,067.08	4,800.00	4,700.44	26.81	20.76	29.69	881.20	90.40	999.01	959.62	39.39	25.365		
5,900.00	5,066.69	4,782.11	4,684.22	28.57	20.66	28.96	874.20	93.25	1,089.90	1,050.40	39.49	27.598		
6,000.00	5,066.31	4,768.57	4,671.83	30.44	20.58	28.43	869.11	95.17	1,181.80	1,142.18	39.62	29.830		
6,100.00	5,065.92	4,750.00	4,654.66	32.39	20.48	27.74	862.42	97.49	1,274.60	1,234.94	39.66	32.140		
6,200.00	5,065.54	4,750.00	4,654.66	34.42	20.48	27.74	862.42	97.49	1,368.05	1,328.19	39.86	34.319		
6,300.00	5,065.15	4,750.00	4,654.66	36.51	20.48	27.74	862.42	97.49	1,462.37	1,422.35	40.02	36.537		
6,400.00	5,064.77	4,726.01	4,632.22	38.65	20.35	26.91	854.29	99.92	1,556.77	1,516.80	39.97	38.950		
6,500.00	5,064.38	4,700.00	4,607.60	40.84	20.22	26.09	846.14	101.84	1,652.21	1,612.31	39.90	41.408		
6,600.00	5,064.00	4,700.00	4,607.60	43.06	20.22	26.09	846.14	101.84	1,747.50	1,707.49	40.02	43.669		
6,700.00	5,063.61	4,700.00	4,607.60	45.32	20.22	26.09	846.14	101.84	1,843.29	1,803.18	40.11	45.951		
6,800.00	5,063.23	4,700.00	4,607.60	47.61	20.22	26.09	846.14	101.84	1,939.51	1,899.31	40.20	48.250		
6,900.00	5,062.84	4,700.00	4,607.60	49.92	20.22	26.09	846.14	101.84	2,036.09	1,995.82	40.27	50.563		
7,000.00	5,062.46	4,700.00	4,607.60	52.25	20.22	26.09	846.14	101.84	2,132.98	2,092.65	40.33	52.888		
7,100.00	5,062.07	4,678.87	4,587.40	54.60	20.11	25.46	840.04	102.84	2,229.70	2,189.42	40.28	55.350		
7,200.00	5,061.69	4,673.90	4,582.62	56.96	20.09	25.32	838.67	103.00	2,326.88	2,286.56	40.31	57.717		
7,300.00	5,061.30	4,650.00	4,559.55	59.34	19.97	24.68	832.46	103.41	2,424.61	2,384.35	40.26	60.223		
7,400.00	5,060.92	4,650.00	4,559.55	61.74	19.97	24.68	832.46	103.41	2,521.99	2,481.68	40.31	62.564		
7,500.00	5,060.53	4,650.00	4,559.55	64.14	19.97	24.68	832.46	103.41	2,619.57	2,579.21	40.36	64.910		
7,600.00	5,060.15	4,650.00	4,559.55	66.56	19.97	24.68	832.46	103.41	2,717.32	2,676.92	40.40	67.261		
7,700.00	5,059.76	4,650.00	4,559.55	68.98	19.97	24.68	832.46	103.41	2,815.23	2,774.79	40.44	69.615		
7,800.00	5,059.38	4,650.00	4,559.55	71.42	19.97	24.68	832.46	103.41	2,913.29	2,872.81	40.48	71.973		
7,900.00	5,058.99	4,650.00	4,559.55	73.86	19.97	24.68	832.46	103.41	3,011.47	2,970.96	40.51	74.332		
8,000.00	5,058.61	4,650.00	4,559.55	76.31	19.97	24.68	832.46	103.41	3,109.77	3,069.22	40.55	76.692		
8,100.00	5,058.22	4,650.00	4,559.55	78.76	19.97	24.68	832.46	103.41	3,208.17	3,167.59	40.58	79.053		
8,200.00	5,057.84	4,650.00	4,559.55	81.22	19.97	24.68	832.46	103.41	3,306.67	3,266.05	40.62	81.414		
8,300.00	5,057.45	4,635.10	4,545.08	83.68	19.90	24.31	828.90	103.34	3,405.05	3,364.45	40.60	83.861		
8,400.00	5,057.07	4,632.58	4,542.63	86.15	19.89	24.24	828.32	103.31	3,503.64	3,463.01	40.63	86.235		
8,500.00	5,056.69	4,619.02	4,529.40	88.62	19.82	23.92	825.32	102.99	3,602.41	3,561.79	40.62	88.678		
8,600.00	5,056.30	4,619.02	4,529.40	91.10	19.82	23.92	825.32	102.99	3,701.09	3,660.44	40.66	91.032		
8,700.00	5,055.92	4,619.02	4,529.40	93.58	19.82	23.92	825.32	102.99	3,799.84	3,759.15	40.69	93.384		
8,800.00	5,055.53	4,619.02	4,529.40	96.07	19.82	23.92	825.32	102.99	3,898.65	3,857.93	40.72	95.734		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M26 2306 Pad - # 307H - Original Drilling - APD													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
8,900.00	5,055.15	4,619.02	4,529.40	98.55	19.82	23.92	825.32	102.99	3,997.52	3,956.76	40.76	98.081		
9,000.00	5,054.76	4,619.02	4,529.40	101.04	19.82	23.92	825.32	102.99	4,096.45	4,055.65	40.79	100.426		
9,100.00	5,054.38	4,609.89	4,520.49	103.54	19.78	23.71	823.37	102.71	4,195.41	4,154.61	40.80	102.824		
9,200.00	5,053.99	4,595.99	4,506.91	106.03	19.72	23.40	820.40	102.28	4,294.38	4,253.58	40.80	105.250		
9,300.00	5,053.61	4,582.08	4,493.34	108.53	19.65	23.10	817.44	101.85	4,393.36	4,352.55	40.80	107.671		
9,400.00	5,053.22	4,568.18	4,479.77	111.03	19.59	22.82	814.47	101.42	4,492.33	4,451.53	40.81	110.088		
9,500.00	5,052.84	4,554.28	4,466.19	113.53	19.53	22.55	811.50	101.00	4,591.31	4,550.50	40.81	112.500		
9,600.00	5,052.45	4,540.38	4,452.62	116.03	19.46	22.29	808.53	100.57	4,690.29	4,649.48	40.82	114.908		
9,700.00	5,052.07	4,526.48	4,439.04	118.54	19.40	22.04	805.56	100.14	4,789.28	4,748.45	40.83	117.311		
9,800.00	5,051.68	4,512.58	4,425.47	121.04	19.33	21.79	802.59	99.71	4,888.26	4,847.43	40.83	119.709		
9,900.00	5,051.30	4,498.67	4,411.89	123.55	19.27	21.56	799.62	99.28	4,987.25	4,946.40	40.84	122.102		
10,000.00	5,050.91	4,484.77	4,398.32	126.06	19.21	21.34	796.65	98.85	5,086.24	5,045.38	40.86	124.490		
10,100.00	5,050.53	4,470.87	4,384.75	128.57	19.14	21.12	793.68	98.43	5,185.23	5,144.36	40.87	126.872		
10,200.00	5,050.14	4,456.97	4,371.17	131.09	19.08	20.92	790.71	98.00	5,284.22	5,243.33	40.88	129.248		
10,300.00	5,049.76	4,443.07	4,357.60	133.60	19.01	20.72	787.75	97.57	5,383.21	5,342.31	40.90	131.619		
10,400.00	5,049.37	4,429.17	4,344.02	136.12	18.95	20.52	784.78	97.14	5,482.20	5,441.29	40.92	133.983		
10,500.00	5,048.99	4,415.26	4,330.45	138.63	18.89	20.34	781.81	96.71	5,581.20	5,540.26	40.94	136.341		
10,600.00	5,048.60	4,401.36	4,316.88	141.15	18.82	20.16	778.84	96.29	5,680.19	5,639.24	40.96	138.693		
10,700.00	5,048.22	4,387.46	4,303.30	143.67	18.76	19.98	775.87	95.86	5,779.19	5,738.22	40.98	141.039		
10,800.00	5,047.83	4,373.56	4,289.73	146.19	18.69	19.81	772.90	95.43	5,878.19	5,837.19	41.00	143.377		
10,900.00	5,047.45	4,359.66	4,276.15	148.71	18.63	19.65	769.93	95.00	5,977.19	5,936.17	41.02	145.709		
11,000.00	5,047.06	4,345.76	4,262.58	151.23	18.57	19.49	766.96	94.57	6,076.19	6,035.14	41.05	148.035		
11,100.00	5,046.68	4,331.85	4,249.00	153.75	18.50	19.34	763.99	94.14	6,175.19	6,134.12	41.07	150.353		
11,200.00	5,046.29	4,317.95	4,235.43	156.27	18.44	19.19	761.02	93.72	6,274.19	6,233.10	41.10	152.664		
11,300.00	5,045.91	4,304.05	4,221.86	158.80	18.38	19.05	758.06	93.29	6,373.20	6,332.07	41.13	154.967		
11,400.00	5,045.52	4,290.15	4,208.28	161.32	18.31	18.91	755.09	92.86	6,472.20	6,431.05	41.16	157.263		
11,500.00	5,045.14	4,276.25	4,194.71	163.84	18.25	18.77	752.12	92.43	6,571.21	6,530.02	41.19	159.552		
11,600.00	5,044.75	4,262.35	4,181.13	166.37	18.18	18.64	749.15	92.00	6,670.21	6,628.99	41.22	161.833		
11,700.00	5,044.37	4,248.44	4,167.56	168.90	18.12	18.51	746.18	91.58	6,769.22	6,727.97	41.25	164.106		
11,800.00	5,043.98	4,234.54	4,153.98	171.42	18.06	18.39	743.21	91.15	6,868.22	6,826.94	41.28	166.372		
11,900.00	5,043.60	4,220.64	4,140.41	173.95	17.99	18.27	740.24	90.72	6,967.23	6,925.91	41.32	168.629		
12,000.00	5,043.21	4,206.74	4,126.84	176.48	17.93	18.15	737.27	90.29	7,066.24	7,024.89	41.35	170.879		
12,100.00	5,042.83	4,192.84	4,113.26	179.00	17.87	18.04	734.30	89.86	7,165.25	7,123.86	41.39	173.120		
12,200.00	5,042.45	4,178.93	4,099.69	181.53	17.80	17.93	731.33	89.43	7,264.26	7,222.83	41.43	175.354		
12,300.00	5,042.06	4,165.03	4,086.11	184.06	17.74	17.82	728.37	89.01	7,363.27	7,321.80	41.46	177.579		
12,400.00	5,041.68	4,151.13	4,072.54	186.59	17.67	17.71	725.40	88.58	7,462.28	7,420.77	41.50	179.795		
12,500.00	5,041.29	4,137.23	4,058.97	189.12	17.61	17.61	722.43	88.15	7,561.29	7,519.74	41.54	182.003		
12,600.00	5,040.91	4,123.33	4,045.39	191.65	17.55	17.51	719.46	87.72	7,660.30	7,618.71	41.59	184.203		
12,700.00	5,040.52	4,109.43	4,031.82	194.18	17.48	17.41	716.49	87.29	7,759.31	7,717.68	41.63	186.394		
12,800.00	5,040.14	4,095.52	4,018.24	196.71	17.42	17.32	713.52	86.86	7,858.32	7,816.65	41.67	188.576		
12,900.00	5,039.75	4,081.62	4,004.67	199.25	17.35	17.22	710.55	86.44	7,957.33	7,915.62	41.72	190.750		
13,000.00	5,039.37	4,067.72	3,991.09	201.78	17.29	17.13	707.58	86.01	8,056.35	8,014.59	41.76	192.915		
13,100.00	5,038.98	4,053.82	3,977.52	204.31	17.23	17.05	704.61	85.58	8,155.36	8,113.55	41.81	195.071		
13,200.00	5,038.60	4,039.92	3,963.95	206.84	17.16	16.96	701.64	85.15	8,254.37	8,212.52	41.85	197.218		
13,300.00	5,038.21	4,026.02	3,950.37	209.37	17.10	16.87	698.68	84.72	8,353.39	8,311.49	41.90	199.356		
13,400.00	5,037.83	4,012.11	3,936.80	211.91	17.04	16.79	695.71	84.30	8,452.40	8,410.45	41.95	201.486		
13,500.00	5,037.44	3,998.21	3,923.22	214.44	16.97	16.71	692.74	83.87	8,551.42	8,509.42	42.00	203.606		
13,600.00	5,037.06	3,984.31	3,909.65	216.97	16.91	16.63	689.77	83.44	8,650.43	8,608.38	42.05	205.717		
13,700.00	5,036.67	3,970.41	3,896.08	219.51	16.84	16.56	686.80	83.01	8,749.45	8,707.35	42.10	207.820		
13,800.00	5,036.29	3,956.51	3,882.50	222.04	16.78	16.48	683.83	82.58	8,848.46	8,806.31	42.15	209.913		
13,900.00	5,035.90	3,942.61	3,868.93	224.58	16.72	16.41	680.86	82.15	8,947.48	8,905.27	42.21	211.997		
14,000.00	5,035.52	3,928.70	3,855.35	227.11	16.65	16.34	677.89	81.73	9,046.50	9,004.24	42.26	214.071		



Lonestar Consulting, LLC
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M26 2306 Pad - # 307H - 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
14,100.00	5,035.13	3,914.80	3,841.78	229.65	16.59	16.26	674.92	81.30	9,145.51	9,103.20	42.31	216.137	
14,200.00	5,034.75	3,900.90	3,828.20	232.18	16.53	16.20	671.95	80.87	9,244.53	9,202.16	42.37	218.193	
14,300.00	5,034.36	3,887.00	3,814.63	234.72	16.46	16.13	668.99	80.44	9,343.55	9,301.12	42.42	220.240	
14,394.33	5,034.00	3,873.88	3,801.82	237.11	16.40	16.07	666.18	80.04	9,436.95	9,394.47	42.48	222.163	



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M26 2306 Pad - # 308H - Original Drilling - APD Rev 1													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	-117.67	-37.13	-70.82	79.96					
100.00	100.00	100.00	100.00	0.15	0.15	-117.67	-37.13	-70.82	79.96	79.65	0.31	259.375		
200.00	200.00	200.00	200.00	0.51	0.51	-117.67	-37.13	-70.82	79.96	78.94	1.03	77.994		
300.00	300.00	300.00	300.00	0.87	0.87	-117.67	-37.13	-70.82	79.96	78.22	1.74	45.898		
400.00	400.00	400.00	400.00	1.23	1.23	-117.67	-37.13	-70.82	79.96	77.50	2.46	32.516 CC, ES		
500.00	499.98	497.49	497.48	1.59	1.57	-128.13	-37.16	-72.48	82.56	79.39	3.16	26.118		
600.00	599.84	594.58	594.43	1.95	1.91	-129.13	-37.27	-77.42	90.35	86.48	3.86	23.396		
700.00	699.45	690.85	690.35	2.32	2.26	-130.44	-37.44	-85.57	103.34	98.78	4.56	22.640 SF		
800.00	798.70	785.91	784.75	2.68	2.61	-131.76	-37.67	-96.77	121.52	116.25	5.27	23.064		
900.00	897.47	879.41	877.18	3.06	2.97	-132.91	-37.96	-110.83	144.82	138.84	5.97	24.239		
1,000.00	995.62	971.01	967.24	3.46	3.34	-133.82	-38.30	-127.53	173.12	166.44	6.68	25.908		
1,100.00	1,093.06	1,060.40	1,054.57	3.88	3.73	-134.49	-38.70	-146.59	206.30	198.90	7.39	27.905		
1,114.63	1,107.24	1,073.28	1,067.10	3.94	3.78	-134.57	-38.76	-149.56	211.55	204.05	7.50	28.202		
1,200.00	1,189.97	1,150.94	1,142.49	4.32	4.13	-135.31	-39.14	-168.22	243.01	234.88	8.12	29.916		
1,300.00	1,286.87	1,243.80	1,232.59	4.77	4.57	-135.97	-39.61	-190.68	280.01	271.13	8.88	31.522		
1,400.00	1,383.78	1,336.66	1,322.69	5.22	5.01	-136.47	-40.07	-213.14	317.04	307.39	9.65	32.844		
1,500.00	1,480.68	1,429.52	1,412.79	5.68	5.46	-136.86	-40.54	-235.60	354.09	343.66	10.43	33.945		
1,600.00	1,577.59	1,522.38	1,502.89	6.15	5.91	-137.19	-41.00	-258.06	391.15	379.94	11.22	34.873		
1,700.00	1,674.49	1,615.24	1,592.99	6.62	6.37	-137.45	-41.47	-280.53	428.22	416.21	12.01	35.664		
1,800.00	1,771.40	1,708.10	1,683.09	7.09	6.83	-137.67	-41.93	-302.99	465.30	452.49	12.80	36.345		
1,900.00	1,868.30	1,800.96	1,773.19	7.56	7.30	-137.87	-42.40	-325.45	502.38	488.78	13.60	36.937		
2,000.00	1,965.21	1,893.82	1,863.29	8.04	7.76	-138.03	-42.86	-347.91	539.46	525.06	14.40	37.455		
2,100.00	2,062.11	1,986.68	1,953.39	8.51	8.23	-138.17	-43.32	-370.37	576.55	561.34	15.21	37.912		
2,200.00	2,159.02	2,079.53	2,043.49	8.99	8.70	-138.30	-43.79	-392.83	613.64	597.63	16.01	38.318		
2,300.00	2,255.92	2,172.39	2,133.59	9.47	9.17	-138.41	-44.25	-415.29	650.73	633.91	16.82	38.681		
2,400.00	2,352.83	2,265.25	2,223.69	9.95	9.64	-138.51	-44.72	-437.75	687.83	670.19	17.63	39.006		
2,500.00	2,449.73	2,358.11	2,313.79	10.43	10.12	-138.60	-45.18	-460.22	724.92	706.48	18.45	39.300		
2,600.00	2,546.64	2,450.97	2,403.89	10.92	10.59	-138.68	-45.65	-482.68	762.02	742.76	19.26	39.567		
2,700.00	2,643.54	2,543.83	2,493.99	11.40	11.07	-138.75	-46.11	-505.14	799.12	779.05	20.07	39.810		
2,800.00	2,740.44	2,636.69	2,584.09	11.88	11.54	-138.82	-46.58	-527.60	836.22	815.33	20.89	40.032		
2,900.00	2,837.35	2,729.55	2,674.19	12.36	12.02	-138.88	-47.04	-550.06	873.32	851.62	21.71	40.236		
3,000.00	2,934.25	2,822.41	2,764.29	12.85	12.49	-138.94	-47.50	-572.52	910.42	887.90	22.52	40.423		
3,100.00	3,031.16	2,915.27	2,854.39	13.33	12.97	-138.99	-47.97	-594.98	947.53	924.19	23.34	40.596		
3,200.00	3,128.06	3,008.13	2,944.49	13.82	13.44	-139.04	-48.43	-617.44	984.63	960.47	24.16	40.756		
3,300.00	3,224.97	3,100.98	3,034.59	14.30	13.92	-139.08	-48.90	-639.91	1,021.73	996.75	24.98	40.905		
3,400.00	3,321.87	3,193.84	3,124.69	14.79	14.40	-139.12	-49.36	-662.37	1,058.84	1,033.04	25.80	41.043		
3,500.00	3,418.78	3,286.70	3,214.80	15.27	14.88	-139.16	-49.83	-684.83	1,095.94	1,069.32	26.62	41.172		
3,600.00	3,515.68	3,379.56	3,304.90	15.76	15.36	-139.20	-50.29	-707.29	1,133.05	1,105.61	27.44	41.293		
3,700.00	3,612.59	3,472.42	3,395.00	16.24	15.83	-139.23	-50.76	-729.75	1,170.15	1,141.89	28.26	41.406		
3,800.00	3,709.49	3,565.28	3,485.10	16.73	16.31	-139.26	-51.22	-752.21	1,207.26	1,178.17	29.08	41.512		
3,900.00	3,806.40	3,658.14	3,575.20	17.22	16.79	-139.29	-51.68	-774.67	1,244.36	1,214.46	29.90	41.611		
4,000.00	3,903.30	3,751.00	3,665.30	17.70	17.27	-139.32	-52.15	-797.13	1,281.47	1,250.74	30.73	41.705		
4,100.00	4,000.21	3,843.86	3,755.40	18.19	17.75	-139.34	-52.61	-819.60	1,318.58	1,287.03	31.55	41.793		
4,200.00	4,097.11	3,936.72	3,845.50	18.68	18.23	-139.37	-53.08	-842.06	1,355.68	1,323.31	32.37	41.877		
4,300.00	4,194.02	4,029.58	3,935.60	19.16	18.71	-139.39	-53.54	-864.52	1,392.79	1,359.59	33.20	41.956		
4,400.00	4,290.92	4,122.43	4,025.70	19.65	19.19	-139.42	-54.01	-886.98	1,429.90	1,395.87	34.02	42.030		
4,462.76	4,351.74	4,180.71	4,082.25	19.96	19.49	-139.43	-54.30	-901.08	1,453.18	1,418.65	34.54	42.075		
4,500.00	4,387.96	4,215.25	4,115.75	20.13	19.67	-152.90	-54.47	-909.43	1,467.07	1,432.24	34.84	42.112		
4,550.00	4,436.88	4,261.33	4,160.46	20.35	19.90	-175.11	-54.70	-920.58	1,485.90	1,450.69	35.22	42.193		
4,600.00	4,485.84	4,306.81	4,204.60	20.54	20.14	161.95	-54.93	-931.58	1,504.86	1,469.30	35.57	42.310		
4,650.00	4,534.55	4,351.43	4,247.89	20.72	20.37	143.30	-55.15	-942.37	1,523.90	1,488.01	35.89	42.461		
4,700.00	4,582.70	4,394.90	4,290.07	20.86	20.59	129.99	-55.37	-952.88	1,542.98	1,506.80	36.18	42.645		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M26 2306 Pad - # 308H - Original Drilling - APD Rev 1													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		
4,750.00	4,629.99	4,436.95	4,330.87	20.99	20.81	120.66	-55.58	-963.06	1,562.10	1,525.66	36.45	42.860		
4,800.00	4,676.14	4,477.33	4,370.06	21.10	21.02	113.91	-55.78	-972.82	1,581.27	1,544.58	36.68	43.106		
4,850.00	4,720.86	4,515.79	4,407.37	21.19	21.22	108.83	-55.97	-982.13	1,600.49	1,563.59	36.89	43.380		
4,900.00	4,763.87	4,552.09	4,442.59	21.26	21.41	104.83	-56.16	-990.91	1,619.80	1,582.71	37.08	43.682		
4,950.00	4,804.92	4,586.00	4,475.50	21.31	21.58	101.55	-56.33	-999.11	1,639.22	1,601.97	37.25	44.008		
5,000.00	4,843.74	4,617.32	4,505.89	21.35	21.74	98.76	-56.48	-1,006.69	1,658.80	1,621.40	37.40	44.353		
5,050.00	4,880.09	4,645.86	4,533.57	21.37	21.89	96.29	-56.62	-1,013.59	1,678.54	1,641.00	37.54	44.712		
5,100.00	4,913.76	4,671.43	4,558.39	21.38	22.02	94.04	-56.75	-1,019.77	1,698.49	1,660.81	37.68	45.080		
5,150.00	4,944.53	4,693.88	4,580.17	21.38	22.14	91.93	-56.87	-1,025.20	1,718.63	1,680.81	37.82	45.448		
5,200.00	4,972.22	4,713.08	4,598.80	21.36	22.24	89.89	-56.96	-1,029.85	1,738.97	1,701.01	37.96	45.810		
5,250.00	4,996.65	4,728.90	4,614.15	21.34	22.32	87.88	-57.04	-1,033.67	1,759.48	1,721.36	38.12	46.160		
5,300.00	5,017.68	4,741.24	4,626.12	21.31	22.38	85.88	-57.10	-1,036.66	1,780.13	1,741.84	38.29	46.492		
5,350.00	5,035.17	4,750.04	4,634.66	21.27	22.43	83.87	-57.15	-1,038.79	1,800.85	1,762.38	38.48	46.803		
5,400.00	5,049.02	4,755.23	4,639.69	21.23	22.46	81.84	-57.17	-1,040.04	1,821.58	1,782.90	38.68	47.091		
5,450.00	5,059.14	4,756.78	4,641.20	21.75	22.46	79.80	-57.18	-1,040.42	1,842.21	1,803.31	38.90	47.355		
5,500.00	5,065.46	4,754.69	4,639.17	22.36	22.45	77.76	-57.17	-1,039.91	1,862.63	1,823.50	39.13	47.597		
5,550.00	5,067.96	4,748.96	4,633.62	23.01	22.42	75.73	-57.14	-1,038.53	1,882.72	1,843.35	39.37	47.819		
5,559.97	5,068.00	4,747.39	4,632.09	23.14	22.41	75.33	-57.13	-1,038.15	1,886.67	1,847.25	39.42	47.863		
5,600.00	5,067.85	4,740.79	4,626.68	23.69	22.38	75.12	-57.10	-1,036.55	1,902.85	1,863.22	39.62	48.025		
5,700.00	5,067.46	4,724.29	4,609.68	25.18	22.30	74.58	-57.02	-1,032.56	1,946.16	1,905.97	40.20	48.415		
5,800.00	5,067.08	4,707.79	4,593.67	26.81	22.21	74.05	-56.93	-1,028.57	1,993.43	1,952.58	40.84	48.808		
5,900.00	5,066.69	4,691.30	4,577.66	28.57	22.12	73.51	-56.85	-1,024.58	2,044.36	2,002.83	41.53	49.228		
6,000.00	5,066.31	4,674.80	4,561.66	30.44	22.04	72.98	-56.77	-1,020.59	2,098.69	2,056.45	42.23	49.692		
6,100.00	5,065.92	4,658.31	4,545.65	32.39	21.95	72.45	-56.69	-1,016.60	2,156.17	2,113.22	42.94	50.209		
6,200.00	5,065.54	4,641.81	4,529.64	34.42	21.87	71.92	-56.60	-1,012.61	2,216.54	2,172.90	43.64	50.787		
6,300.00	5,065.15	4,625.31	4,513.64	36.51	21.78	71.39	-56.52	-1,008.62	2,279.59	2,235.26	44.33	51.428		
6,400.00	5,064.77	4,608.82	4,497.63	38.65	21.70	70.86	-56.44	-1,004.63	2,345.09	2,300.11	44.98	52.133		
6,500.00	5,064.38	4,592.32	4,481.63	40.84	21.61	70.33	-56.36	-1,000.64	2,412.85	2,367.24	45.61	52.901		
6,600.00	5,064.00	4,575.82	4,465.62	43.06	21.53	69.81	-56.27	-996.65	2,482.68	2,436.47	46.21	53.729		
6,700.00	5,063.61	4,559.33	4,449.61	45.32	21.44	69.28	-56.19	-992.66	2,554.40	2,507.63	46.77	54.615		
6,800.00	5,063.23	4,542.83	4,433.61	47.61	21.36	68.76	-56.11	-988.67	2,627.87	2,580.57	47.30	55.556		
6,900.00	5,062.84	4,526.33	4,417.60	49.92	21.27	68.24	-56.03	-984.68	2,702.95	2,655.15	47.80	56.549		
7,000.00	5,062.46	4,509.84	4,401.59	52.25	21.19	67.73	-55.94	-980.69	2,779.49	2,731.23	48.26	57.590		
7,100.00	5,062.07	4,493.34	4,385.59	54.60	21.10	67.21	-55.86	-976.70	2,857.39	2,808.69	48.70	58.676		
7,200.00	5,061.69	4,476.85	4,369.58	56.96	21.02	66.70	-55.78	-972.71	2,936.54	2,887.44	49.10	59.804		
7,300.00	5,061.30	4,460.35	4,353.57	59.34	20.93	66.18	-55.70	-968.72	3,016.83	2,967.36	49.48	60.971		
7,400.00	5,060.92	4,443.85	4,337.57	61.74	20.85	65.67	-55.61	-964.73	3,098.19	3,048.36	49.83	62.176		
7,500.00	5,060.53	4,427.36	4,321.56	64.14	20.76	65.17	-55.53	-960.74	3,180.52	3,130.37	50.15	63.414		
7,600.00	5,060.15	4,410.86	4,305.56	66.56	20.68	64.66	-55.45	-956.75	3,263.76	3,213.30	50.46	64.685		
7,700.00	5,059.76	4,394.36	4,289.55	68.98	20.59	64.16	-55.37	-952.76	3,347.83	3,297.09	50.74	65.986		
7,800.00	5,059.38	4,377.87	4,273.54	71.42	20.51	63.66	-55.28	-948.76	3,432.68	3,381.68	50.99	67.314		
7,900.00	5,058.99	4,361.37	4,257.54	73.86	20.42	63.16	-55.20	-944.77	3,518.24	3,467.01	51.23	68.669		
8,000.00	5,058.61	4,344.87	4,241.53	76.31	20.33	62.66	-55.12	-940.78	3,604.47	3,553.02	51.46	70.048		
8,100.00	5,058.22	4,328.38	4,225.52	78.76	20.25	62.17	-55.04	-936.79	3,691.33	3,639.67	51.66	71.451		
8,200.00	5,057.84	4,311.88	4,209.52	81.22	20.16	61.68	-54.95	-932.80	3,778.76	3,726.91	51.85	72.875		
8,300.00	5,057.45	4,295.39	4,193.51	83.68	20.08	61.19	-54.87	-928.81	3,866.73	3,814.70	52.03	74.320		
8,400.00	5,057.07	4,278.89	4,177.51	86.15	19.99	60.71	-54.79	-924.82	3,955.21	3,903.02	52.19	75.785		
8,500.00	5,056.69	4,262.39	4,161.50	88.62	19.91	60.22	-54.71	-920.83	4,044.15	3,991.81	52.34	77.267		
8,600.00	5,056.30	4,245.90	4,145.49	91.10	19.82	59.75	-54.62	-916.84	4,133.53	4,081.06	52.48	78.767		
8,700.00	5,055.92	4,229.40	4,129.49	93.58	19.74	59.27	-54.54	-912.85	4,223.33	4,170.72	52.61	80.283		
8,800.00	5,055.53	4,212.90	4,113.48	96.07	19.65	58.80	-54.46	-908.86	4,313.51	4,260.79	52.72	81.815		
8,900.00	5,055.15	4,196.41	4,097.47	98.55	19.57	58.32	-54.38	-904.87	4,404.05	4,351.22	52.83	83.362		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M26 2306 Pad - # 308H - Original Drilling - APD Rev 1													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		
9,000.00	5,054.76	4,179.91	4,081.47	101.04	19.48	57.86	-54.29	-900.88	4,494.94	4,442.01	52.93	84.922		
9,100.00	5,054.38	4,163.41	4,065.46	103.54	19.40	57.39	-54.21	-896.89	4,586.14	4,533.12	53.02	86.496		
9,200.00	5,053.99	4,146.92	4,049.45	106.03	19.31	56.93	-54.13	-892.90	4,677.65	4,624.54	53.10	88.083		
9,300.00	5,053.61	4,130.42	4,033.45	108.53	19.23	56.47	-54.05	-888.91	4,769.44	4,716.25	53.18	89.682		
9,400.00	5,053.22	4,113.93	4,017.44	111.03	19.14	56.02	-53.96	-884.92	4,861.49	4,808.24	53.25	91.293		
9,500.00	5,052.84	4,097.43	4,001.44	113.53	19.06	55.56	-53.88	-880.93	4,953.80	4,900.49	53.32	92.914		
9,600.00	5,052.45	4,080.93	3,985.43	116.03	18.97	55.11	-53.80	-876.94	5,046.35	4,992.98	53.37	94.546		
9,700.00	5,052.07	4,064.44	3,969.42	118.54	18.89	54.67	-53.72	-872.95	5,139.13	5,085.70	53.43	96.189		
9,800.00	5,051.68	4,047.94	3,953.42	121.04	18.80	54.23	-53.63	-868.96	5,232.12	5,178.64	53.48	97.841		
9,900.00	5,051.30	4,031.44	3,937.41	123.55	18.72	53.79	-53.55	-864.97	5,325.31	5,271.79	53.52	99.502		
10,000.00	5,050.91	4,014.95	3,921.40	126.06	18.63	53.35	-53.47	-860.98	5,418.70	5,365.14	53.56	101.172		
10,100.00	5,050.53	3,998.45	3,905.40	128.57	18.55	52.92	-53.39	-856.99	5,512.26	5,458.67	53.59	102.851		
10,200.00	5,050.14	3,981.95	3,889.39	131.09	18.46	52.49	-53.30	-853.00	5,606.01	5,552.38	53.63	104.538		
10,300.00	5,049.76	3,965.46	3,873.39	133.60	18.38	52.06	-53.22	-849.01	5,699.91	5,646.26	53.65	106.233		
10,400.00	5,049.37	3,948.96	3,857.38	136.12	18.29	51.64	-53.14	-845.02	5,793.98	5,740.30	53.68	107.936		
10,500.00	5,048.99	3,932.46	3,841.37	138.63	18.21	51.22	-53.06	-841.03	5,888.19	5,834.49	53.70	109.646		
10,600.00	5,048.60	3,915.97	3,825.37	141.15	18.12	50.80	-52.97	-837.04	5,982.54	5,928.82	53.72	111.363		
10,700.00	5,048.22	3,899.47	3,809.36	143.67	18.04	50.39	-52.89	-833.05	6,077.04	6,023.30	53.74	113.086		
10,800.00	5,047.83	3,882.98	3,793.35	146.19	17.95	49.97	-52.81	-829.06	6,171.66	6,117.90	53.75	114.816		
10,900.00	5,047.45	3,866.48	3,777.35	148.71	17.86	49.57	-52.73	-825.07	6,266.40	6,212.64	53.76	116.553		
11,000.00	5,047.06	3,849.98	3,761.34	151.23	17.78	49.16	-52.64	-821.08	6,361.26	6,307.49	53.77	118.295		
11,100.00	5,046.68	3,833.49	3,745.34	153.75	17.69	48.76	-52.56	-817.09	6,456.24	6,402.45	53.78	120.043		
11,200.00	5,046.29	3,816.99	3,729.33	156.27	17.61	48.37	-52.48	-813.10	6,551.32	6,497.53	53.79	121.797		
11,300.00	5,045.91	3,800.49	3,713.32	158.80	17.52	47.97	-52.40	-809.11	6,646.51	6,592.71	53.79	123.556		
11,400.00	5,045.52	3,784.00	3,697.32	161.32	17.44	47.58	-52.31	-805.12	6,741.79	6,688.00	53.80	125.320		
11,500.00	5,045.14	3,767.50	3,681.31	163.84	17.35	47.19	-52.23	-801.13	6,837.17	6,783.37	53.80	127.088		
11,600.00	5,044.75	3,751.00	3,665.30	166.37	17.27	46.81	-52.15	-797.14	6,932.64	6,878.85	53.80	128.862		
11,700.00	5,044.37	3,734.51	3,649.30	168.90	17.18	46.43	-52.07	-793.15	7,028.20	6,974.40	53.80	130.640		
11,800.00	5,043.98	3,718.01	3,633.29	171.42	17.10	46.05	-51.98	-789.16	7,123.85	7,070.05	53.80	132.423		
11,900.00	5,043.60	3,701.52	3,617.28	173.95	17.01	45.68	-51.90	-785.17	7,219.57	7,165.77	53.79	134.209		
12,000.00	5,043.21	3,685.02	3,601.28	176.48	16.93	45.31	-51.82	-781.18	7,315.37	7,261.58	53.79	136.000		
12,100.00	5,042.83	3,668.52	3,585.27	179.00	16.84	44.94	-51.74	-777.19	7,411.24	7,357.46	53.78	137.794		
12,200.00	5,042.45	3,652.03	3,569.27	181.53	16.76	44.58	-51.65	-773.19	7,507.19	7,453.41	53.78	139.592		
12,300.00	5,042.06	3,635.53	3,553.26	184.06	16.67	44.21	-51.57	-769.20	7,603.20	7,549.43	53.77	141.394		
12,400.00	5,041.68	3,619.03	3,537.25	186.59	16.59	43.86	-51.49	-765.21	7,699.28	7,645.52	53.77	143.199		
12,500.00	5,041.29	3,602.54	3,521.25	189.12	16.50	43.50	-51.41	-761.22	7,795.43	7,741.67	53.76	145.007		
12,600.00	5,040.91	3,586.04	3,505.24	191.65	16.42	43.15	-51.32	-757.23	7,891.63	7,837.88	53.75	146.818		
12,700.00	5,040.52	3,569.54	3,489.23	194.18	16.33	42.80	-51.24	-753.24	7,987.90	7,934.15	53.74	148.632		
12,800.00	5,040.14	3,553.05	3,473.23	196.71	16.25	42.45	-51.16	-749.25	8,084.22	8,030.48	53.73	150.448		
12,900.00	5,039.75	3,536.55	3,457.22	199.25	16.16	42.11	-51.08	-745.26	8,180.59	8,126.87	53.73	152.268		
13,000.00	5,039.37	3,520.06	3,441.22	201.78	16.08	41.77	-50.99	-741.27	8,277.02	8,223.31	53.72	154.089		
13,100.00	5,038.98	3,503.56	3,425.21	204.31	15.99	41.44	-50.91	-737.28	8,373.51	8,319.80	53.71	155.913		
13,200.00	5,038.60	3,487.06	3,409.20	206.84	15.91	41.10	-50.83	-733.29	8,470.04	8,416.34	53.70	157.739		
13,300.00	5,038.21	3,470.57	3,393.20	209.37	15.82	40.77	-50.75	-729.30	8,566.61	8,512.93	53.69	159.567		
13,400.00	5,037.83	3,454.07	3,377.19	211.91	15.74	40.45	-50.66	-725.31	8,663.24	8,609.56	53.68	161.397		
13,500.00	5,037.44	3,437.57	3,361.18	214.44	15.65	40.12	-50.58	-721.32	8,759.91	8,706.24	53.67	163.229		
13,600.00	5,037.06	3,421.08	3,345.18	216.97	15.57	39.80	-50.50	-717.33	8,856.62	8,802.96	53.66	165.063		
13,700.00	5,036.67	3,404.58	3,329.17	219.51	15.48	39.48	-50.42	-713.34	8,953.37	8,899.73	53.65	166.898		
13,800.00	5,036.29	3,388.08	3,313.17	222.04	15.40	39.17	-50.33	-709.35	9,050.17	8,996.53	53.64	168.734		
13,900.00	5,035.90	3,371.59	3,297.16	224.58	15.31	38.86	-50.25	-705.36	9,147.00	9,093.38	53.63	170.571		
14,000.00	5,035.52	3,355.09	3,281.15	227.11	15.23	38.55	-50.17	-701.37	9,243.88	9,190.26	53.62	172.410		
14,100.00	5,035.13	3,338.60	3,265.15	229.65	15.14	38.24	-50.09	-697.38	9,340.78	9,287.18	53.61	174.250		



Lonestar Consulting, LLC
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design M26 2306 Pad - # 308H - Original Drilling - APD Rev 1												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
14,200.00	5,034.75	3,322.10	3,249.14	232.18	15.06	37.94	-50.00	-693.39	9,437.73	9,384.13	53.60	176.090	
14,300.00	5,034.36	3,305.60	3,233.13	234.72	14.97	37.63	-49.92	-689.40	9,534.71	9,481.12	53.59	177.932	
14,394.33	5,034.00	3,290.05	3,218.04	237.11	14.89	37.35	-49.84	-685.64	9,626.22	9,572.64	53.58	179.671	



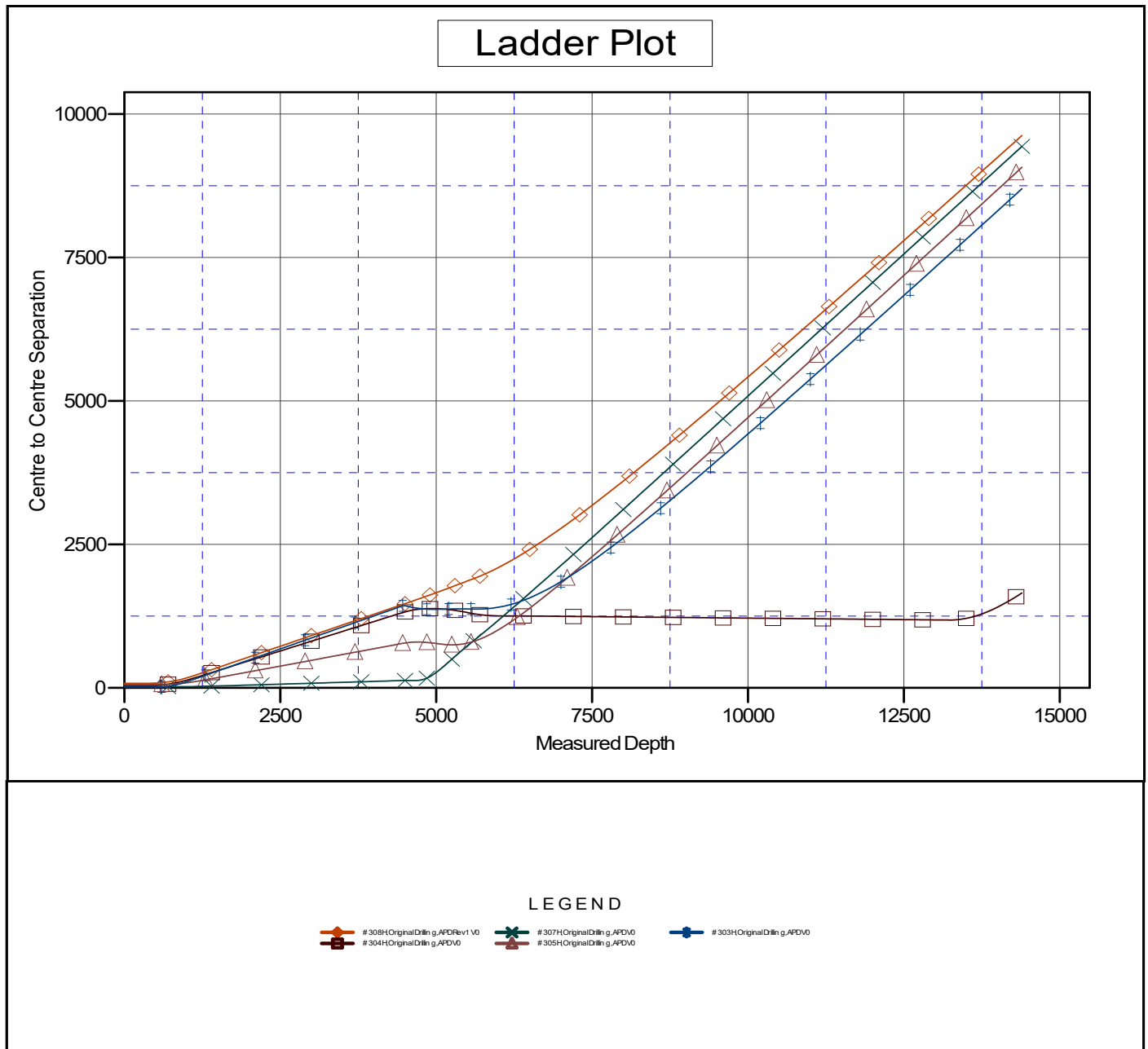
Lonestar Consulting, LLC
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 6954' & RKB 14' @ 6968.00usft
Offset Depths are relative to Offset Datum
Central Meridian is -107.8333333

Coordinates are relative to: # 309H - Slot 5
Coordinate System is US State Plane 1983, New Mexico Western Zone
Grid Convergence at Surface is: 0.23°





Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 309H - Slot 5
Project:	Gallo Canyon Unit	TVD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Reference Site:	M26 2306 Pad	MD Reference:	GL 6954' & RKB 14' @ 6968.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 309H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	DJR
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 6954' & RKB 14' @ 6968.00usft

Offset Depths are relative to Offset Datum

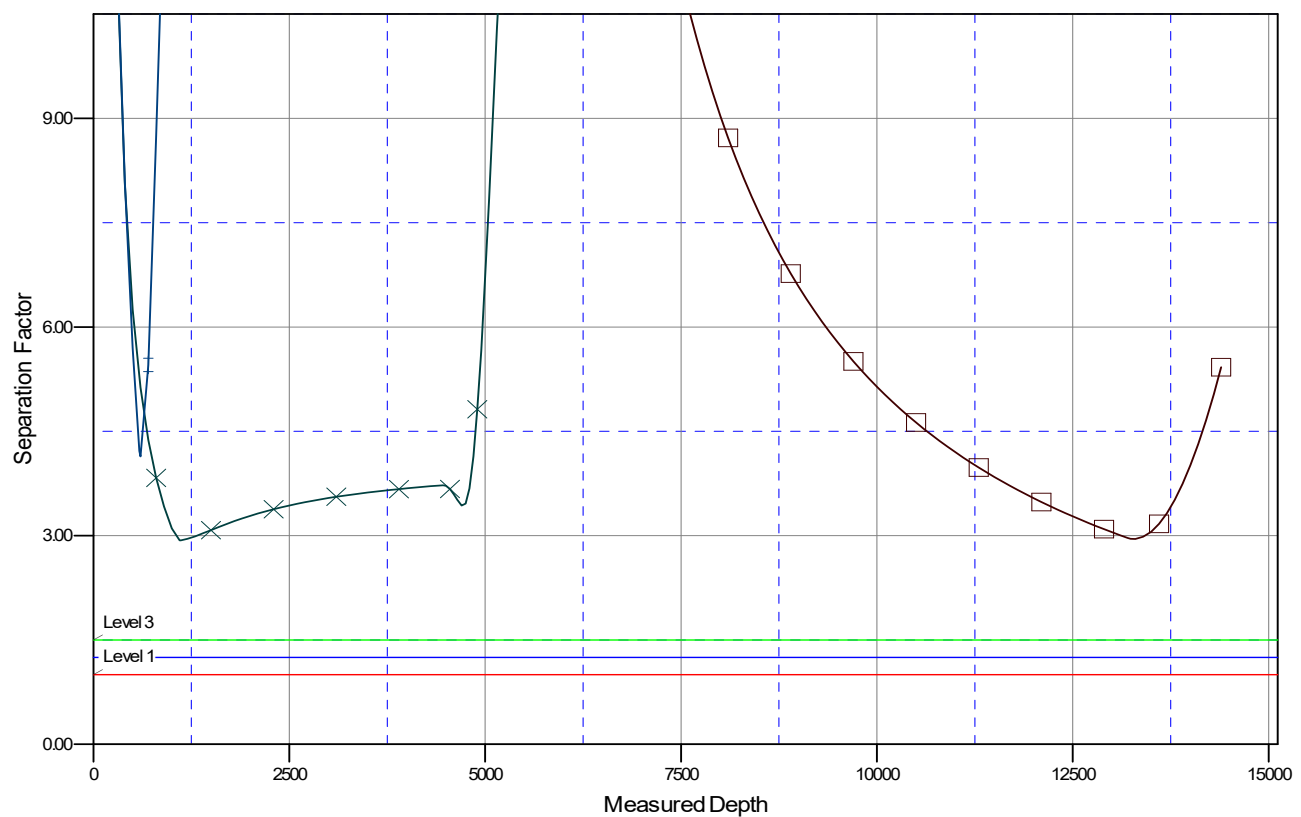
Central Meridian is -107.8333333

Coordinates are relative to: # 309H - Slot 5

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

Grid Convergence at Surface is: 0.23°

Separation Factor Plot



LEGEND

308HOriginalDrilling.g.APDRev1 V0
 # 307HOriginalDrilling.g.APDV0
 # 303HOriginalDrilling.g.APDV0

DJR Operating, LLC. DJR's Gallo Canyon Unit M26-2306 Nos. 303H, 304H, 305H, 307H, 308H, and 309H Gas Wells Project

DOI-BLM-NM-F010-2021-0027-EA

Conditions of Approval (COA)

– Design Features –

DJR will adhere to any conditions required by the BLM FFO. Additional project-specific design features will be included as determined during the BLM on-site meeting. DJR has also committed to the following design features and BMPs to lessen impacts to resources. Where applicable, additional details related to the design features may be found in the APD on file at the BLM FFO.

Air Resources

Areas not required for facilities will be revegetated during interim reclamation.

Dirt roads will be watered during periods of high use (magnesium chloride, organic-based compounds, and/or polymer compounds could also be used on dirt roads upon approval of the BLM).

BMPs provided in The Gold Book will be implemented for proposed and existing roads (BLM and U.S. Forest Service 2007).

Compressor engines of 300 horsepower or less used during well production must be rated by the manufacturer as emitting NO_x at 2 grams per horsepower-hour or less to comply with the NMED, Air Quality Bureau's guidance.

Water Resources

To prevent erosion, certain areas surrounding the proposed site will be recontoured during interim reclamation.

Culverts and silt traps will be installed as appropriate and where determined during the BLM on-site and facility on-site visits.

Wildlife, Migratory Birds, and Special-Status Species

Any wildlife encountered within the proposed project area will be avoided and allowed to move out of the proposed project area. No wildlife will be intentionally harmed or harassed.

Wildlife hazards, such as storage tanks, associated with the proposed project will be fenced or covered, as necessary.

Because the proposed project will disturb more than 4.0 acres of vegetation, migratory breeding bird nesting surveys will be required if construction activities are scheduled to occur during the migratory bird nesting season (May 15–July 31). If an active nest is encountered, it will be avoided (avoidance buffer to be determined by BLM FFO) and left undisturbed until the nest has failed, or nestlings have fledged. If present, an inactive nest could be cleared by a BLM FFO–approved wildlife biologist.

Per BLM FFO Instruction Memorandum No. NM-F00-2010-001, any open water containing fluids that could be harmful to birds and other wildlife must be netted or closed to help prevent entry.

DJR will notify the BLM and U.S. Fish and Wildlife Service (USFWS) upon discovery of a dead or injured migratory bird, bald eagle, or golden eagle within or adjacent to the proposed project area. If the BLM becomes aware of such mortality or injury, the BLM will inform DJR. If DJR fails to notify the USFWS of the mortality or injury, the BLM will notify the USFWS. The BLM and the USFWS will then attempt to determine the cause of mortality and identify appropriate mitigation measures to avoid future occurrences.

Should other special-status species be observed within the proposed project area prior to or during the proposed project, construction will cease, and the BLM FFO will be immediately contacted. The BLM FFO will then evaluate the resource. Should a discovery be evaluated as significant (protected under the Endangered Species Act, etc.), it will be protected in place until mitigation could be developed and implemented according to guidelines set by the BLM FFO.

Per BLM FFO Instruction Memorandum No. NM-200-2008-001 (BLM 2008b), an updated pre-construction biological survey could be required for the proposed project if vegetation removal would occur more than 1 year following the previous biological survey.

Soil, Upland Vegetation, and Noxious Weeds and Invasive Species

Reclamation will follow the guidance provided in the *Farmington Field Office Bare Soil Reclamation Procedures* (BLM 2013). These procedures are referenced in DJR's Surface Reclamation Plan.

During the pre-disturbance on-site meeting with BLM, a suitable vegetation community from the *Farmington Field Office Bare Soil Reclamation Procedures* (BLM 2013) will be selected by BLM. Plant species will be chosen from the BLM FFO's seed pick list for the selected community.

A noxious weed inventory utilizing the New Mexico Noxious Weed List (New Mexico Department of Agriculture 2009) and the U.S. Department of Agriculture's (USDA's) Federal Noxious Weed List (Natural Resources Conservation Service 2017; USDA 2010, 2012) will be conducted during the pre-disturbance on-site meeting.

Identified noxious weeds will be treated prior to new surface disturbance, as determined by the BLM FFO Noxious Weed Specialist (505-564-7600). A Pesticide Use Proposal (PUP) will be submitted to and approved by the BLM FFO Noxious Weed Specialist prior to application of any pesticide.

See the above water resources section for erosion-control features.

Cultural Resources

All cultural resources stipulations will be followed as indicated in the BLM Cultural Resource Records of Review and the Conditions of Approvals. These stipulations may include, but are not limited to, temporary or permanent fencing or other physical barriers, monitoring of earth-disturbing construction, project area reduction and/or specific construction avoidance zones, and employee education.

All employees, contractors, and subcontractors will be informed by the project proponent that cultural sites are to be avoided by all personnel, personal vehicles, and company equipment, and that it is illegal to collect, damage, or disturb cultural resources, and that such activities on federal and tribal lands are punishable by criminal and or administrative penalties under the provisions of Archaeological Resources Protection Act (ARPA) (16 USC 470aa-mm).

In the event of a cultural resource's discovery during construction, construction activities will immediately cease in the immediate vicinity of the discovery, and DJR will immediately notify the archaeological monitor, if present, or the BLM. The BLM will then ensure the site is

evaluated. Should a discovery be evaluated as significant (e.g., National Register of Historic Places, Native American Graves Protection and Repatriation Act of 1990, ARPA), it will be protected in place until mitigating measures can be developed and implemented according to guidelines set by the BLM.

Known sites and sites identified during the pre-construction cultural resources inventory surveys will be avoided.

Paleontological Resources

If any paleontological resources are discovered during activities associated with the proposed project:

DJR will immediately inform the BLM Authorized Officer.

Activities in the vicinity of the discovery will be immediately suspended until written authorization to proceed is issued by the BLM Authorized Officer.

The discovery will be protected from damage or looting.

The Authorized Officer will ensure evaluation of the discovery as soon as possible.

Appropriate measures to mitigate adverse effects to significant paleontological resources will be determined by the Authorized Officer after consulting with the operator.

Visual Resources and Dark Skies

Equipment not subject to safety requirements will be painted a BLM Standard Environmental Color (Covert Green) to minimize contrast with the surrounding landscape.

If applicable, during reclamation, stockpiled rocks, if available, will be placed within the reclaimed area for erosion control and/or to discourage off-highway vehicle traffic (if requested by the BLM FFO). Rocks will be placed in a manner that visually blends with the adjacent, undisturbed landscape.

Lights will be limited to those needed for safety during construction and operations.

Lighting will be downward-facing or shielded where possible.

Livestock Grazing and Rangeland Health Standards

Livestock grazing operators in the vicinity of the proposed project area will be contacted prior to construction.

Safety meetings will be conducted prior to construction to increase awareness of livestock, such as the presence of open range and driving speed to avoid livestock collisions.

To the extent feasible, construction activities will not be conducted when livestock are present within the proposed project area.

If livestock are present during construction, barriers will be placed to ensure that livestock do not come in contact with potential hazards. Barrier examples could include fencing of exposed ditch-type holes, covering of holes when personnel are not present on site, and containing contaminants, fluid leaks, or hazards that could cause injury to livestock.

Public Health and Safety

The hauling of equipment and materials on public roads will comply with New Mexico Department of Transportation regulations. Any accidents involving persons or property will be reported to the

BLM FFO. DJR will notify the public of potential hazards by posting signage, having flaggers, or using lighted signs, as necessary.

Worker safety incidents will be reported to the BLM FFO as required under NTL-3A (U.S. Geological Survey 1979). DJR will adhere to company safety policies and Occupational Safety and Health Administration (OSHA) regulations.

Vehicles will be restricted to proposed and existing disturbance areas.

The proposed site will have an informational sign, delineating operator, legal description, etc.

DJR traffic is expected to adhere to all posted speed limits and signs. Drivers will be appropriately licensed and inspected.

Lay-Flat Pipeline BMP's

- Time construction activities at perennial, intermittent, and ephemeral drainage crossings (e.g., buried pipelines, culverts) to avoid high-flow conditions. When construction disturbs a flowing stream, utilize either a piped stream diversion or a cofferdam and pump to divert flow around the disturbed area.
- Design and construct surface pipelines at drainage crossings at an adequate height above possible flood levels. Bore/bury pipeline crossings below the surface deep enough to remain undisturbed by scour and fill processes typically associated with peak flows. Complete a hydraulic analysis during the pipeline design phase to avoid repeated maintenance of such a crossing and eliminate costly repairs and potential environmental degradation associated with pipeline breaks at stream crossings. Utilize horizontal directional boring techniques below perennial water bodies and/or wetland complexes when environmental circumstances allow.
- X-ray pipeline welds within 100 feet of a perennial stream to prevent leakage into the stream. Where pipelines cross streams that support Federal or State-listed threatened or endangered species or BLM-listed sensitive species, utilize additional safeguards (such as double-walled pipe, and remotely actuated block or check valves) on both sides of the stream.
- Avoid water courses when locating pipelines and flowlines; utilize road corridors wherever possible to minimize surface disturbance and provide better leak detection and access for installation and repair activities.
- Reclamation, including seeding, of temporarily disturbed areas along roads and pipelines, and of topsoil piles and berms, shall be completed within 30 days following completion of construction. Any such area on which construction is completed prior to December 1 shall be seeded during the remainder of the early winter season instead of during the following spring unless BLM approves otherwise based on weather. If road or pipeline construction occurs discontinuously (e.g., new segments installed as new pads are built) or continuously but with a total duration greater than 30 days, reclamation, including seeding, shall be phased such that no portion of the temporarily disturbed area remains in an un-reclaimed condition for longer than 30 days. BLM may authorize deviation from this requirement based on the season and the amount of work remaining on the entirety of the road or pipeline when the 30-day period has expired.
- To the extent practical, existing vegetation shall be preserved when clearing and grading for pads, roads, and pipelines. Cleared trees and rocks may be salvaged for redistribution over reshaped cut and-fill slopes or along linear features.

Weeds

Farmington Field Office Standard Noxious/Invasive Weeds Design Features and Best Management Practices

Noxious/Invasive Weeds: DJR will inventory the proposed site for the presence of noxious and invasive weeds. Noxious weeds are those listed on the New Mexico Noxious Weed List and USDA's Federal Noxious Weed List. The New Mexico Noxious Weed List or USDA's Noxious Weed List can be updated at any time and should be regularly checked for any changes. Invasive species may or may not be listed as a noxious weed but have been identified to likely cause economic or environmental harm or harm to human health. The following noxious weeds have been identified as occurring on land within the boundaries of the FFO. There are numerous invasive species such as Russian thistle (*Salsola* spp.) and field bindweed (*Convolvulus arvensis*).

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>)	Dalmatian 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>)

- a. Any identified weeds will be treated prior to new surface disturbance if determined by the FFO Noxious Weed Specialist. If a Weed Management Plan is not on file, a Weed Management Plan will be created. A PUP will be submitted to and approved by the FFO Noxious Weed Specialist prior to application of pesticide. The FFO Noxious Weeds Specialist (505-564-7600) can provide assistance in the development of the PUP.
- b. Vehicles and equipment should be inspected and cleaned prior to coming onto the site. This is especially important on vehicles from out of state or if coming from a weed-infested site.
- c. Fill dirt or gravel may be needed for excavation, road construction/repair, or as a surfacing material. If fill dirt or gravel will be required, the source shall be noxious weed free and approved by the FFO Noxious Weed Specialist.
- d. The site shall be monitored for the life of the project for the presence of noxious weeds (includes maintenance and construction activities). If weeds are found, the FFO Specialist shall be notified at (505) 564-7600 and provided with a Weed Management Plan and, if necessary, a PUP. The FFO Specialist can provide assistance developing the Weed Management Plan and/or the PUP.
- e. Only pesticides authorized for use on BLM land will be used and applied by a licensed pesticide applicator. The use of pesticides will comply with federal and state laws and used only in accordance with their registered use and limitations. DJR's

weed-control contractor will contact the BLM FFO prior to using these chemicals.

- f. Additional noxious and invasive weed treatment methods are outlined in DJR's Surface Use Plan of Operations (SUPO), that is included as part of the APD package.

Noxious/invasive weed treatments must be reported to the FFO Noxious Weed Specialist. A Pesticide Use Report (PUR) is required to report any mechanical, chemical, biological, or cultural treatments used to eradicate and/or control noxious or invasive species. Reporting will be required quarterly and annually or per request from the FFO Noxious Weed Specialist.

Bare ground vegetation trim-out:



DJR OPERATING, LLC

BARE GROUND VEGETATION TRIM-OUT DESIGN I

ATTACHED TO

SURFACE PLAN OF OPERATIONS

Facility/ Structure	Required Trim-Out Buffer Distance	Pesticide Use for Vegetation Control	Pesticide Use Plan On file with BLM
Well Head	10'	Yes	Yes
Tanks/Containment	10'	Yes	Yes
Gas Lift Compressors	10'	Yes	Yes
Metering Equipment	10'	Yes	Yes
SCC (Smokeless Combustion Chamber	10'	Yes	Yes

Pesticide use for trim-out will require a PUP submitted for approval by the FFO Noxious Weed Specialist. A PUP is required **prior** to any treatment. Only pesticides authorized for use on BLM land will be used and applied by a licensed pesticide applicator. Pesticides will comply with federal and state laws and used only in accordance with their registered use and limitations. DJR's weed-control contractor will contact the BLM FFO prior to using these chemicals and provide a PUR post treatment.

A PUR is required to report any mechanical, chemical, biological, or cultural treatments used to eradicate or control vegetation on-site. Reporting will be required quarterly and annually or if requested by the FFO Noxious Weed Specialist.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Farmington District Office
6251 College Blvd, Suite A
Farmington, New Mexico 87402



In Reply Refer To:
3162.3-1(NMF0110)

* DJR OPERATING LLC

#309H GALLO CANYON UNIT

Lease: NMNM118128 Unit: NMNM131017A
SH: SW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 26, T.23 N., R.6 W.
Sandoval County, New Mexico
BH: SE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 36, T.23 N., R.6 W.
Sandoval County, New Mexico

***Above Data Required on Well Sign**

GENERAL REQUIREMENTS FOR OIL AND GAS OPERATIONS ON FEDERAL AND INDIAN LEASES

The following special requirements apply and are effective when **checked**:

- A. ☒ Note all surface/drilling conditions of approval attached.
- B. ☒ The required wait on cement (WOC) time will be a minimum of 500 psi compressive strength at 60 degrees. Blowout preventor (BOP) nipple-up operations may then be initiated
- C. ☐ Test the surface casing to a minimum of _____ psi for 30 minutes.
- D. ☐ Test all casing strings below the surface casing to .22 psi/ft. of casing string length or 1500 psi, whichever is greater, but not to exceed 70% of the minimum internal yield burst) for a minimum of 30 minutes.
- E. ☐ Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the Bureau of Land Management, Farmington District Office, Branch of Reservoir Management, 6251 College Blvd. Suite A, Farmington, New Mexico 87402. The effective date of the agreement must be **prior** to any sales.
- F. ☒ The use of co-flex hose is authorized contingent upon the following:
 1. From the BOP to the choke manifold: the co-flex hose must be hobbled on both ends and saddle to prevent whip.
 2. From the choke manifold to the discharge tank: the co-flex hoses must be as straight as practical, hobbled on both ends and anchored to prevent whip.
 3. The co-flex hose pressure rating must be at least commensurate with approved BOPE.

INTERIOR REGION 7 • UPPER COLORADO BASIN

COLORADO, NEW MEXICO, UTAH, WYOMING

I. GENERAL

- A. Full compliance with all applicable laws, regulations, and Onshore Orders, with the approved Permit to drill, and with the approved Surface Use and Operations Plan is required. Lessees and/or operators are fully accountable for the actions of their contractors and subcontractors. Failure to comply with these requirements and the filing of required reports will result in strict enforcement pursuant to 43 CFR 3163.1 or 3163.2.
- B. Each well shall have a well sign in legible condition from spud date to final abandonment. The sign should show the operator's name, lease serial number, or unit name, well number, location of the well, and whether lease is Tribal or Allotted, (See 43 CFR 3162.6(b)).
- C. A complete copy of the approved Application for Permit to Drill, along with any conditions of approval, shall be available to authorized personnel at the drill site whenever active drilling operations are under way.
- D. For Wildcat wells only, a drilling operations progress report is to be submitted, to the BLM-Field Office, weekly from the spud date until the well is completed and the Well Completion Report (Form 3160-4) is filed. The report should be on 8-1/2 x 11 inch paper, and each page should identify the well by; operator's name, well number, location and lease number.
- E. As soon as practical, notice is required of all blowouts, fires and accidents involving life-threatening injuries or loss of life. (See NTL-3A).
- F. Prior approval by the BLM-Authorized Office (Drilling and Production Section) is required for variance from the approved drilling program and before commencing plugging operations, plug back work casing repair work, corrective cementing operations, or suspending drilling operations indefinitely. Emergency approval may be obtained orally, but such approval is contingent upon filing of a notice of intent (on a Sundry Notice, Form 3160-5) within three business days (original and three copies of Federal leases and an original and four copies on Indian leases). **Any changes to the approved plan or any questions regarding drilling operations should be directed to BLM during regular business hours at 505-564-7600. Emergency program changes after hours should be directed to at Virgil Lucero at 505-793-1836.**
- G. **The Inspection and Enforcement Section (I&E), phone number (505-564-7750) is to be notified at least 24 hours in advance of BOP test, spudding, cementing, or plugging operations so that a BLM representative may witness the operations.**
- H. Unless drilling operations are commenced within two years, approval of the Application for Permit to Drill will expire. A written request for a two years extension may be granted if submitted prior to expiration.
- I. From the time drilling operations are initiated and until drilling operations are completed, a member of the drilling crew or the tool pusher shall maintain rig surveillance at all time, unless the well is secured with blowout preventers or cement plugs.
- J. If for any reason, drilling operations are suspended for more than 90 days, a written notice must be provided to this office outlining your plans for this well.

II. REPORTING REQUIREMENTS

A. For reporting purposes, all well Sundry notices, well completion and other well actions shall be referenced by the appropriate lease, communitization agreement and/or unit agreement numbers.

B. The following reports shall be filed with the BLM-Authorized Officer within 30 days after the work is completed.

1. Original and three copies on Federal and an Original and five copies on Indian leases of Sundry Notice (Form 3150-5), giving complete information concerning.

- a. Setting of each string of casing. Show size and depth of hole, grade and weight of casing, depth set, depth of any and all cementing tools that are used, amount (in cubic feet) and types of cement used, whether cement circulated to surface and all cement tops in the casing annulus, casing test method and results, and the date work was done. Show spud date on first report submitted.
 - b. Intervals tested, perforated (include; size, number and location of perforations), acidized, or fractured; and results obtained. Provide date work was done on well completion report and completion sundry notice.
 - c. Subsequent Report of Abandonment, show the manner in which the well was plugged, including depths where casing was cut and pulled, intervals (by depths) where cement plugs were replaced, and dates of the operations.
2. Well Completion Report (Form 3160-4) will be submitted with 30 days after well has been completed.
- a. Initial Bottom Hole Pressure (BHP) for the producing formations. Show the BHP on the completion report. The pressure may be: 1) measured with a bottom hole bomb, or; 2) calculated based on shut in surface pressures (minimum seven day buildup) and fluid level shot.
3. Submit a cement evaluation log, if cement is not circulated to surface.

III. DRILLER'S LOG

The following shall be entered in the daily driller's log: 1) Blowout preventer pressures tests, including test pressures and results. 2) Blowout preventer tests for proper functioning, 3) Blowout prevention drills conducted, 4) Casing run, including size, grade, weight, and depth set, 5) How pipe was cemented, including amount of cement, type, whether cement circulated to surface, location of cementing tools, etc., 6) Waiting on cement time for each casing string, 7) Casing pressure tests after cementing, including test pressure and results and 8) Estimated amounts of oil and gas recovered and/or produced during drill stem test.

IV. GAS FLARING

Gas produced from this well may not be vented or flared beyond an initial, authorized test period of *** 30** Days or 50 MMCF following its (completion)(recompletion), whichever first occurs, without the prior, written approval of the authorized officer. Should gas be vented or flared without approval beyond the test period authorized above, you may be directed to shut-in the well until the gas can be captured or approval to continue venting or flaring as uneconomic is granted. You shall be required to compensate the lessor for the portion of the gas vented or flared without approval which is determined to have been avoidably lost.

***30** days, unless a longer test period is specifically approved by the authorized officer. The 30-day period will commence upon the first gas to surface.

V. SAFETY

- A. All rig heating stoves are to be of the explosion-proof type.
- B. Rig safety lines are to be installed.
- C. Hard hats and other Personal Protective Equipment (PPE) must be utilized.

VI. CHANGE OF PLANS OR ABANDONMENT

- A. Any changes of plans required in order to mitigate unanticipated conditions encountered during drilling operations, will require approval as set forth in Section I.F.
- B. If the well is dry, it is to be plugged in accordance with 43 CFR 3162.3-4, approval of the proposed plugging program is required as set forth in Section I.F. The report should show the total depth reached, the reason for plugging, and the proposed intervals, by depths, where cement plugs are to be placed, type of plugging mud, etc. A Subsequent Report of Abandonment is required as set forth in Section II.B.1c.
- C. Unless a well has been properly cased and cemented, or properly plugged, the drilling rig must not be moved from the drill site without prior approval from the BLM-Authorized Officer.

VII. PHONE NUMBERS

- A. For BOPE tests, cementing, and plugging operations the phone number is 505-564-7750 and must be called 24 hours in advance in order that a BLM representative may witness the operations.
- B. Emergency program changes after hours contact:

Virgil Lucero (505) 793-1836
Joe Killins (505) 564-7736

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 73638

COMMENTS

Operator: DJR OPERATING, LLC 1 Road 3263 Aztec, NM 87410	OGRID: 371838
	Action Number: 73638
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

COMMENTS

Created By	Comment	Comment Date
kpickford	KP GEO review 1/19/2022	1/20/2022

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1625 N. French Dr., Hobbs, NM 88240
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Operator: DJR OPERATING, LLC 1 Road 3263 Aztec, NM 87410	OGRID: 371838
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	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
dmcclure	Notify OCD 24 hours prior to casing & cement	1/31/2022
dmcclure	Notify OCD 24 hours prior to spudding	1/31/2022
dmcclure	Will require a File As Drilled C-102 and a Directional Survey with the C-104	1/31/2022
dmcclure	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	1/31/2022
dmcclure	Cement is required to circulate on both surface and production strings of casing	1/31/2022