

Form 3160-3
(June 2015)FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☐ DRILL ☐ REENTER 1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No.
2. Name of Operator		9. API Well No. 30-045-38243
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish
13. State		
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	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.
2. A Drilling Plan.
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). | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
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)



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., Artec, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170**DISTRICT IV**1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 478-3480 Fax: (505) 478-3482State of New Mexico
Energy, Minerals & Natural Resources DepartmentForm C-102
Revised August 1, 2011Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, NM 87505☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-38243		² Pool Code 98175	³ Pool Name BETONNIE TSOSIE WASH UNIT MANCOS OIL POOL
⁴ Property Code 325179	⁵ Property Name BETONNIE TSOSIE WASH UNIT		⁶ Well Number 209H
⁷ GRID No. 371838	⁸ Operator Name DJR OPERATING, LLC		⁹ Elevation 6830'

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
N	15	23N	8W		809'	SOUTH	1761'	WEST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	26	23N	8W		2355'	NORTH	346'	EAST	SAN JUAN

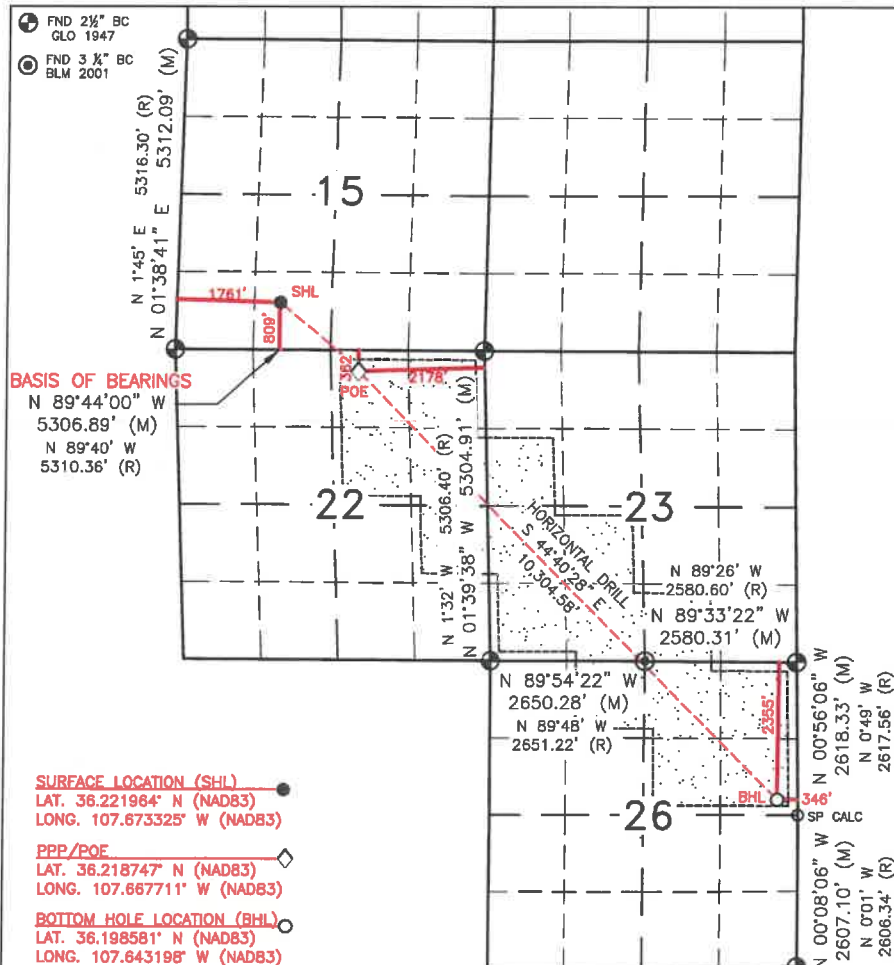
¹² Dedicated Acres
SEC 22: NE/4, NE/SE (200 AC.); SEC 23:
SW/NW, SW/4, SW/SE (240 AC.); SEC 26:
NE/NW, NE/4 (200 AC.) = 640 ACRES

¹³ Joint or Infill¹⁴ Consolidation Code¹⁵ Order No.

R-13930 R-13930A

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

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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 10/19/20
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.

JUNE 2, 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:** 07 / 01 / 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
Betonne Tsosie Wash Unit 207H	TBD	N-15-23N-08W	808' FNL x 1781'	435	650	155
Betonne Tsosie Wash Unit 209H	TBD	N-15-23N-08W	809' FNL x 1761'	445	660	160
Betonne Tsosie Wash Unit 211H	TBD	N-15-23N-08W	810' FNL x 1741'	335	500	120

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
Betonne Tsosie Wash Unit 207H	TBD	08/01/2022	11/01/2022	12/16/2022	01/17/2023	01/18/2023
Betonne Tsosie Wash Unit 209H	TBD	08/02/2022	11/10/2022	12/19/2022	01/17/2023	01/18/2023
Betonne Tsosie Wash Unit 211H	TBD	08/03/2022	11/20/2022	12/21/2022	01/17/2023	01/18/2023

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: 07/01/2022
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
BETONNIE TSOSIE WASH UNIT 207H, 209H, and 211H
SESE N-15-23N-08W

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 separator will be set for the individual well.
- The separator 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 separator will 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 the 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 separator.
- Oil will be separated from the produced water and the oil/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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OGRID NO: 371838
NATURAL GAS MANAGEMENT PLAN
BETONNIE TSOSIE WASH UNIT 207H, 209H, and 211H
SESE N-15-23N-08W

VENTING and FLARING

DJR Operating, LLC (DJR) has a natural gas system available prior to startup of completion operations. DJR utilizes a Vapor Recovery Unit System and sells all natural gas except during periods of startup, shutdown, maintenance, or malfunction for the gas capturing equipment, including the vapor recovery tower, vapor recovery unit, storage tanks, and pipelines.

Currently, DJR utilizes the following from list A-I of Section 3 for its operations to minimize flaring:

- a) DJR utilizes natural gas-powered generators to power its leases where grid power isn't available.
- b) When electrical grid power is unavailable, natural gas generators will be used for major equipment onsite.
- c) DJR's in service compression will be natural gas powered.
- d) Should liquids removal, such as dehydration be required, units will be powered by natural gas.

DJR will only flare gas during the following times:

- Scheduled maintenance for gas capturing equipment including:
 - Vapor Recovery Tower
 - Vapor Recovery Unit
 - Storage tanks
 - Pipelines
 - Emergency flaring



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NATURAL GAS MANAGEMENT PLAN
BETONNIE TSOSIE WASH UNIT 207H, 209H, and 211H
SESE N-15-23N-08W

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.
OGRID NO: 371838
NATURAL GAS MANAGEMENT PLAN
BETONNIE TSOSIE WASH UNIT 207H, 209H, and 211H
SESE N-15-23N-08W

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

Bettonnie Tsosie Wash Unit #209H

San Juan County, New Mexico

Surface Location

1766-ft FWL & 809-ft FSL
 Sec 15 T23N R08W
 Graded Elevation 6830' MSL
 RKB Elevation 6844' (14' KB)

SHL Geographical Coordinates (NAD-83)

Latitude 36.2219870° N
 Longitude 107.6722930° W

Kick Off Point for Horizontal Build Curve

4766-ft MD
 4590-ft TVD

Local Coordinates (from SHL)

754-ft South
 912-ft East

Heel Location (Pay zone entry)

2178-ft FEL & 362-ft FNL
 Sec 22 T23N R08W

Heel Geographical Coordinates (NAD-83)

Latitude 36.2187473° N
 Longitude 107.66771130° W

Bottom Hole Location (TD)

346-ft FEL & 2355-ft FNL
 Sec 26 T23N R08W

BHL Geographical Coordinates (NAD-83)

Latitude 36.19858093° N
 Longitude 107.6431984° W

Well objectives

This well is planned as a 10300-ft lateral in the Gallup C sand.

Bottom Hole temperature and pressure

The temperature in the Gallup C horizontal objective is 137°F. Bottom hole pressure in the Gallup C is forecast to be 1985 psi.

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

Name	MD (ft)	TVD (ft)	Lithology	Pore fluid	Expected Pore Pressure (ppg)	Planned Mud Weight (ppg)
Ojo Alamo	778	777	Sd	W	8.3	8.4 – 8.8
Kirtland	916	913	Sh	-	8.3	8.4 – 8.8
Fruitland	1113	1106	C	G	8.3	9.0 - 9.5
Pictured Cliffs	1398	1379	Sd	W	8.3	9.0 - 9.5
Lewis	1534	1508	Sh	-		9.0 - 9.5
Chacra	2191	2135	Sd	-	8.3	9.0 - 9.5
Menefee	2987	2894	Sd, C	G	8.3	9.0 - 9.5
Point Lookout	3922	3786	Sd	-	8.3	9.0 - 9.5
Mancos	4097	3953	Sh	-		9.0 - 9.5
Mancos Silt	4424	4264	Slt	O/G	6.6	9.0 - 9.5
Gallup A	4949	4755	Slt	O/G	6.6	9.0 - 9.5
Gallup B	5021	4812	Sd	O/G	6.6	8.8 -9.0
Gallup C	5173	4915	Sd	O/G	6.6	8.8 -9.0
Target	5576	5036	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	5516	surf	5034	surface
4-1/2"	6-1/8"	11.6	P-110	BTC	5239	15881	4951	4968	5239

Note: all casing will be new

Rev 2



Casing Design Load Cases

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

Note

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

Casing Design Factors

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

Cement Design

9-5/8" Surface Casing

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

7" Intermediate Casing

	<u>Lead</u>	<u>Tail</u>
	BJ Services	BJ Services
Type	III	Poz/G
Planned top	Surface	4266-ft
Density (ppg)	12.30	13.50
Yield (cf/sx)	2.34	1.50
Mix water (gal/sx)	13.26	7.20
Volume (sx)	415	201
Volume (bbls)	173	53
Volume (cu.ft.)	971	300
Excess %	55	55



Rev 2

4-1/2" Production Liner

	BJ Services
Type	Poz/G
Planned top	5239-ft
Density (ppg)	13.3
Yield (cf/sx)	1.56
Mix water (gal/sx)	7.71
Volume (sx)	895
Volume (bbls)	249
Volume (cu.ft)	1399
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 – 5516	9.0 – 9.5	38 – 45	8 – 14	<20
Production	Low solids, non-dispersed	5516 – 15881	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

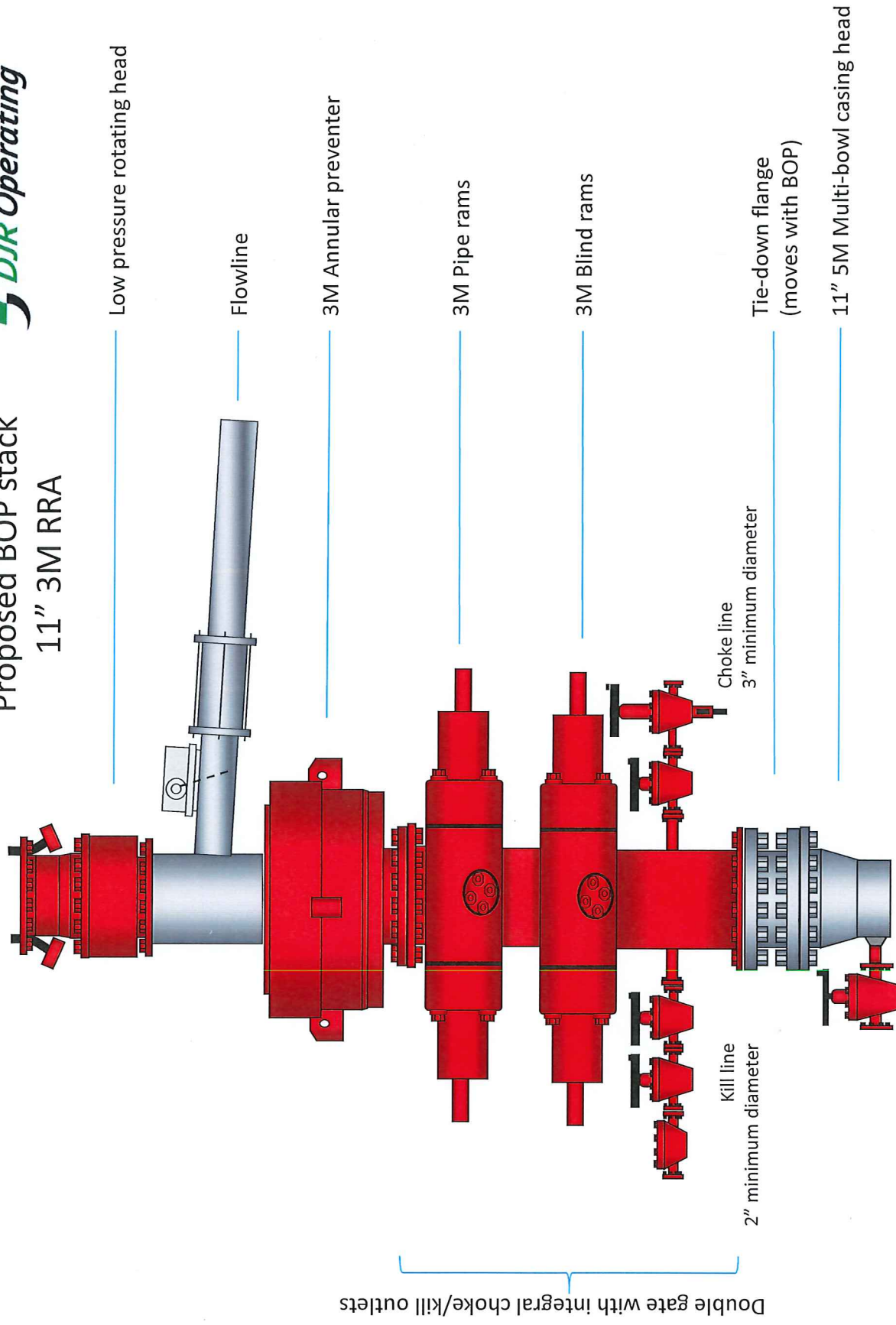
A closed loop, steel tank-based circulating system will be used. In addition to the rig solids control equipment, a dewatering centrifuge and chemical flocculation system will be operational to strip solids from the whole mud. All solids will be collected in 3-sided bins and will then be put into transports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



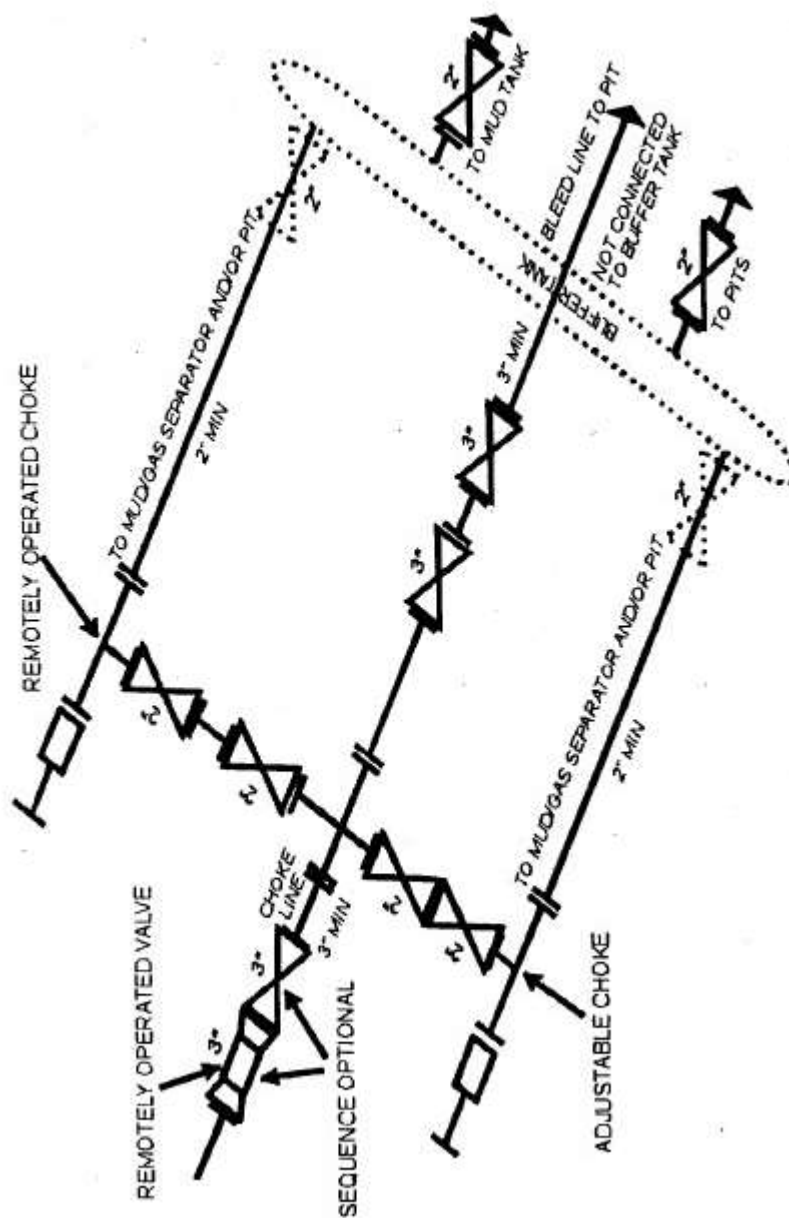
Proposed BOP stack 11" 3M RRA



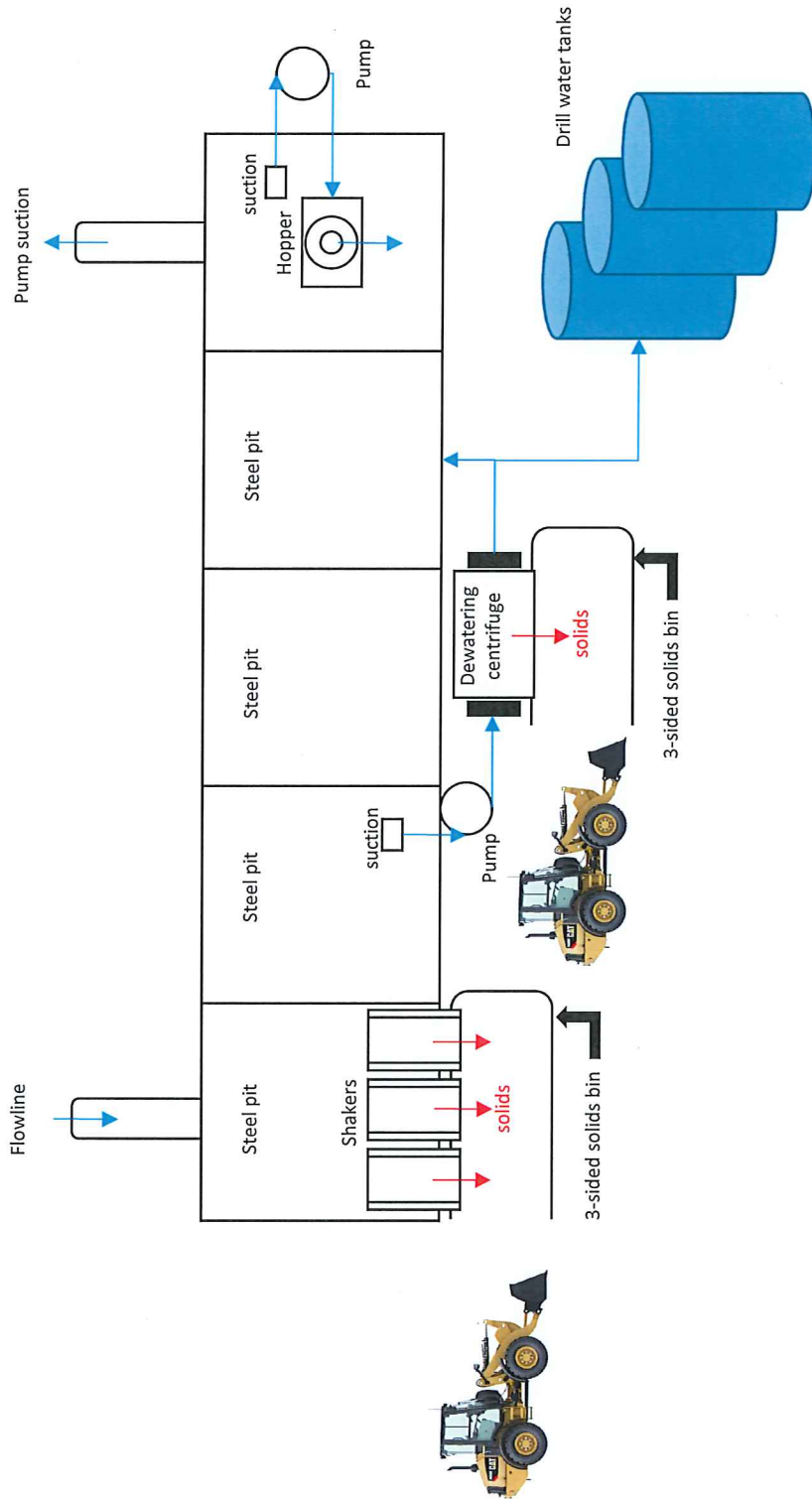


Choke Manifold

Actual system to conform with Onshore Order 2



Closed Loop Mud System





Company: DJR Operating
Project: Betonnie Tsosie Unit
Site: N15 2308 Pad
Well: # 209H
Wellbore: Original Drilling
Design: APD Rev 2

WELL DETAILS: # 209H

GL 6830' & RKB 14' @ 6844.00usft		Latitude	Longitude
+N/-S	+E/-W	Northing	Easting
0.00	0.00	1900140.61	2770591.53
		Latitude	Longitude
		36.22198700	-107.67229300

PROJECT DETAILS: Betonnie Tsosie 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

Plan: APD Rev 2 (# 209H/Original Drilling)

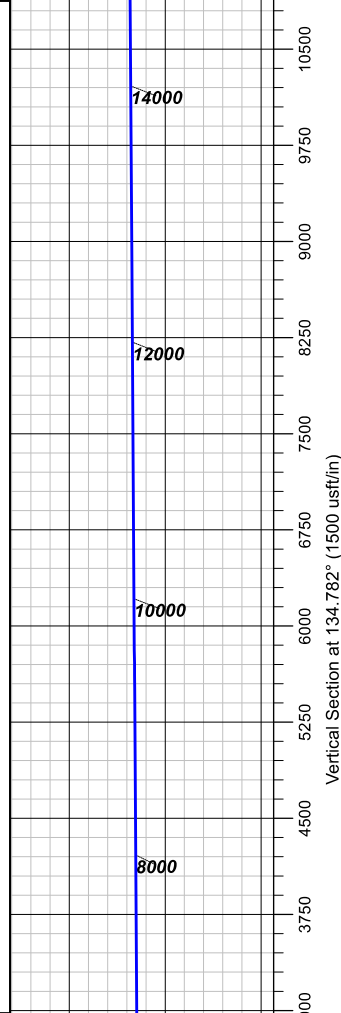
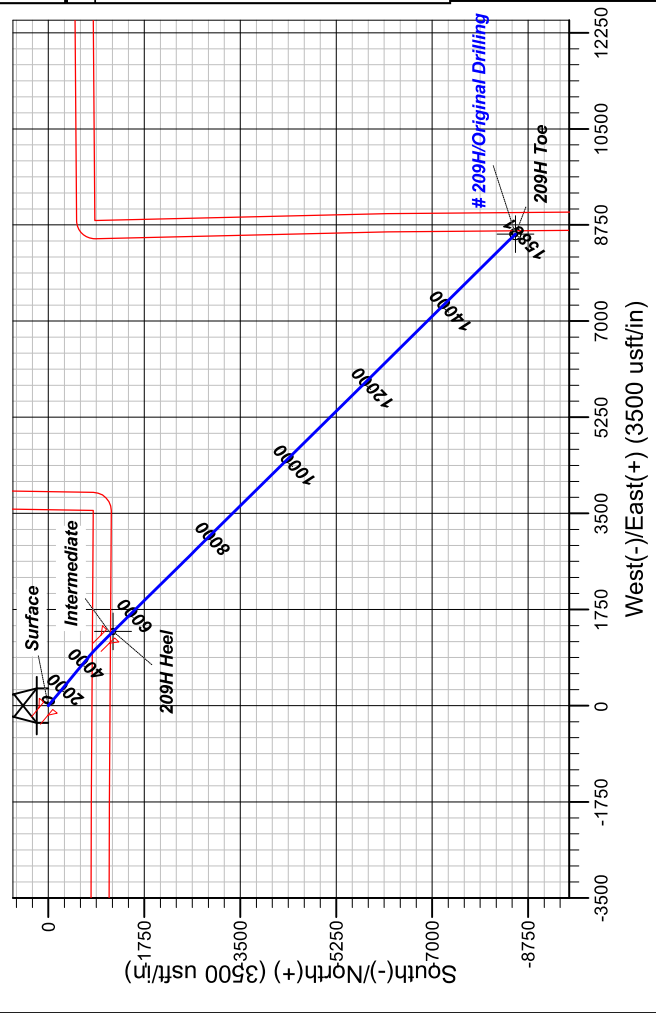
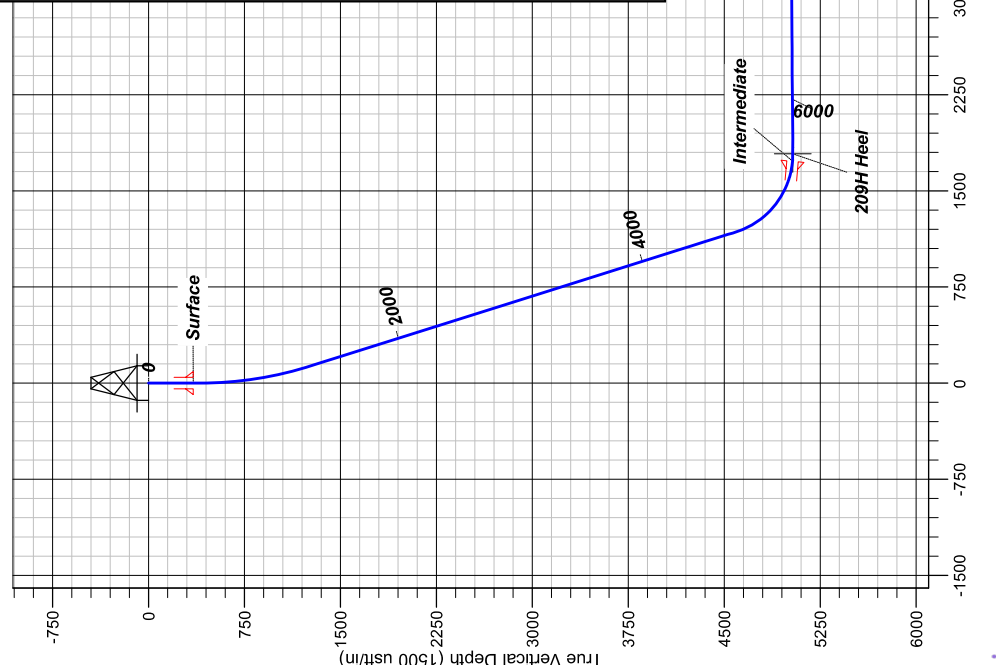
Created By: Janie Collins Date: 13:39, August 26 2020

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
209H Heel	5036.00	-1175.29	1351.46	1898963.57	2771944.95	36.21874730	-107.66771130
209H Toe	4968.00	-8519.03	8584.21	1891635.85	2779189.88	36.19858093	-107.64319840

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	
	1275.74	17.51	129.577	1262.17	-84.62	102.37	2.00	129.58	132.27	
	4536.23	97.16	128.577	4536.23	-175.79	911.46	0.00	8.00	1769.56	209H Heel
	5036.00	90.38	135.421	4968.00	-1175.29	1351.46	0.00	0.00	0.00	209H Toe
	15881.04	90.38	135.421	4968.00	-8519.03	8584.21	0.00	0.00	12093.91	



Received by OCD: 7/8/2022 7:33:43 AM

TONESTAR CONSULTING

North Arrow

Azimuths to True North: 0.00°
Magnetic North: 8.00°
Magnetic Field: 49350.00
Strength: 49350.00
Dip Angle: 62.00°
Date: 3/8/2020
Model: HDGM_FFE

CASING DETAILS	
TVD	MD
350.00	350.00
5033.59	5516.44

FORMATION DETAILS	
MDPath	Formation
777.00	Ojo Alamo
913.00	Kirtland
1106.00	Fruitland
1379.00	Pictured Cliffs
1508.00	Lewis
2135.00	Chacra
2894.00	Menefee
3922.27	Point Lookout
3786.00	Mancos
4097.39	Mancos Silt
4423.51	Gallup A
4755.00	Gallup B
4812.00	Gallup C
5020.76	
5172.89	

209H/Original Drilling/APD Rev 2

209H Toe

15881

14000

12000

10000

8000

Intermediate

209H Heel

6000

209H Toe

15881

14000

12000

10000

8000

6000

4000

2000

0

-2000

-4000

-6000

-8000

-10000

-12000

-14000

-16000

-18000

-20000

-22000

-24000

-26000

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-32000

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-418000

-420000

-422000

-424000

-4260



DJR Operating

Bettonie Tsosie Unit

N15 2308 Pad

209H - Slot 2

Original Drilling

Plan: APD Rev 2

Standard Planning Report

26 August, 2020





Database:	DJR	Local Co-ordinate Reference:	Well # 209H - Slot 2
Company:	DJR Operating	TVD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Project:	Betonne Tsoie Unit	MD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Site:	N15 2308 Pad	North Reference:	True
Well:	# 209H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD Rev 2		

Project	Betonne Tsoie Unit		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site	N15 2308 Pad				
Site Position:		Northing:	1,900,142.03 usft	Latitude:	36.22199100
From:	Lat/Long	Easting:	2,770,571.47 usft	Longitude:	-107.67236100
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.10

Well	# 209H - Slot 2					
Well Position	+N/-S	-1.46 usft	Northing:	1,900,140.61 usft	Latitude:	36.22198700
	+E/-W	20.06 usft	Easting:	2,770,591.53 usft	Longitude:	-107.67229300
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	6,830.00 usft

Wellbore	Original Drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	3/8/2020	8.72	62.77	49,350.40000000

Design	APD Rev 2			
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	134.782

Plan Survey Tool Program	Date	8/26/2020			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	15,881.04	APD Rev 2 (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	
1,275.74	17.51	129.577	1,262.17	-84.62	102.37	2.00	2.00	0.00	129.58	
4,765.60	17.51	129.577	4,590.23	-753.77	911.90	0.00	0.00	0.00	0.00	
5,576.23	90.38	135.421	5,036.00	-1,179.29	1,351.46	9.00	8.99	0.72	6.11	209H Heel
15,881.04	90.38	135.421	4,968.00	-8,519.03	8,584.21	0.00	0.00	0.00	0.00	209H Toe



Lonestar Consulting, LLC

Planning Report



Database:	DJR	Local Co-ordinate Reference:	Well # 209H - Slot 2
Company:	DJR Operating	TVD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Project:	Betonne Tsoie Unit	MD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Site:	N15 2308 Pad	North Reference:	True
Well:	# 209H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD Rev 2		

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	129.577	499.98	-1.11	1.35	1.74	2.00	2.00	0.00
600.00	4.00	129.577	599.84	-4.45	5.38	6.95	2.00	2.00	0.00
700.00	6.00	129.577	699.45	-10.00	12.10	15.63	2.00	2.00	0.00
800.00	8.00	129.577	798.70	-17.76	21.49	27.77	2.00	2.00	0.00
900.00	10.00	129.577	897.47	-27.73	33.55	43.34	2.00	2.00	0.00
1,000.00	12.00	129.577	995.62	-39.89	48.25	62.34	2.00	2.00	0.00
1,100.00	14.00	129.577	1,093.06	-54.22	65.59	84.75	2.00	2.00	0.00
1,200.00	16.00	129.577	1,189.64	-70.71	85.54	110.52	2.00	2.00	0.00
1,275.74	17.51	129.577	1,262.17	-84.62	102.37	132.27	2.00	2.00	0.00
1,300.00	17.51	129.577	1,285.30	-89.27	108.00	139.54	0.00	0.00	0.00
1,400.00	17.51	129.577	1,380.66	-108.44	131.19	169.51	0.00	0.00	0.00
1,500.00	17.51	129.577	1,476.03	-127.62	154.39	199.48	0.00	0.00	0.00
1,600.00	17.51	129.577	1,571.39	-146.79	177.59	229.45	0.00	0.00	0.00
1,700.00	17.51	129.577	1,666.76	-165.97	200.78	259.42	0.00	0.00	0.00
1,800.00	17.51	129.577	1,762.12	-185.14	223.98	289.39	0.00	0.00	0.00
1,900.00	17.51	129.577	1,857.48	-204.32	247.18	319.37	0.00	0.00	0.00
2,000.00	17.51	129.577	1,952.85	-223.49	270.37	349.34	0.00	0.00	0.00
2,100.00	17.51	129.577	2,048.21	-242.66	293.57	379.31	0.00	0.00	0.00
2,200.00	17.51	129.577	2,143.57	-261.84	316.77	409.28	0.00	0.00	0.00
2,300.00	17.51	129.577	2,238.94	-281.01	339.96	439.25	0.00	0.00	0.00
2,400.00	17.51	129.577	2,334.30	-300.19	363.16	469.22	0.00	0.00	0.00
2,500.00	17.51	129.577	2,429.67	-319.36	386.36	499.19	0.00	0.00	0.00
2,600.00	17.51	129.577	2,525.03	-338.54	409.55	529.16	0.00	0.00	0.00
2,700.00	17.51	129.577	2,620.39	-357.71	432.75	559.14	0.00	0.00	0.00
2,800.00	17.51	129.577	2,715.76	-376.88	455.94	589.11	0.00	0.00	0.00
2,900.00	17.51	129.577	2,811.12	-396.06	479.14	619.08	0.00	0.00	0.00
3,000.00	17.51	129.577	2,906.49	-415.23	502.34	649.05	0.00	0.00	0.00
3,100.00	17.51	129.577	3,001.85	-434.41	525.53	679.02	0.00	0.00	0.00
3,200.00	17.51	129.577	3,097.21	-453.58	548.73	708.99	0.00	0.00	0.00
3,300.00	17.51	129.577	3,192.58	-472.76	571.93	738.96	0.00	0.00	0.00
3,400.00	17.51	129.577	3,287.94	-491.93	595.12	768.94	0.00	0.00	0.00
3,500.00	17.51	129.577	3,383.30	-511.10	618.32	798.91	0.00	0.00	0.00
3,600.00	17.51	129.577	3,478.67	-530.28	641.52	828.88	0.00	0.00	0.00
3,700.00	17.51	129.577	3,574.03	-549.45	664.71	858.85	0.00	0.00	0.00
3,800.00	17.51	129.577	3,669.40	-568.63	687.91	888.82	0.00	0.00	0.00
3,900.00	17.51	129.577	3,764.76	-587.80	711.11	918.79	0.00	0.00	0.00
4,000.00	17.51	129.577	3,860.12	-606.97	734.30	948.76	0.00	0.00	0.00
4,100.00	17.51	129.577	3,955.49	-626.15	757.50	978.73	0.00	0.00	0.00
4,200.00	17.51	129.577	4,050.85	-645.32	780.70	1,008.71	0.00	0.00	0.00
4,300.00	17.51	129.577	4,146.22	-664.50	803.89	1,038.68	0.00	0.00	0.00
4,400.00	17.51	129.577	4,241.58	-683.67	827.09	1,068.65	0.00	0.00	0.00
4,500.00	17.51	129.577	4,336.94	-702.85	850.29	1,098.62	0.00	0.00	0.00
4,600.00	17.51	129.577	4,432.31	-722.02	873.48	1,128.59	0.00	0.00	0.00
4,700.00	17.51	129.577	4,527.67	-741.19	896.68	1,158.56	0.00	0.00	0.00
4,765.60	17.51	129.577	4,590.23	-753.77	911.90	1,178.22	0.00	0.00	0.00
4,800.00	20.59	130.514	4,622.74	-761.00	920.49	1,189.42	9.00	8.95	2.72
4,900.00	29.57	132.169	4,713.22	-789.05	952.21	1,231.69	9.00	8.97	1.66
5,000.00	38.55	133.103	4,795.98	-826.99	993.34	1,287.60	9.00	8.98	0.93
5,100.00	47.54	133.727	4,868.98	-873.88	1,042.85	1,355.78	9.00	8.99	0.62



Lonestar Consulting, LLC

Planning Report



Database:	DJR	Local Co-ordinate Reference:	Well # 209H - Slot 2
Company:	DJR Operating	TVD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Project:	Betonne Tsoie Unit	MD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Site:	N15 2308 Pad	North Reference:	True
Well:	# 209H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD Rev 2		

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	56.54	134.194	4,930.43	-928.57	1,099.53	1,434.53	9.00	8.99	0.47	
5,300.00	65.53	134.572	4,978.81	-989.71	1,161.99	1,521.93	9.00	8.99	0.38	
5,400.00	74.52	134.900	5,012.93	-1,055.80	1,228.68	1,615.82	9.00	8.99	0.33	
5,500.00	83.52	135.200	5,031.95	-1,125.21	1,297.96	1,713.89	9.00	9.00	0.30	
5,576.23	90.38	135.421	5,036.00	-1,179.29	1,351.46	1,789.96	9.00	9.00	0.29	
5,600.00	90.38	135.421	5,035.84	-1,196.22	1,368.15	1,813.73	0.00	0.00	0.00	
5,700.00	90.38	135.421	5,035.18	-1,267.45	1,438.33	1,913.72	0.00	0.00	0.00	
5,800.00	90.38	135.421	5,034.52	-1,338.68	1,508.52	2,013.72	0.00	0.00	0.00	
5,900.00	90.38	135.421	5,033.86	-1,409.90	1,578.71	2,113.71	0.00	0.00	0.00	
6,000.00	90.38	135.421	5,033.20	-1,481.13	1,648.90	2,213.70	0.00	0.00	0.00	
6,100.00	90.38	135.421	5,032.54	-1,552.36	1,719.09	2,313.69	0.00	0.00	0.00	
6,200.00	90.38	135.421	5,031.88	-1,623.58	1,789.27	2,413.68	0.00	0.00	0.00	
6,300.00	90.38	135.421	5,031.22	-1,694.81	1,859.46	2,513.67	0.00	0.00	0.00	
6,400.00	90.38	135.421	5,030.56	-1,766.03	1,929.65	2,613.67	0.00	0.00	0.00	
6,500.00	90.38	135.421	5,029.90	-1,837.26	1,999.84	2,713.66	0.00	0.00	0.00	
6,600.00	90.38	135.421	5,029.24	-1,908.49	2,070.03	2,813.65	0.00	0.00	0.00	
6,700.00	90.38	135.421	5,028.58	-1,979.71	2,140.21	2,913.64	0.00	0.00	0.00	
6,800.00	90.38	135.421	5,027.92	-2,050.94	2,210.40	3,013.63	0.00	0.00	0.00	
6,900.00	90.38	135.421	5,027.26	-2,122.17	2,280.59	3,113.62	0.00	0.00	0.00	
7,000.00	90.38	135.421	5,026.60	-2,193.39	2,350.78	3,213.62	0.00	0.00	0.00	
7,100.00	90.38	135.421	5,025.94	-2,264.62	2,420.97	3,313.61	0.00	0.00	0.00	
7,200.00	90.38	135.421	5,025.29	-2,335.85	2,491.16	3,413.60	0.00	0.00	0.00	
7,300.00	90.38	135.421	5,024.63	-2,407.07	2,561.34	3,513.59	0.00	0.00	0.00	
7,400.00	90.38	135.421	5,023.97	-2,478.30	2,631.53	3,613.58	0.00	0.00	0.00	
7,500.00	90.38	135.421	5,023.31	-2,549.52	2,701.72	3,713.57	0.00	0.00	0.00	
7,600.00	90.38	135.421	5,022.65	-2,620.75	2,771.91	3,813.57	0.00	0.00	0.00	
7,700.00	90.38	135.421	5,021.99	-2,691.98	2,842.10	3,913.56	0.00	0.00	0.00	
7,800.00	90.38	135.421	5,021.33	-2,763.20	2,912.28	4,013.55	0.00	0.00	0.00	
7,900.00	90.38	135.421	5,020.67	-2,834.43	2,982.47	4,113.54	0.00	0.00	0.00	
8,000.00	90.38	135.421	5,020.01	-2,905.66	3,052.66	4,213.53	0.00	0.00	0.00	
8,100.00	90.38	135.421	5,019.35	-2,976.88	3,122.85	4,313.52	0.00	0.00	0.00	
8,200.00	90.38	135.421	5,018.69	-3,048.11	3,193.04	4,413.51	0.00	0.00	0.00	
8,300.00	90.38	135.421	5,018.03	-3,119.34	3,263.22	4,513.51	0.00	0.00	0.00	
8,400.00	90.38	135.421	5,017.37	-3,190.56	3,333.41	4,613.50	0.00	0.00	0.00	
8,500.00	90.38	135.421	5,016.71	-3,261.79	3,403.60	4,713.49	0.00	0.00	0.00	
8,600.00	90.38	135.421	5,016.05	-3,333.01	3,473.79	4,813.48	0.00	0.00	0.00	
8,700.00	90.38	135.421	5,015.39	-3,404.24	3,543.98	4,913.47	0.00	0.00	0.00	
8,800.00	90.38	135.421	5,014.73	-3,475.47	3,614.17	5,013.46	0.00	0.00	0.00	
8,900.00	90.38	135.421	5,014.07	-3,546.69	3,684.35	5,113.46	0.00	0.00	0.00	
9,000.00	90.38	135.421	5,013.41	-3,617.92	3,754.54	5,213.45	0.00	0.00	0.00	
9,100.00	90.38	135.421	5,012.75	-3,689.15	3,824.73	5,313.44	0.00	0.00	0.00	
9,200.00	90.38	135.421	5,012.09	-3,760.37	3,894.92	5,413.43	0.00	0.00	0.00	
9,300.00	90.38	135.421	5,011.43	-3,831.60	3,965.11	5,513.42	0.00	0.00	0.00	
9,400.00	90.38	135.421	5,010.77	-3,902.83	4,035.29	5,613.41	0.00	0.00	0.00	
9,500.00	90.38	135.421	5,010.11	-3,974.05	4,105.48	5,713.41	0.00	0.00	0.00	
9,600.00	90.38	135.421	5,009.45	-4,045.28	4,175.67	5,813.40	0.00	0.00	0.00	
9,700.00	90.38	135.421	5,008.79	-4,116.50	4,245.86	5,913.39	0.00	0.00	0.00	
9,800.00	90.38	135.421	5,008.13	-4,187.73	4,316.05	6,013.38	0.00	0.00	0.00	
9,900.00	90.38	135.421	5,007.47	-4,258.96	4,386.23	6,113.37	0.00	0.00	0.00	
10,000.00	90.38	135.421	5,006.81	-4,330.18	4,456.42	6,213.36	0.00	0.00	0.00	
10,100.00	90.38	135.421	5,006.15	-4,401.41	4,526.61	6,313.36	0.00	0.00	0.00	
10,200.00	90.38	135.421	5,005.49	-4,472.64	4,596.80	6,413.35	0.00	0.00	0.00	
10,300.00	90.38	135.421	5,004.83	-4,543.86	4,666.99	6,513.34	0.00	0.00	0.00	
10,400.00	90.38	135.421	5,004.17	-4,615.09	4,737.17	6,613.33	0.00	0.00	0.00	



Lonestar Consulting, LLC

Planning Report



Database:	DJR	Local Co-ordinate Reference:	Well # 209H - Slot 2
Company:	DJR Operating	TVD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Project:	Betonne Tsoie Unit	MD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Site:	N15 2308 Pad	North Reference:	True
Well:	# 209H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD Rev 2		

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	90.38	135.421	5,003.51	-4,686.32	4,807.36	6,713.32	0.00	0.00	0.00
10,600.00	90.38	135.421	5,002.85	-4,757.54	4,877.55	6,813.31	0.00	0.00	0.00
10,700.00	90.38	135.421	5,002.19	-4,828.77	4,947.74	6,913.30	0.00	0.00	0.00
10,800.00	90.38	135.421	5,001.53	-4,899.99	5,017.93	7,013.30	0.00	0.00	0.00
10,900.00	90.38	135.421	5,000.87	-4,971.22	5,088.12	7,113.29	0.00	0.00	0.00
11,000.00	90.38	135.421	5,000.21	-5,042.45	5,158.30	7,213.28	0.00	0.00	0.00
11,100.00	90.38	135.421	4,999.55	-5,113.67	5,228.49	7,313.27	0.00	0.00	0.00
11,200.00	90.38	135.421	4,998.89	-5,184.90	5,298.68	7,413.26	0.00	0.00	0.00
11,300.00	90.38	135.421	4,998.23	-5,256.13	5,368.87	7,513.25	0.00	0.00	0.00
11,400.00	90.38	135.421	4,997.57	-5,327.35	5,439.06	7,613.25	0.00	0.00	0.00
11,500.00	90.38	135.421	4,996.91	-5,398.58	5,509.24	7,713.24	0.00	0.00	0.00
11,600.00	90.38	135.421	4,996.25	-5,469.81	5,579.43	7,813.23	0.00	0.00	0.00
11,700.00	90.38	135.421	4,995.59	-5,541.03	5,649.62	7,913.22	0.00	0.00	0.00
11,800.00	90.38	135.421	4,994.93	-5,612.26	5,719.81	8,013.21	0.00	0.00	0.00
11,900.00	90.38	135.421	4,994.27	-5,683.48	5,790.00	8,113.20	0.00	0.00	0.00
12,000.00	90.38	135.421	4,993.61	-5,754.71	5,860.18	8,213.20	0.00	0.00	0.00
12,100.00	90.38	135.421	4,992.95	-5,825.94	5,930.37	8,313.19	0.00	0.00	0.00
12,200.00	90.38	135.421	4,992.29	-5,897.16	6,000.56	8,413.18	0.00	0.00	0.00
12,300.00	90.38	135.421	4,991.63	-5,968.39	6,070.75	8,513.17	0.00	0.00	0.00
12,400.00	90.38	135.421	4,990.97	-6,039.62	6,140.94	8,613.16	0.00	0.00	0.00
12,500.00	90.38	135.421	4,990.31	-6,110.84	6,211.12	8,713.15	0.00	0.00	0.00
12,600.00	90.38	135.421	4,989.65	-6,182.07	6,281.31	8,813.15	0.00	0.00	0.00
12,700.00	90.38	135.421	4,988.99	-6,253.30	6,351.50	8,913.14	0.00	0.00	0.00
12,800.00	90.38	135.421	4,988.33	-6,324.52	6,421.69	9,013.13	0.00	0.00	0.00
12,900.00	90.38	135.421	4,987.67	-6,395.75	6,491.88	9,113.12	0.00	0.00	0.00
13,000.00	90.38	135.421	4,987.01	-6,466.97	6,562.07	9,213.11	0.00	0.00	0.00
13,100.00	90.38	135.421	4,986.35	-6,538.20	6,632.25	9,313.10	0.00	0.00	0.00
13,200.00	90.38	135.421	4,985.69	-6,609.43	6,702.44	9,413.09	0.00	0.00	0.00
13,300.00	90.38	135.421	4,985.03	-6,680.65	6,772.63	9,513.09	0.00	0.00	0.00
13,400.00	90.38	135.421	4,984.37	-6,751.88	6,842.82	9,613.08	0.00	0.00	0.00
13,500.00	90.38	135.421	4,983.71	-6,823.11	6,913.01	9,713.07	0.00	0.00	0.00
13,600.00	90.38	135.421	4,983.05	-6,894.33	6,983.19	9,813.06	0.00	0.00	0.00
13,700.00	90.38	135.421	4,982.39	-6,965.56	7,053.38	9,913.05	0.00	0.00	0.00
13,800.00	90.38	135.421	4,981.73	-7,036.79	7,123.57	10,013.04	0.00	0.00	0.00
13,900.00	90.38	135.421	4,981.07	-7,108.01	7,193.76	10,113.04	0.00	0.00	0.00
14,000.00	90.38	135.421	4,980.41	-7,179.24	7,263.95	10,213.03	0.00	0.00	0.00
14,100.00	90.38	135.421	4,979.75	-7,250.46	7,334.13	10,313.02	0.00	0.00	0.00
14,200.00	90.38	135.421	4,979.09	-7,321.69	7,404.32	10,413.01	0.00	0.00	0.00
14,300.00	90.38	135.421	4,978.43	-7,392.92	7,474.51	10,513.00	0.00	0.00	0.00
14,400.00	90.38	135.421	4,977.77	-7,464.14	7,544.70	10,612.99	0.00	0.00	0.00
14,500.00	90.38	135.421	4,977.11	-7,535.37	7,614.89	10,712.99	0.00	0.00	0.00
14,600.00	90.38	135.421	4,976.45	-7,606.60	7,685.07	10,812.98	0.00	0.00	0.00
14,700.00	90.38	135.421	4,975.79	-7,677.82	7,755.26	10,912.97	0.00	0.00	0.00
14,800.00	90.38	135.421	4,975.13	-7,749.05	7,825.45	11,012.96	0.00	0.00	0.00
14,900.00	90.38	135.421	4,974.47	-7,820.28	7,895.64	11,112.95	0.00	0.00	0.00
15,000.00	90.38	135.421	4,973.81	-7,891.50	7,965.83	11,212.94	0.00	0.00	0.00
15,100.00	90.38	135.421	4,973.15	-7,962.73	8,036.02	11,312.94	0.00	0.00	0.00
15,200.00	90.38	135.421	4,972.49	-8,033.95	8,106.20	11,412.93	0.00	0.00	0.00
15,300.00	90.38	135.421	4,971.83	-8,105.18	8,176.39	11,512.92	0.00	0.00	0.00
15,400.00	90.38	135.421	4,971.17	-8,176.41	8,246.58	11,612.91	0.00	0.00	0.00
15,500.00	90.38	135.421	4,970.51	-8,247.63	8,316.77	11,712.90	0.00	0.00	0.00
15,600.00	90.38	135.421	4,969.85	-8,318.86	8,386.96	11,812.89	0.00	0.00	0.00
15,700.00	90.38	135.421	4,969.19	-8,390.09	8,457.14	11,912.89	0.00	0.00	0.00
15,800.00	90.38	135.421	4,968.53	-8,461.31	8,527.33	12,012.88	0.00	0.00	0.00



Database:	DJR	Local Co-ordinate Reference:	Well # 209H - Slot 2
Company:	DJR Operating	TVD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Project:	Betonne Tsoie Unit	MD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Site:	N15 2308 Pad	North Reference:	True
Well:	# 209H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD Rev 2		

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)
15,881.04	90.38	135.421	4,968.00	-8,519.03	8,584.21	12,093.91	0.00	0.00	0.00

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
209H Toe - plan hits target center - Circle (radius 100.00)	0.00	0.000	4,968.00	-8,519.03	8,584.21	1,891,635.85	2,779,189.88	36.19858093	-107.64319840
209H Heel - plan hits target center - Circle (radius 50.00)	0.00	0.000	5,036.00	-1,179.29	1,351.46	1,898,963.57	2,771,944.95	36.21874730	-107.66771130

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
350.00	350.00	Surface	9.62	12.25	
5,516.44	5,033.59	Intermediate	7.00	8.75	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
778.10	777.00	Ojo Alamo		0.00	0.000	
915.78	913.00	Kirtland		0.00	0.000	
1,113.35	1,106.00	Fruitland		0.00	0.000	
1,398.26	1,379.00	Pictured Cliffs		0.00	0.000	
1,533.53	1,508.00	Lewis		0.00	0.000	
2,191.01	2,135.00	Chacra		0.00	0.000	
2,986.91	2,894.00	Menefee		0.00	0.000	
3,922.27	3,786.00	Point Lookout		0.00	0.000	
4,097.39	3,953.00	Mancos		0.00	0.000	
4,423.51	4,264.00	Mancos Silt		0.00	0.000	
4,949.16	4,755.00	Gallup A		0.00	0.000	
5,020.76	4,812.00	Gallup B		0.00	0.000	
5,172.89	4,915.00	Gallup C		0.00	0.000	



DJR Operating

**Betonne Tsosie Unit
N15 2308 Pad
209H**

**Original Drilling
APD Rev 2**

Anticollision Report

26 August, 2020





Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 209H - Slot 2
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Reference Site:	N15 2308 Pad	MD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 209H	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 Rev 2	Offset TVD Reference:	Offset Datum

Reference	APD Rev 2		
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	8/26/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	15,881.04	APD Rev 2 (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						
Athena 2308-14L (Logos)						
2H - Original drilling - As drilled	5,046.30	8,362.53	474.35	378.16	4.931	CC
2H - Original drilling - As drilled	5,050.00	8,360.71	474.37	377.90	4.917	ES
2H - Original drilling - As drilled	5,150.00	8,308.21	489.08	386.72	4.778	SF
N15 2308 Pad						
# 207H - Original Drilling - APD Rev 2	400.00	400.00	20.09	17.63	8.168	CC
# 207H - Original Drilling - APD Rev 2	500.00	499.33	20.36	17.21	6.464	ES
# 207H - Original Drilling - APD Rev 2	14,600.00	14,776.54	1,247.82	716.69	2.349	SF
# 211H - Original Drilling - APD Rev 2	400.00	400.00	20.11	17.65	8.178	CC, ES
# 211H - Original Drilling - APD Rev 2	10,100.00	11,206.80	1,241.91	935.33	4.051	SF

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 415-MWD+IGRF													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	53.21	53.21	0.00	0.09	72.32	1,316.97	4,132.12	4,336.92					
100.00	100.00	164.05	164.05	0.15	0.28	72.32	1,317.01	4,131.83	4,336.68	4,336.24	0.44	9,888.399		
200.00	200.00	274.90	274.90	0.51	0.48	72.32	1,317.08	4,131.23	4,336.18	4,335.19	0.99	4,384.624		
300.00	300.00	385.74	385.73	0.87	0.67	72.31	1,317.19	4,130.33	4,335.43	4,333.90	1.54	2,816.336		
400.00	400.00	504.70	504.68	1.23	1.04	72.30	1,317.36	4,128.90	4,334.34	4,332.07	2.27	1,909.225		
500.00	499.98	672.31	672.23	1.58	1.64	-57.34	1,314.75	4,125.99	4,331.24	4,328.03	3.21	1,349.252		
600.00	599.84	769.07	768.91	1.92	1.98	-57.45	1,311.19	4,124.28	4,325.61	4,321.71	3.89	1,110.810		
700.00	699.45	856.05	855.82	2.27	2.30	-57.62	1,307.90	4,122.91	4,318.26	4,313.70	4.56	947.749		
800.00	798.70	9,365.91	5,114.72	2.64	112.05	136.93	-426.86	4.27	4,287.62	4,246.87	40.75	105.223		
900.00	897.47	9,361.24	5,114.71	3.02	111.93	146.67	-427.22	8.92	4,188.41	4,147.68	40.73	102.826		
1,000.00	995.62	9,336.00	5,114.80	3.43	111.29	153.30	-429.15	34.09	4,089.77	4,049.18	40.59	100.754		
1,100.00	1,093.06	9,336.00	5,114.80	3.87	111.29	157.69	-429.15	34.09	3,991.52	3,950.94	40.58	98.355		
1,200.00	1,189.64	9,336.00	5,114.80	4.33	111.29	160.80	-429.15	34.09	3,894.03	3,853.47	40.57	95.994		
1,275.74	1,262.17	9,336.00	5,114.80	4.71	111.29	162.59	-429.15	34.09	3,820.81	3,780.26	40.55	94.232		
1,300.00	1,285.30	9,336.00	5,114.80	4.84	111.29	162.59	-429.15	34.09	3,797.46	3,756.93	40.54	93.674		
1,400.00	1,380.66	9,336.00	5,114.80	5.37	111.29	162.59	-429.15	34.09	3,701.34	3,660.80	40.54	91.299		
1,500.00	1,476.03	9,307.43	5,115.19	5.91	110.56	163.10	-431.46	62.56	3,605.16	3,564.77	40.39	89.260		
1,600.00	1,571.39	9,295.74	5,115.42	6.46	110.27	163.32	-432.48	74.21	3,509.21	3,468.86	40.34	86.980		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 209H - Slot 2
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Reference Site:	N15 2308 Pad	MD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 209H	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 Rev 2	Offset TVD Reference:	Offset Datum

Offset Design		Athena 2308-14L (Logos) - 2H - Original drilling - As drilled											Offset Site Error:		0.00 usft
Survey Program:		415-MWD+IGRF											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			
1,700.00	1,666.76	9,188.59	5,116.49	7.02	107.56	165.51	-441.64	180.95	3,412.94	3,373.19	39.75	85.852			
1,800.00	1,762.12	9,180.06	5,116.51	7.58	107.34	165.71	-442.25	189.45	3,316.55	3,276.81	39.74	83.460			
1,900.00	1,857.48	9,171.21	5,116.57	8.15	107.12	165.92	-442.87	198.28	3,220.31	3,180.58	39.73	81.052			
2,000.00	1,952.85	9,147.00	5,116.99	8.72	106.51	166.53	-444.49	222.43	3,124.34	3,084.69	39.64	78.814			
2,100.00	2,048.21	9,147.00	5,116.99	9.30	106.51	166.53	-444.49	222.43	3,028.35	2,988.64	39.71	76.256			
2,200.00	2,143.57	9,147.00	5,116.99	9.87	106.51	166.53	-444.49	222.43	2,932.63	2,892.83	39.80	73.683			
2,300.00	2,238.94	9,126.82	5,117.54	10.45	105.99	167.07	-445.79	242.57	2,837.07	2,797.29	39.77	71.332			
2,400.00	2,334.30	9,112.27	5,118.02	11.03	105.63	167.47	-446.71	257.08	2,741.69	2,701.90	39.80	68.894			
2,500.00	2,429.67	9,084.00	5,119.15	11.62	104.91	168.29	-448.44	285.27	2,646.57	2,606.83	39.74	66.600			
2,600.00	2,525.03	9,037.80	5,120.86	12.20	103.74	169.80	-450.41	331.39	2,551.48	2,511.92	39.56	64.490			
2,700.00	2,620.39	8,988.08	5,122.05	12.79	102.47	171.71	-451.07	381.09	2,455.97	2,416.60	39.37	62.376			
2,800.00	2,715.76	8,957.00	5,122.64	13.37	101.67	173.03	-451.22	412.17	2,360.46	2,321.13	39.33	60.011			
2,900.00	2,811.12	8,936.72	5,123.03	13.96	101.16	173.95	-451.30	432.45	2,265.06	2,225.67	39.40	57.493			
3,000.00	2,906.49	8,917.46	5,123.45	14.55	100.67	174.85	-451.44	451.70	2,169.86	2,130.36	39.50	54.936			
3,100.00	3,001.85	8,895.00	5,124.01	15.14	100.09	175.96	-451.68	474.15	2,074.87	2,035.26	39.61	52.388			
3,200.00	3,097.21	8,872.57	5,124.60	15.72	99.52	177.12	-451.97	496.57	1,980.07	1,940.32	39.75	49.809			
3,300.00	3,192.58	8,846.61	5,125.28	16.31	98.87	178.54	-452.31	522.52	1,885.46	1,845.55	39.92	47.237			
3,400.00	3,287.94	8,808.35	5,126.21	16.90	97.89	-179.19	-452.75	560.77	1,791.03	1,751.02	40.01	44.767			
3,500.00	3,383.30	8,763.44	5,126.78	17.49	96.75	-176.20	-452.80	605.68	1,696.53	1,656.44	40.09	42.317			
3,600.00	3,478.67	8,737.38	5,126.94	18.08	96.09	-174.27	-452.45	631.72	1,602.19	1,561.75	40.45	39.613			
3,700.00	3,574.03	8,712.32	5,127.05	18.68	95.45	-172.28	-451.80	656.78	1,508.20	1,467.27	40.93	36.853			
3,800.00	3,669.40	8,710.00	5,127.05	19.27	95.39	-172.09	-451.72	659.10	1,414.79	1,372.97	41.82	33.828			
3,900.00	3,764.76	8,686.36	5,127.32	19.86	94.80	-170.09	-451.09	682.73	1,321.95	1,279.29	42.66	30.988			
4,000.00	3,860.12	8,672.35	5,127.66	20.45	94.44	-168.86	-450.87	696.73	1,230.06	1,186.19	43.87	28.038			
4,100.00	3,955.49	8,649.00	5,128.54	21.04	93.85	-166.75	-450.77	720.06	1,139.25	1,094.02	45.23	25.185			
4,200.00	4,050.85	8,634.90	5,129.18	21.63	93.49	-165.42	-450.81	734.15	1,049.56	1,002.40	47.17	22.253			
4,300.00	4,146.22	8,607.26	5,130.44	22.23	92.80	-162.70	-450.87	761.76	961.21	911.89	49.32	19.490			
4,400.00	4,241.58	8,575.55	5,131.84	22.82	92.00	-159.37	-450.90	793.44	874.48	822.50	51.98	16.822			
4,500.00	4,336.94	8,537.78	5,133.01	23.41	91.05	-155.09	-450.70	831.19	789.65	734.38	55.27	14.288			
4,600.00	4,432.31	8,509.97	5,133.52	24.00	90.35	-151.74	-450.40	858.99	707.59	647.73	59.86	11.820			
4,700.00	4,527.67	8,485.35	5,133.94	24.60	89.73	-148.64	-450.10	883.61	629.74	563.87	65.87	9.560			
4,765.60	4,590.23	8,469.27	5,134.21	24.99	89.33	-146.56	-449.89	899.69	581.80	511.16	70.65	8.235			
4,800.00	4,622.74	8,460.47	5,134.36	25.20	89.11	-147.63	-449.78	908.48	558.52	485.05	73.47	7.602			
4,850.00	4,668.81	8,445.39	5,134.67	25.56	88.73	-148.21	-449.65	923.56	528.94	450.95	77.99	6.782			
4,900.00	4,713.22	8,427.34	5,135.14	25.97	88.28	-147.89	-449.59	941.60	505.13	422.32	82.81	6.100			
4,950.00	4,755.70	8,406.26	5,135.81	26.44	87.75	-146.82	-449.67	962.67	487.80	400.13	87.66	5.565			
5,000.00	4,795.98	8,384.46	5,136.61	26.96	87.21	-145.30	-449.83	984.46	477.45	385.12	92.34	5.171			
5,046.30	4,831.10	8,362.53	5,137.48	27.50	86.67	-143.41	-449.94	1,006.37	474.35	378.16	96.19	4.931 CC			
5,050.00	4,833.82	8,360.71	5,137.56	27.54	86.62	-143.24	-449.95	1,008.19	474.37	377.90	96.47	4.917 ES			
5,100.00	4,868.98	8,335.18	5,138.68	28.17	85.99	-140.65	-450.04	1,033.69	478.40	378.57	99.84	4.792			
5,150.00	4,901.25	8,308.21	5,139.99	28.86	85.32	-137.56	-450.08	1,060.63	489.08	386.72	102.36	4.778 SF			
5,200.00	4,930.43	8,279.51	5,141.52	29.61	84.61	-133.97	-450.04	1,089.30	505.66	401.60	104.07	4.859			
5,250.00	4,956.33	8,248.91	5,143.03	30.40	83.86	-129.84	-449.87	1,119.85	527.23	422.15	105.08	5.017			
5,300.00	4,978.81	8,219.00	5,144.24	31.24	83.12	-125.42	-449.55	1,149.74	552.91	447.22	105.69	5.231			
5,350.00	4,997.71	8,192.46	5,144.87	32.13	82.46	-120.87	-448.95	1,176.26	582.10	475.96	106.14	5.484			
5,400.00	5,012.93	8,167.70	5,144.99	33.05	81.85	-116.03	-448.04	1,201.00	614.17	507.73	106.44	5.770			
5,450.00	5,024.36	8,123.83	5,144.94	34.01	80.76	-109.96	-446.41	1,244.84	648.12	542.27	105.85	6.123			
5,500.00	5,031.95	8,081.34	5,145.39	34.99	79.72	-104.32	-445.56	1,287.33	682.87	577.59	105.28	6.486			
5,550.00	5,035.63	8,040.96	5,146.19	35.98	78.74	-99.14	-445.18	1,327.69	718.20	613.40	104.79	6.853			
5,576.23	5,036.00	8,022.67	5,146.58	36.51	78.29	-96.59	-445.07	1,345.97	736.90	632.25	104.65	7.041			
5,600.00	5,035.84	8,006.13	5,146.87	36.99	77.89	-96.48	-444.97	1,362.51	753.91	649.39	104.52	7.213			
5,700.00	5,035.18	7,945.02	5,147.46	39.05	76.41	-96.07	-444.37	1,423.62	825.72	721.42	104.30	7.917			



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 209H - Slot 2
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Reference Site:	N15 2308 Pad	MD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 209H	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 Rev 2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 415-MWD+IGRF													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		
5,800.00	5,034.52	7,880.84	5,147.96	41.17	74.86	-95.69	-442.94	1,487.78	898.36	794.39	103.97	8.640		
5,900.00	5,033.86	7,808.75	5,149.08	43.34	73.14	-95.37	-441.47	1,559.84	970.94	867.48	103.46	9.385		
6,000.00	5,033.20	7,748.36	5,149.68	45.55	71.70	-95.11	-440.26	1,620.22	1,043.52	940.23	103.29	10.103		
6,100.00	5,032.54	7,661.94	5,150.02	47.80	69.67	-94.75	-438.78	1,706.62	1,115.81	1,013.29	102.52	10.884		
6,200.00	5,031.88	7,592.18	5,149.76	50.08	68.05	-94.46	-437.86	1,776.38	1,187.85	1,085.65	102.20	11.623		
6,300.00	5,031.22	7,507.29	5,149.71	52.39	66.11	-94.18	-437.49	1,861.27	1,259.29	1,157.70	101.59	12.395		
6,400.00	5,030.56	7,440.66	5,148.70	54.72	64.61	-93.92	-437.51	1,927.89	1,330.37	1,228.95	101.42	13.118		
6,500.00	5,029.90	7,359.87	5,146.45	57.08	62.82	-93.59	-437.57	2,008.64	1,401.40	1,300.41	100.99	13.877		
6,600.00	5,029.24	7,275.69	5,143.47	59.45	61.00	-93.24	-438.25	2,092.77	1,471.90	1,371.36	100.54	14.640		
6,700.00	5,028.58	7,167.46	5,141.98	61.84	58.75	-92.98	-441.41	2,200.93	1,540.88	1,441.17	99.72	15.452		
6,800.00	5,027.92	7,103.85	5,141.92	64.24	57.47	-92.88	-443.73	2,264.50	1,609.47	1,509.72	99.75	16.135		
6,900.00	5,027.26	7,029.65	5,143.50	66.66	56.01	-92.85	-446.21	2,338.64	1,678.35	1,578.72	99.63	16.846		
7,000.00	5,026.60	6,963.33	5,145.19	69.09	54.74	-92.84	-448.55	2,404.89	1,747.11	1,647.46	99.65	17.532		
7,100.00	5,025.94	6,874.09	5,145.58	71.53	53.10	-92.74	-451.53	2,494.09	1,815.98	1,716.61	99.37	18.275		
7,200.00	5,025.29	6,779.85	5,146.71	73.98	51.47	-92.68	-456.26	2,588.20	1,883.52	1,784.44	99.08	19.010		
7,300.00	5,024.63	6,726.48	5,147.31	76.43	50.59	-92.65	-458.81	2,641.50	1,951.34	1,851.98	99.36	19.638		
7,400.00	5,023.97	6,669.94	5,148.21	78.90	49.68	-92.62	-460.87	2,698.00	2,019.96	1,920.36	99.60	20.280		
7,500.00	5,023.31	6,610.39	5,149.50	81.37	48.75	-92.61	-462.72	2,757.51	2,089.02	1,989.21	99.81	20.929		
7,600.00	5,022.65	6,552.34	5,150.46	83.85	47.89	-92.59	-464.11	2,815.53	2,158.56	2,058.51	100.05	21.575		
7,700.00	5,021.99	6,500.55	5,151.07	86.33	47.14	-92.56	-465.00	2,867.31	2,228.60	2,128.26	100.34	22.210		
7,800.00	5,021.33	6,449.02	5,151.53	88.82	46.43	-92.53	-465.29	2,918.84	2,299.39	2,198.75	100.64	22.848		
7,900.00	5,020.67	6,366.61	5,152.36	91.31	45.35	-92.48	-465.79	3,001.24	2,370.19	2,269.43	100.76	23.522		
8,000.00	5,020.01	6,318.79	5,152.87	93.81	44.77	-92.46	-466.10	3,049.06	2,441.03	2,339.91	101.12	24.139		
8,100.00	5,019.35	6,283.00	5,153.21	96.32	44.34	-92.44	-465.77	3,084.84	2,512.87	2,411.34	101.52	24.752		
8,200.00	5,018.69	6,223.00	5,154.12	98.82	43.66	-92.42	-464.73	3,144.83	2,585.31	2,483.46	101.84	25.385		
8,300.00	5,018.03	6,162.00	5,154.47	101.33	43.01	-92.38	-463.45	3,205.81	2,657.98	2,555.78	102.20	26.008		
8,400.00	5,017.37	6,136.13	5,154.09	103.85	42.74	-92.34	-462.64	3,231.67	2,731.26	2,628.65	102.61	26.617		
8,500.00	5,016.71	6,097.00	5,153.11	106.37	42.34	-92.28	-460.84	3,270.74	2,805.49	2,702.49	103.00	27.239		
8,600.00	5,016.05	6,064.00	5,151.50	108.89	42.02	-92.21	-458.89	3,303.64	2,880.48	2,777.11	103.38	27.864		
8,700.00	5,015.39	6,049.22	5,150.61	111.41	41.87	-92.17	-457.79	3,318.35	2,956.37	2,852.65	103.72	28.504		
8,800.00	5,014.73	6,020.41	5,148.92	113.93	41.59	-92.10	-455.37	3,347.01	3,033.12	2,929.06	104.06	29.148		
8,900.00	5,014.07	6,002.00	5,147.59	116.46	41.41	-92.05	-453.65	3,365.29	3,110.64	3,006.28	104.36	29.807		
9,000.00	5,013.41	5,971.00	5,144.42	118.99	41.12	-91.93	-450.19	3,395.93	3,189.05	3,084.37	104.68	30.465		
9,100.00	5,012.75	5,957.83	5,142.67	121.52	40.99	-91.87	-448.51	3,408.87	3,268.24	3,163.31	104.93	31.148		
9,200.00	5,012.09	5,941.00	5,140.13	124.06	40.83	-91.79	-446.29	3,425.36	3,348.14	3,242.98	105.17	31.837		
9,300.00	5,011.43	5,909.00	5,134.25	126.59	40.53	-91.61	-441.67	3,456.47	3,428.69	3,323.23	105.46	32.513		
9,400.00	5,010.77	5,909.00	5,134.25	129.13	40.53	-91.61	-441.67	3,456.47	3,510.03	3,404.44	105.59	33.242		
9,500.00	5,010.11	5,893.48	5,130.96	131.67	40.38	-91.50	-439.11	3,471.42	3,592.10	3,486.32	105.78	33.958		
9,600.00	5,009.45	5,877.00	5,127.29	134.21	40.22	-91.39	-436.00	3,487.18	3,675.02	3,569.06	105.96	34.683		
9,700.00	5,008.79	5,877.00	5,127.29	136.75	40.22	-91.39	-436.00	3,487.18	3,758.55	3,652.51	106.04	35.444		
9,800.00	5,008.13	5,877.00	5,127.29	139.29	40.22	-91.39	-436.00	3,487.18	3,842.86	3,736.75	106.11	36.217		
9,900.00	5,007.47	5,859.63	5,123.35	141.84	40.05	-91.28	-432.32	3,503.70	3,927.67	3,821.41	106.26	36.963		
10,000.00	5,006.81	5,845.00	5,120.08	144.38	39.91	-91.18	-428.93	3,517.55	4,013.17	3,906.78	106.39	37.722		
10,100.00	5,006.15	5,845.00	5,120.08	146.93	39.91	-91.18	-428.93	3,517.55	4,099.17	3,992.75	106.42	38.519		
10,200.00	5,005.49	5,828.21	5,116.28	149.48	39.74	-91.07	-424.80	3,533.37	4,185.67	4,079.12	106.55	39.283		
10,300.00	5,004.83	5,813.00	5,112.70	152.03	39.59	-90.96	-420.92	3,547.64	4,272.61	4,165.94	106.67	40.056		
10,400.00	5,004.17	5,813.00	5,112.70	154.58	39.59	-90.96	-420.92	3,547.64	4,360.01	4,253.34	106.67	40.873		
10,500.00	5,003.51	5,782.00	5,104.85	157.13	39.28	-90.74	-412.55	3,576.43	4,447.82	4,340.93	106.90	41.609		
10,600.00	5,002.85	5,782.00	5,104.85	159.68	39.28	-90.74	-412.55	3,576.43	4,535.94	4,429.06	106.89	42.437		
10,700.00	5,002.19	5,782.00	5,104.85	162.23	39.28	-90.74	-412.55	3,576.43	4,624.55	4,517.68	106.87	43.271		
10,800.00	5,001.53	5,750.00	5,095.79	164.79	38.96	-90.50	-403.34	3,605.71	4,713.43	4,606.33	107.10	44.008		
10,900.00	5,000.87	5,750.00	5,095.79	167.34	38.96	-90.50	-403.34	3,605.71	4,802.63	4,695.55	107.08	44.850		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 209H - Slot 2
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Reference Site:	N15 2308 Pad	MD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 209H	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 Rev 2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 415-MWD+IGRF													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
11,000.00	5,000.21	5,734.15	5,090.88	169.90	38.80	-90.36	-398.63	3,620.02	4,892.16	4,784.97	107.18	45.643		
11,100.00	4,999.55	5,719.00	5,085.88	172.45	38.65	-90.23	-394.03	3,633.56	4,982.00	4,874.73	107.27	46.442		
11,200.00	4,998.89	5,719.00	5,085.88	175.01	38.65	-90.23	-394.03	3,633.56	5,072.14	4,964.90	107.24	47.296		
11,300.00	4,998.23	5,703.90	5,080.55	177.56	38.50	-90.09	-389.35	3,646.89	5,162.55	5,055.21	107.33	48.099		
11,400.00	4,997.57	5,687.00	5,074.14	180.12	38.34	-89.92	-384.01	3,661.59	5,253.27	5,145.84	107.43	48.899		
11,500.00	4,996.91	5,687.00	5,074.14	182.68	38.34	-89.92	-384.01	3,661.59	5,344.21	5,236.82	107.39	49.763		
11,600.00	4,996.25	5,687.00	5,074.14	185.24	38.34	-89.92	-384.01	3,661.59	5,435.47	5,328.12	107.35	50.633		
11,700.00	4,995.59	5,670.10	5,067.24	187.80	38.18	-89.75	-378.56	3,676.02	5,526.91	5,419.46	107.45	51.437		
11,800.00	4,994.93	5,655.00	5,060.64	190.36	38.03	-89.58	-373.61	3,688.67	5,618.65	5,511.12	107.53	52.254		
11,900.00	4,994.27	5,655.00	5,060.64	192.92	38.03	-89.58	-373.61	3,688.67	5,710.57	5,603.09	107.48	53.131		
12,000.00	4,993.61	5,655.00	5,060.64	195.48	38.03	-89.58	-373.61	3,688.67	5,802.76	5,695.33	107.44	54.011		
12,100.00	4,992.95	5,655.00	5,060.64	198.04	38.03	-89.58	-373.61	3,688.67	5,895.21	5,787.82	107.39	54.896		
12,200.00	4,992.29	5,641.09	5,054.20	200.60	37.90	-89.42	-368.96	3,700.09	5,987.77	5,880.32	107.46	55.723		
12,300.00	4,991.63	5,623.00	5,045.36	203.16	37.72	-89.20	-362.71	3,714.58	6,080.72	5,973.17	107.55	56.537		
12,400.00	4,990.97	5,623.00	5,045.36	205.73	37.72	-89.20	-362.71	3,714.58	6,173.69	6,066.19	107.50	57.427		
12,500.00	4,990.31	5,623.00	5,045.36	208.29	37.72	-89.20	-362.71	3,714.58	6,266.88	6,159.42	107.46	58.320		
12,600.00	4,989.65	5,623.00	5,045.36	210.85	37.72	-89.20	-362.71	3,714.58	6,360.27	6,252.87	107.41	59.216		
12,700.00	4,988.99	5,623.00	5,045.36	213.42	37.72	-89.20	-362.71	3,714.58	6,453.87	6,346.51	107.36	60.114		
12,800.00	4,988.33	5,623.00	5,045.36	215.98	37.72	-89.20	-362.71	3,714.58	6,547.65	6,440.34	107.31	61.015		
12,900.00	4,987.67	5,623.00	5,045.36	218.55	37.72	-89.20	-362.71	3,714.58	6,641.61	6,534.35	107.26	61.918		
13,000.00	4,987.01	5,623.00	5,045.36	221.11	37.72	-89.20	-362.71	3,714.58	6,735.75	6,628.53	107.22	62.824		
13,100.00	4,986.35	5,623.00	5,045.36	223.68	37.72	-89.20	-362.71	3,714.58	6,830.05	6,722.88	107.17	63.731		
13,200.00	4,985.69	5,608.42	5,037.89	226.24	37.58	-89.02	-357.48	3,725.95	6,924.33	6,817.09	107.24	64.569		
13,300.00	4,985.03	5,592.00	5,029.15	228.81	37.42	-88.80	-351.31	3,738.41	7,019.05	6,911.73	107.32	65.403		
13,400.00	4,984.37	5,592.00	5,029.15	231.37	37.42	-88.80	-351.31	3,738.41	7,113.70	7,006.42	107.27	66.313		
13,500.00	4,983.71	5,592.00	5,029.15	233.94	37.42	-88.80	-351.31	3,738.41	7,208.48	7,101.25	107.23	67.225		
13,600.00	4,983.05	5,592.00	5,029.15	236.51	37.42	-88.80	-351.31	3,738.41	7,303.41	7,196.23	107.18	68.138		
13,700.00	4,982.39	5,592.00	5,029.15	239.07	37.42	-88.80	-351.31	3,738.41	7,398.47	7,291.33	107.14	69.054		
13,800.00	4,981.73	5,592.00	5,029.15	241.64	37.42	-88.80	-351.31	3,738.41	7,493.66	7,386.56	107.10	69.970		
13,900.00	4,981.07	5,592.00	5,029.15	244.21	37.42	-88.80	-351.31	3,738.41	7,588.97	7,481.91	107.06	70.888		
14,000.00	4,980.41	5,592.00	5,029.15	246.77	37.42	-88.80	-351.31	3,738.41	7,684.40	7,577.39	107.01	71.807		
14,100.00	4,979.75	5,592.00	5,029.15	249.34	37.42	-88.80	-351.31	3,738.41	7,779.95	7,672.97	106.97	72.728		
14,200.00	4,979.09	5,592.00	5,029.15	251.91	37.42	-88.80	-351.31	3,738.41	7,875.61	7,768.67	106.93	73.649		
14,300.00	4,978.43	5,592.00	5,029.15	254.48	37.42	-88.80	-351.31	3,738.41	7,971.37	7,864.47	106.90	74.572		
14,400.00	4,977.77	5,592.00	5,029.15	257.05	37.42	-88.80	-351.31	3,738.41	8,067.23	7,960.38	106.86	75.495		
14,500.00	4,977.11	5,592.00	5,029.15	259.62	37.42	-88.80	-351.31	3,738.41	8,163.20	8,056.38	106.82	76.420		
14,600.00	4,976.45	5,592.00	5,029.15	262.18	37.42	-88.80	-351.31	3,738.41	8,259.26	8,152.48	106.78	77.346		
14,700.00	4,975.79	5,592.00	5,029.15	264.75	37.42	-88.80	-351.31	3,738.41	8,355.41	8,248.67	106.75	78.272		
14,800.00	4,975.13	5,592.00	5,029.15	267.32	37.42	-88.80	-351.31	3,738.41	8,451.66	8,344.94	106.71	79.199		
14,900.00	4,974.47	5,576.07	5,020.45	269.89	37.26	-88.59	-345.02	3,750.18	8,547.76	8,440.96	106.80	80.035		
15,000.00	4,973.81	5,560.00	5,011.51	272.46	37.10	-88.38	-338.37	3,761.75	8,644.32	8,537.43	106.89	80.874		
15,100.00	4,973.15	5,560.00	5,011.51	275.03	37.10	-88.38	-338.37	3,761.75	8,740.73	8,633.88	106.85	81.800		
15,200.00	4,972.49	5,560.00	5,011.51	277.60	37.10	-88.38	-338.37	3,761.75	8,837.22	8,730.40	106.82	82.728		
15,300.00	4,971.83	5,560.00	5,011.51	280.17	37.10	-88.38	-338.37	3,761.75	8,933.79	8,827.00	106.79	83.656		
15,400.00	4,971.17	5,560.00	5,011.51	282.74	37.10	-88.38	-338.37	3,761.75	9,030.43	8,923.67	106.76	84.584		
15,500.00	4,970.51	5,560.00	5,011.51	285.31	37.10	-88.38	-338.37	3,761.75	9,127.14	9,020.41	106.73	85.513		
15,600.00	4,969.85	5,560.00	5,011.51	287.88	37.10	-88.38	-338.37	3,761.75	9,223.93	9,117.22	106.71	86.442		
15,700.00	4,969.19	5,560.00	5,011.51	290.45	37.10	-88.38	-338.37	3,761.75	9,320.78	9,214.10	106.68	87.372		
15,800.00	4,968.53	5,560.00	5,011.51	293.02	37.10	-88.38	-338.37	3,761.75	9,417.70	9,311.05	106.65	88.302		
15,881.04	4,968.00	5,560.00	5,011.51	295.11	37.10	-88.38	-338.37	3,761.75	9,496.29	9,389.65	106.63	89.056		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 209H - Slot 2
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Reference Site:	N15 2308 Pad	MD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 209H	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 Rev 2	Offset TVD Reference:	Offset Datum

Offset Design N15 2308 Pad - # 207H - Original Drilling - APD Rev 2													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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation		Separation Factor		
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)		(usft)		
0.00	0.00	0.00	0.00	0.00	0.00	93.12	-1.09	20.06	20.09					
100.00	100.00	100.00	100.00	0.15	0.15	93.12	-1.09	20.06	20.09	19.78	0.31	65.156		
200.00	200.00	200.00	200.00	0.51	0.51	93.12	-1.09	20.06	20.09	19.06	1.03	19.592		
300.00	300.00	300.00	300.00	0.87	0.87	93.12	-1.09	20.06	20.09	18.34	1.74	11.530		
400.00	400.00	400.00	400.00	1.23	1.23	93.12	-1.09	20.06	20.09	17.63	2.46	8.168 CC		
500.00	499.98	499.33	499.31	1.58	1.58	-38.05	-1.65	21.69	20.36	17.21	3.15	6.464 ES		
600.00	599.84	598.63	598.47	1.92	1.92	-42.55	-3.31	26.57	21.27	17.44	3.83	5.556		
700.00	699.45	697.89	697.35	2.27	2.27	-49.18	-6.07	34.71	23.05	18.52	4.52	5.096		
800.00	798.70	797.08	795.81	2.64	2.64	-56.76	-9.93	46.07	25.96	20.72	5.24	4.956		
900.00	897.47	896.18	893.70	3.02	3.02	-64.16	-14.88	60.64	30.22	24.23	5.99	5.046		
1,000.00	995.62	995.17	990.90	3.43	3.43	-70.66	-20.91	78.39	35.93	29.14	6.79	5.294		
1,100.00	1,093.06	1,094.03	1,087.26	3.87	3.86	-76.01	-28.00	99.27	43.07	35.43	7.64	5.637		
1,200.00	1,189.64	1,192.74	1,182.66	4.33	4.32	-80.26	-36.15	123.25	51.63	43.07	8.56	6.031		
1,275.74	1,262.17	1,267.39	1,254.20	4.71	4.70	-82.85	-43.01	143.45	59.01	49.70	9.31	6.339		
1,300.00	1,285.30	1,291.28	1,276.97	4.84	4.82	-83.54	-45.33	150.28	61.55	51.99	9.55	6.442		
1,400.00	1,380.66	1,389.62	1,370.06	5.37	5.37	-84.35	-55.52	180.30	72.97	62.38	10.59	6.888		
1,500.00	1,476.03	1,488.80	1,463.31	5.91	5.95	-83.78	-66.38	212.27	85.21	73.54	11.68	7.298		
1,600.00	1,571.39	1,588.05	1,556.63	6.46	6.55	-83.35	-77.25	244.26	97.47	84.68	12.78	7.625		
1,700.00	1,666.76	1,687.29	1,649.95	7.02	7.16	-83.02	-88.12	276.26	109.72	95.81	13.91	7.889		
1,800.00	1,762.12	1,786.54	1,743.26	7.58	7.78	-82.75	-98.99	308.25	121.98	106.93	15.05	8.107		
1,900.00	1,857.48	1,885.78	1,836.58	8.15	8.41	-82.54	-109.85	340.24	134.24	118.05	16.20	8.288		
2,000.00	1,952.85	1,985.02	1,929.89	8.72	9.05	-82.36	-120.72	372.24	146.51	129.15	17.36	8.441		
2,100.00	2,048.21	2,084.27	2,023.21	9.30	9.69	-82.20	-131.59	404.23	158.77	140.25	18.52	8.572		
2,200.00	2,143.57	2,183.51	2,116.52	9.87	10.33	-82.07	-142.46	436.22	171.04	151.34	19.69	8.685		
2,300.00	2,238.94	2,282.76	2,209.84	10.45	10.98	-81.96	-153.33	468.22	183.30	162.43	20.87	8.784		
2,400.00	2,334.30	2,382.00	2,303.15	11.03	11.63	-81.86	-164.19	500.21	195.57	173.52	22.05	8.870		
2,500.00	2,429.67	2,481.25	2,396.47	11.62	12.28	-81.77	-175.06	532.20	207.84	184.60	23.23	8.946		
2,600.00	2,525.03	2,580.49	2,489.78	12.20	12.94	-81.69	-185.93	564.20	220.10	195.69	24.42	9.014		
2,700.00	2,620.39	2,679.73	2,583.10	12.79	13.59	-81.62	-196.80	596.19	232.37	206.77	25.61	9.075		
2,800.00	2,715.76	2,778.98	2,676.41	13.37	14.25	-81.56	-207.66	628.18	244.64	217.84	26.80	9.129		
2,900.00	2,811.12	2,878.22	2,769.73	13.96	14.90	-81.51	-218.53	660.18	256.91	228.92	27.99	9.179		
3,000.00	2,906.49	2,977.47	2,863.04	14.55	15.56	-81.45	-229.40	692.17	269.18	239.99	29.18	9.223		
3,100.00	3,001.85	3,076.71	2,956.36	15.14	16.22	-81.41	-240.27	724.16	281.45	251.07	30.38	9.264		
3,200.00	3,097.21	3,175.96	3,049.67	15.72	16.88	-81.36	-251.13	756.16	293.72	262.14	31.58	9.301		
3,300.00	3,192.58	3,275.20	3,142.99	16.31	17.54	-81.32	-262.00	788.15	305.99	273.21	32.78	9.336		
3,400.00	3,287.94	3,374.44	3,236.30	16.90	18.21	-81.29	-272.87	820.14	318.26	284.28	33.98	9.367		
3,500.00	3,383.30	3,473.69	3,329.62	17.49	18.87	-81.25	-283.74	852.14	330.52	295.35	35.18	9.396		
3,600.00	3,478.67	3,572.93	3,422.94	18.08	19.53	-81.22	-294.61	884.13	342.79	306.42	36.38	9.423		
3,700.00	3,574.03	3,672.18	3,516.25	18.68	20.19	-81.19	-305.47	916.12	355.06	317.49	37.58	9.449		
3,800.00	3,669.40	3,771.42	3,609.57	19.27	20.86	-81.17	-316.34	948.12	367.33	328.55	38.78	9.472		
3,900.00	3,764.76	3,870.67	3,702.88	19.86	21.52	-81.14	-327.21	980.11	379.60	339.62	39.98	9.494		
4,000.00	3,860.12	3,969.91	3,796.20	20.45	22.19	-81.12	-338.08	1,012.10	391.87	350.69	41.19	9.514		
4,100.00	3,955.49	4,069.15	3,889.51	21.04	22.85	-81.09	-348.94	1,044.10	404.14	361.75	42.39	9.533		
4,200.00	4,050.85	4,168.40	3,982.83	21.63	23.52	-81.07	-359.81	1,076.09	416.41	372.82	43.60	9.551		
4,300.00	4,146.22	4,267.64	4,076.14	22.23	24.18	-81.05	-370.68	1,108.08	428.68	383.88	44.80	9.568		
4,400.00	4,241.58	4,366.89	4,169.46	22.82	24.85	-81.03	-381.55	1,140.08	440.95	394.95	46.01	9.584		
4,500.00	4,336.94	4,466.13	4,262.77	23.41	25.51	-81.02	-392.42	1,172.07	453.23	406.01	47.21	9.599		
4,600.00	4,432.31	4,565.37	4,356.09	24.00	26.18	-81.00	-403.28	1,204.06	465.50	417.08	48.42	9.614		
4,700.00	4,527.67	4,664.62	4,449.40	24.60	26.85	-80.98	-414.15	1,236.06	477.77	428.14	49.63	9.627		
4,765.60	4,590.23	4,729.72	4,510.61	24.99	27.28	-80.97	-421.28	1,257.04	485.81	435.40	50.42	9.636		
4,800.00	4,622.74	4,763.85	4,542.71	25.20	27.51	-81.59	-425.02	1,268.05	489.99	439.13	50.86	9.634		
4,850.00	4,668.81	4,813.28	4,589.19	25.56	27.84	-82.47	-430.43	1,283.98	495.89	444.29	51.60	9.611		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 209H - Slot 2
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Reference Site:	N15 2308 Pad	MD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 209H	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 Rev 2	Offset TVD Reference:	Offset Datum

Offset Design N15 2308 Pad - # 207H - Original Drilling - APD Rev 2													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		
4,900.00	4,713.22	4,862.23	4,635.20	25.97	28.17	-83.52	-435.79	1,299.76	501.67	449.22	52.44	9.566		
4,950.00	4,755.70	4,900.00	4,670.48	26.44	28.44	-84.37	-440.19	1,312.53	507.83	454.59	53.24	9.539		
5,000.00	4,795.98	4,938.67	4,705.71	26.96	28.75	-85.12	-445.53	1,327.53	515.11	460.97	54.15	9.513		
5,050.00	4,833.82	4,976.07	4,738.81	27.54	29.09	-85.73	-451.51	1,343.88	523.54	468.42	55.12	9.498		
5,100.00	4,868.98	5,013.57	4,770.91	28.17	29.47	-86.25	-458.28	1,362.02	533.11	476.93	56.18	9.489		
5,150.00	4,901.25	5,050.00	4,800.96	28.86	29.86	-86.64	-465.59	1,381.27	543.79	486.49	57.30	9.490		
5,200.00	4,930.43	5,088.94	4,831.72	29.61	30.34	-87.03	-474.16	1,403.55	555.57	496.99	58.58	9.483		
5,250.00	4,956.33	5,126.88	4,860.23	30.40	30.85	-87.30	-483.23	1,426.87	568.41	508.49	59.92	9.486		
5,300.00	4,978.81	5,165.05	4,887.36	31.24	31.39	-87.49	-493.06	1,451.84	582.27	520.94	61.34	9.493		
5,350.00	4,997.71	5,203.50	4,913.02	32.13	31.98	-87.61	-503.62	1,478.45	597.11	534.28	62.83	9.504		
5,400.00	5,012.93	5,242.30	4,937.12	33.05	32.62	-87.65	-514.91	1,506.69	612.86	548.46	64.39	9.517		
5,450.00	5,024.36	5,281.54	4,959.55	34.01	33.31	-87.63	-526.95	1,536.54	629.46	563.43	66.02	9.534		
5,500.00	5,031.95	5,321.31	4,980.22	34.99	34.05	-87.54	-539.72	1,568.01	646.84	579.13	67.70	9.554		
5,550.00	5,035.63	5,361.73	4,999.02	35.98	34.84	-87.39	-553.25	1,601.12	664.92	595.50	69.42	9.578		
5,576.23	5,036.00	5,383.23	5,008.08	36.51	35.27	-87.29	-560.65	1,619.16	674.66	604.31	70.34	9.591		
5,600.00	5,035.84	5,403.10	5,015.87	36.99	35.68	-88.04	-567.61	1,636.06	683.62	612.44	71.18	9.604		
5,700.00	5,035.18	5,492.40	5,043.69	39.05	37.62	-90.57	-600.08	1,714.38	722.25	647.28	74.97	9.634		
5,800.00	5,034.52	5,589.01	5,060.12	41.17	39.85	-91.93	-636.88	1,802.07	761.15	682.00	79.14	9.617		
5,900.00	5,033.86	5,686.15	5,062.87	43.34	42.16	-92.09	-674.78	1,891.42	799.39	715.91	83.48	9.576		
6,000.00	5,033.20	5,778.62	5,062.52	45.55	44.42	-92.01	-710.97	1,976.51	837.46	749.70	87.76	9.543		
6,100.00	5,032.54	5,871.08	5,062.17	47.80	46.72	-91.94	-747.15	2,061.60	875.53	783.41	92.12	9.504		
6,200.00	5,031.88	5,963.55	5,061.81	50.08	49.07	-91.87	-783.33	2,146.69	913.60	817.04	96.56	9.462		
6,300.00	5,031.22	6,056.01	5,061.46	52.39	51.45	-91.81	-819.52	2,231.79	951.67	850.61	101.05	9.417		
6,400.00	5,030.56	6,148.48	5,061.11	54.72	53.87	-91.76	-855.70	2,316.88	989.74	884.13	105.61	9.372		
6,500.00	5,029.90	6,240.94	5,060.76	57.08	56.31	-91.70	-891.88	2,401.97	1,027.81	917.60	110.21	9.326		
6,600.00	5,029.24	6,333.41	5,060.41	59.45	58.78	-91.66	-928.07	2,487.06	1,065.89	951.02	114.86	9.280		
6,700.00	5,028.58	6,425.87	5,060.06	61.84	61.27	-91.61	-964.25	2,572.15	1,103.96	984.41	119.55	9.234		
6,800.00	5,027.92	6,518.34	5,059.70	64.24	63.79	-91.57	-1,000.43	2,657.24	1,142.03	1,017.77	124.27	9.190		
6,900.00	5,027.26	6,610.80	5,059.35	66.66	66.32	-91.53	-1,036.61	2,742.33	1,180.11	1,051.09	129.02	9.147		
7,000.00	5,026.60	6,703.27	5,059.00	69.09	68.86	-91.49	-1,072.80	2,827.42	1,218.18	1,084.39	133.80	9.105		
7,100.00	5,025.94	6,795.73	5,058.65	71.53	71.42	-91.46	-1,108.98	2,912.51	1,256.26	1,117.66	138.60	9.064		
7,200.00	5,025.29	6,888.20	5,058.30	73.98	73.99	-91.42	-1,145.16	2,997.60	1,294.33	1,150.91	143.42	9.025		
7,300.00	5,024.63	6,980.67	5,057.95	76.43	77.50	-91.38	-1,185.00	3,113.26	1,332.23	1,182.48	149.75	8.987		
7,400.00	5,023.97	7,073.14	5,057.60	78.90	84.67	-91.32	-1,319.83	3,343.09	1,359.94	1,199.18	160.76	8.459		
7,500.00	5,023.31	7,165.61	5,057.25	81.37	95.12	-91.28	-1,576.31	3,665.98	1,370.36	1,199.61	170.75	8.025		
7,600.00	5,022.65	7,258.08	5,056.90	83.85	98.38	-91.28	-1,677.50	3,763.42	1,368.85	1,193.16	175.69	7.791		
7,700.00	5,021.99	7,350.55	5,056.55	86.33	100.70	-91.28	-1,749.93	3,832.35	1,367.11	1,186.46	180.65	7.568		
7,800.00	5,021.33	7,443.02	5,056.20	88.82	103.03	-91.28	-1,822.36	3,901.27	1,365.36	1,179.75	185.62	7.356		
7,900.00	5,020.67	7,535.49	5,055.85	91.31	105.37	-91.28	-1,894.78	3,970.20	1,363.62	1,173.02	190.59	7.155		
8,000.00	5,020.01	7,627.96	5,055.50	93.81	107.72	-91.28	-1,967.21	4,039.12	1,361.87	1,166.29	195.58	6.963		
8,100.00	5,019.35	7,720.43	5,055.15	96.32	110.08	-91.28	-2,039.64	4,108.04	1,360.13	1,159.56	200.57	6.781		
8,200.00	5,018.69	7,812.90	5,054.80	98.82	112.45	-91.28	-2,112.07	4,176.97	1,358.38	1,152.81	205.57	6.608		
8,300.00	5,018.03	7,905.37	5,054.45	101.33	114.82	-91.28	-2,184.50	4,245.89	1,356.64	1,146.06	210.58	6.442		
8,400.00	5,017.37	8,000.00	5,054.10	103.85	117.21	-91.28	-2,256.93	4,314.82	1,354.89	1,139.30	215.59	6.285		
8,500.00	5,016.71	8,092.47	5,053.75	106.37	119.60	-91.28	-2,329.35	4,383.74	1,353.15	1,132.54	220.61	6.134		
8,600.00	5,016.05	8,184.94	5,053.40	108.89	122.00	-91.28	-2,401.78	4,452.67	1,351.41	1,125.77	225.64	5.989		
8,700.00	5,015.39	8,277.41	5,053.05	111.41	124.41	-91.28	-2,474.21	4,521.59	1,349.66	1,118.99	230.67	5.851		
8,800.00	5,014.73	8,369.88	5,052.70	113.93	126.82	-91.28	-2,546.64	4,590.52	1,347.92	1,112.21	235.70	5.719		
8,900.00	5,014.07	8,462.35	5,052.35	116.46	129.23	-91.28	-2,619.07	4,659.44	1,346.17	1,105.43	240.74	5.592		
9,000.00	5,013.41	8,554.82	5,052.00	118.99	131.66	-91.28	-2,691.50	4,728.37	1,344.43	1,098.64	245.78	5.470		
9,100.00	5,012.75	8,647.29	5,051.65	121.52	134.09	-91.28	-2,763.92	4,797.29	1,342.68	1,091.85	250.83	5.353		
9,200.00	5,012.09	8,739.76	5,051.30	124.06	136.52	-91.28	-2,836.35	4,866.21	1,340.94	1,085.05	255.88	5.240		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 209H - Slot 2
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Reference Site:	N15 2308 Pad	MD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 209H	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 Rev 2	Offset TVD Reference:	Offset Datum

Offset Design N15 2308 Pad - # 207H - Original Drilling - APD Rev 2													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		
9,300.00	5,011.43	9,529.37	5,041.09	126.59	138.96	-91.28	-2,908.78	4,935.14	1,339.19	1,078.26	260.94	5.132		
9,400.00	5,010.77	9,629.36	5,040.39	129.13	141.40	-91.28	-2,981.21	5,004.06	1,337.45	1,071.45	266.00	5.028		
9,500.00	5,010.11	9,729.34	5,039.68	131.67	143.85	-91.28	-3,053.64	5,072.99	1,335.70	1,064.65	271.06	4.928		
9,600.00	5,009.45	9,829.33	5,038.97	134.21	146.30	-91.28	-3,126.07	5,141.91	1,333.96	1,057.84	276.12	4.831		
9,700.00	5,008.79	9,929.31	5,038.27	136.75	148.75	-91.27	-3,198.49	5,210.84	1,332.22	1,051.03	281.19	4.738		
9,800.00	5,008.13	10,029.30	5,037.56	139.29	151.21	-91.27	-3,270.92	5,279.76	1,330.47	1,044.21	286.26	4.648		
9,900.00	5,007.47	10,129.28	5,036.85	141.84	153.67	-91.27	-3,343.35	5,348.69	1,328.73	1,037.40	291.33	4.561		
10,000.00	5,006.81	10,229.27	5,036.15	144.38	156.14	-91.27	-3,415.78	5,417.61	1,326.98	1,030.58	296.40	4.477		
10,100.00	5,006.15	10,329.25	5,035.44	146.93	158.60	-91.27	-3,488.21	5,486.54	1,325.24	1,023.76	301.48	4.396		
10,200.00	5,005.49	10,429.24	5,034.73	149.48	161.07	-91.27	-3,560.64	5,555.46	1,323.49	1,016.93	306.56	4.317		
10,300.00	5,004.83	10,529.22	5,034.02	152.03	163.55	-91.27	-3,633.06	5,624.39	1,321.75	1,010.11	311.64	4.241		
10,400.00	5,004.17	10,629.21	5,033.32	154.58	166.02	-91.27	-3,705.49	5,693.31	1,320.00	1,003.28	316.72	4.168		
10,500.00	5,003.51	10,729.19	5,032.61	157.13	168.50	-91.27	-3,777.92	5,762.23	1,318.26	996.45	321.81	4.096		
10,600.00	5,002.85	10,829.18	5,031.90	159.68	170.99	-91.27	-3,850.35	5,831.16	1,316.52	989.62	326.89	4.027		
10,700.00	5,002.19	10,929.16	5,031.20	162.23	173.47	-91.27	-3,922.78	5,900.08	1,314.77	982.79	331.98	3.960		
10,800.00	5,001.53	11,029.15	5,030.49	164.79	175.96	-91.27	-3,995.20	5,969.01	1,313.03	975.95	337.07	3.895		
10,900.00	5,000.87	11,129.13	5,029.78	167.34	178.44	-91.27	-4,067.63	6,037.93	1,311.28	969.12	342.16	3.832		
11,000.00	5,000.21	11,229.12	5,029.08	169.90	180.94	-91.27	-4,140.06	6,106.86	1,309.54	962.28	347.26	3.771		
11,100.00	4,999.55	11,329.10	5,028.37	172.45	183.43	-91.27	-4,212.49	6,175.78	1,307.79	955.44	352.35	3.712		
11,200.00	4,998.89	11,429.08	5,027.66	175.01	185.92	-91.27	-4,284.92	6,244.71	1,306.05	948.60	357.44	3.654		
11,300.00	4,998.23	11,529.07	5,026.96	177.56	188.42	-91.27	-4,357.35	6,313.63	1,304.30	941.76	362.54	3.598		
11,400.00	4,997.57	11,629.05	5,026.25	180.12	190.92	-91.27	-4,429.77	6,382.56	1,302.56	934.92	367.64	3.543		
11,500.00	4,996.91	11,729.04	5,025.54	182.68	193.42	-91.27	-4,502.20	6,451.48	1,300.81	928.08	372.74	3.490		
11,600.00	4,996.25	11,829.02	5,024.84	185.24	195.92	-91.27	-4,574.63	6,520.40	1,299.07	921.23	377.84	3.438		
11,700.00	4,995.59	11,929.01	5,024.13	187.80	198.42	-91.27	-4,647.06	6,589.33	1,297.33	914.39	382.94	3.388		
11,800.00	4,994.93	12,028.99	5,023.42	190.36	200.93	-91.27	-4,719.49	6,658.25	1,295.58	907.54	388.04	3.339		
11,900.00	4,994.27	12,128.98	5,022.72	192.92	203.43	-91.27	-4,791.92	6,727.18	1,293.84	900.69	393.15	3.291		
12,000.00	4,993.61	12,228.96	5,022.01	195.48	205.94	-91.27	-4,864.34	6,796.10	1,292.09	893.84	398.25	3.244		
12,100.00	4,992.95	12,328.95	5,021.30	198.04	208.45	-91.27	-4,936.77	6,865.03	1,290.35	886.99	403.35	3.199		
12,200.00	4,992.29	12,428.93	5,020.60	200.60	210.96	-91.27	-5,009.20	6,933.95	1,288.60	880.14	408.46	3.155		
12,300.00	4,991.63	12,528.92	5,019.89	203.16	213.47	-91.27	-5,081.63	7,002.88	1,286.86	873.29	413.57	3.112		
12,400.00	4,990.97	12,628.90	5,019.18	205.73	215.98	-91.26	-5,154.06	7,071.80	1,285.11	866.44	418.68	3.069		
12,500.00	4,990.31	12,728.89	5,018.48	208.29	218.50	-91.26	-5,226.49	7,140.73	1,283.37	859.59	423.78	3.028		
12,600.00	4,989.65	12,828.87	5,017.77	210.85	221.01	-91.26	-5,298.91	7,209.65	1,281.63	852.73	428.89	2.988		
12,700.00	4,988.99	12,928.86	5,017.06	213.42	223.53	-91.26	-5,371.34	7,278.57	1,279.88	845.88	434.00	2.949		
12,800.00	4,988.33	13,028.84	5,016.35	215.98	226.05	-91.26	-5,443.77	7,347.50	1,278.14	839.02	439.11	2.911		
12,900.00	4,987.67	13,128.83	5,015.65	218.55	228.57	-91.26	-5,516.20	7,416.42	1,276.39	832.17	444.23	2.873		
13,000.00	4,987.01	13,228.81	5,014.94	221.11	231.09	-91.26	-5,588.63	7,485.35	1,274.65	825.31	449.34	2.837		
13,100.00	4,986.35	13,328.80	5,014.23	223.68	233.61	-91.26	-5,661.06	7,554.27	1,272.90	818.45	454.45	2.801		
13,200.00	4,985.69	13,428.78	5,013.53	226.24	236.13	-91.26	-5,733.48	7,623.20	1,271.16	811.59	459.56	2.766		
13,300.00	4,985.03	13,528.77	5,012.82	228.81	238.65	-91.26	-5,805.91	7,692.12	1,269.41	804.73	464.68	2.732		
13,400.00	4,984.37	13,628.75	5,012.11	231.37	241.17	-91.26	-5,878.34	7,761.05	1,267.67	797.88	469.79	2.698		
13,500.00	4,983.71	13,728.73	5,011.41	233.94	243.70	-91.26	-5,950.77	7,829.97	1,265.92	791.02	474.91	2.666		
13,600.00	4,983.05	13,828.72	5,010.70	236.51	246.22	-91.26	-6,023.20	7,898.90	1,264.18	784.16	480.02	2.634		
13,700.00	4,982.39	13,928.70	5,009.99	239.07	248.75	-91.26	-6,095.63	7,967.82	1,262.44	777.29	485.14	2.602		
13,800.00	4,981.73	14,028.69	5,009.29	241.64	251.27	-91.26	-6,168.05	8,036.75	1,260.69	770.43	490.26	2.571		
13,900.00	4,981.07	14,128.67	5,008.58	244.21	253.80	-91.26	-6,240.48	8,105.67	1,258.95	763.57	495.37	2.541		
14,000.00	4,980.41	14,228.66	5,007.87	246.77	256.33	-91.26	-6,312.91	8,174.59	1,257.20	756.71	500.49	2.512		
14,100.00	4,979.75	14,328.64	5,007.17	249.34	258.86	-91.26	-6,385.34	8,243.52	1,255.46	749.85	505.61	2.483		
14,200.00	4,979.09	14,428.63	5,006.46	251.91	261.39	-91.26	-6,457.77	8,312.44	1,253.71	742.98	510.73	2.455		
14,300.00	4,978.43	14,528.61	5,005.75	254.48	263.91	-91.26	-6,530.20	8,381.37	1,251.97	736.12	515.85	2.427		
14,400.00	4,977.77	14,628.60	5,005.05	257.05	266.45	-91.26	-6,602.62	8,450.29	1,250.22	729.26	520.97	2.400		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 209H - Slot 2
Project:	Betonnies Tsoie Unit	TVD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Reference Site:	N15 2308 Pad	MD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 209H	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 Rev 2	Offset TVD Reference:	Offset Datum

Offset Design N15 2308 Pad - # 207H - Original Drilling - APD Rev 2												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	
14,500.00	4,977.11	14,728.58	5,004.34	259.62	268.98	-91.26	-6,675.05	8,519.22	1,248.48	722.39	526.09	2.373	
14,569.69	4,976.65	14,776.54	5,004.00	261.41	270.19	-91.26	-6,709.79	8,552.28	1,247.45	717.72	529.73	2.355	
14,600.00	4,976.45	14,776.54	5,004.00	262.18	270.19	-91.26	-6,709.79	8,552.28	1,247.82	716.69	531.13	2.349 SF	
14,700.00	4,975.79	14,776.54	5,004.00	264.75	270.19	-91.26	-6,709.79	8,552.28	1,254.24	720.71	533.52	2.351	
14,800.00	4,975.13	14,776.54	5,004.00	267.32	270.19	-91.26	-6,709.79	8,552.28	1,268.53	735.93	532.60	2.382	
14,900.00	4,974.47	14,776.54	5,004.00	269.89	270.19	-91.26	-6,709.79	8,552.28	1,290.43	761.85	528.58	2.441	
15,000.00	4,973.81	14,776.54	5,004.00	272.46	270.19	-91.26	-6,709.79	8,552.28	1,319.57	797.72	521.85	2.529	
15,100.00	4,973.15	14,776.54	5,004.00	275.03	270.19	-91.26	-6,709.79	8,552.28	1,355.48	842.61	512.87	2.643	
15,200.00	4,972.49	14,776.54	5,004.00	277.60	270.19	-91.26	-6,709.79	8,552.28	1,397.63	895.51	502.12	2.783	
15,300.00	4,971.83	14,776.54	5,004.00	280.17	270.19	-91.26	-6,709.79	8,552.28	1,445.49	955.40	490.09	2.949	
15,400.00	4,971.17	14,776.54	5,004.00	282.74	270.19	-91.26	-6,709.79	8,552.28	1,498.49	1,021.30	477.20	3.140	
15,500.00	4,970.51	14,776.54	5,004.00	285.31	270.19	-91.26	-6,709.79	8,552.28	1,556.13	1,092.30	463.83	3.355	
15,600.00	4,969.85	14,776.54	5,004.00	287.88	270.19	-91.26	-6,709.79	8,552.28	1,617.90	1,167.62	450.28	3.593	
15,700.00	4,969.19	14,776.54	5,004.00	290.45	270.19	-91.26	-6,709.79	8,552.28	1,683.34	1,246.55	436.79	3.854	
15,800.00	4,968.53	14,776.54	5,004.00	293.02	270.19	-91.26	-6,709.79	8,552.28	1,752.06	1,328.51	423.54	4.137	
15,881.04	4,968.00	14,776.54	5,004.00	295.11	270.19	-91.26	-6,709.79	8,552.28	1,809.88	1,396.81	413.07	4.382	



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 209H - Slot 2
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Reference Site:	N15 2308 Pad	MD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 209H	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 Rev 2	Offset TVD Reference:	Offset Datum

Offset Design N15 2308 Pad - # 211H - Original Drilling - APD Rev 2													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	-85.85	1.46	-20.06	20.11					
100.00	100.00	100.00	100.00	0.15	0.15	-85.85	1.46	-20.06	20.11	19.80	0.31	65.231		
200.00	200.00	200.00	200.00	0.51	0.51	-85.85	1.46	-20.06	20.11	19.08	1.03	19.615		
300.00	300.00	300.00	300.00	0.87	0.87	-85.85	1.46	-20.06	20.11	18.37	1.74	11.543		
400.00	400.00	400.00	400.00	1.23	1.23	-85.85	1.46	-20.06	20.11	17.65	2.46	8.178 CC, ES		
500.00	499.98	499.57	499.56	1.58	1.58	145.43	0.84	-20.81	22.24	19.09	3.15	7.057		
600.00	599.84	598.65	598.55	1.92	1.91	145.25	-1.87	-24.14	29.66	25.82	3.83	7.736		
700.00	699.45	696.95	696.54	2.27	2.26	144.52	-6.69	-30.06	42.38	37.85	4.53	9.359		
800.00	798.70	794.05	793.03	2.64	2.61	143.74	-13.54	-38.46	60.36	55.13	5.23	11.537		
900.00	897.47	889.57	887.53	3.02	2.97	143.05	-22.29	-49.19	83.51	77.57	5.94	14.052		
1,000.00	995.62	983.15	979.63	3.43	3.34	142.44	-32.78	-62.08	111.71	105.05	6.66	16.771		
1,100.00	1,093.06	1,074.49	1,068.94	3.87	3.73	141.89	-44.85	-76.89	144.81	137.42	7.39	19.608		
1,200.00	1,189.64	1,164.03	1,155.87	4.33	4.12	141.37	-58.40	-93.51	182.62	174.50	8.12	22.489		
1,275.74	1,262.17	1,233.20	1,222.85	4.71	4.44	141.23	-69.30	-106.89	213.48	204.76	8.71	24.502		
1,300.00	1,285.30	1,255.24	1,244.20	4.84	4.54	141.36	-72.77	-111.16	223.59	214.68	8.91	25.107		
1,400.00	1,380.66	1,346.12	1,332.20	5.37	4.97	141.78	-87.10	-128.74	265.27	255.58	9.69	27.370		
1,500.00	1,476.03	1,437.00	1,420.21	5.91	5.41	142.10	-101.43	-146.33	306.97	296.48	10.49	29.258		
1,600.00	1,571.39	1,527.88	1,508.21	6.46	5.85	142.33	-115.76	-163.91	348.68	337.37	11.30	30.851		
1,700.00	1,666.76	1,618.76	1,596.22	7.02	6.29	142.52	-130.08	-181.49	390.38	378.26	12.12	32.209		
1,800.00	1,762.12	1,709.65	1,684.22	7.58	6.74	142.67	-144.41	-199.08	432.09	419.15	12.95	33.377		
1,900.00	1,857.48	1,800.53	1,772.23	8.15	7.19	142.79	-158.74	-216.66	473.80	460.03	13.78	34.391		
2,000.00	1,952.85	1,891.41	1,860.23	8.72	7.65	142.90	-173.07	-234.25	515.52	500.91	14.61	35.279		
2,100.00	2,048.21	1,982.29	1,948.24	9.30	8.10	142.99	-187.39	-251.83	557.23	541.78	15.45	36.061		
2,200.00	2,143.57	2,073.17	2,036.24	9.87	8.56	143.06	-201.72	-269.41	598.95	582.65	16.30	36.755		
2,300.00	2,238.94	2,164.05	2,124.25	10.45	9.02	143.13	-216.05	-287.00	640.66	623.52	17.14	37.374		
2,400.00	2,334.30	2,254.93	2,212.25	11.03	9.48	143.19	-230.38	-304.58	682.38	664.39	17.99	37.930		
2,500.00	2,429.67	2,345.81	2,300.26	11.62	9.94	143.24	-244.70	-322.16	724.10	705.26	18.84	38.432		
2,600.00	2,525.03	2,436.69	2,388.26	12.20	10.40	143.28	-259.03	-339.75	765.82	746.12	19.69	38.886		
2,700.00	2,620.39	2,527.57	2,476.27	12.79	10.86	143.32	-273.36	-357.33	807.54	786.99	20.55	39.300		
2,800.00	2,715.76	2,618.45	2,564.27	13.37	11.33	143.36	-287.69	-374.91	849.25	827.85	21.40	39.678		
2,900.00	2,811.12	2,709.33	2,652.28	13.96	11.79	143.39	-302.01	-392.50	890.97	868.71	22.26	40.024		
3,000.00	2,906.49	2,800.22	2,740.28	14.55	12.26	143.42	-316.34	-410.08	932.69	909.57	23.12	40.343		
3,100.00	3,001.85	2,891.10	2,828.29	15.14	12.72	143.45	-330.67	-427.67	974.41	950.43	23.98	40.637		
3,200.00	3,097.21	2,981.98	2,916.29	15.72	13.19	143.48	-344.99	-445.25	1,016.13	991.29	24.84	40.909		
3,300.00	3,192.58	3,072.86	3,004.29	16.31	13.65	143.50	-359.32	-462.83	1,057.85	1,032.15	25.70	41.162		
3,400.00	3,287.94	3,163.74	3,092.30	16.90	14.12	143.52	-373.65	-480.42	1,099.57	1,073.01	26.56	41.396		
3,500.00	3,383.30	3,254.62	3,180.30	17.49	14.58	143.54	-387.98	-498.00	1,141.29	1,113.87	27.42	41.615		
3,600.00	3,478.67	3,345.50	3,268.31	18.08	15.05	143.56	-402.30	-515.58	1,183.01	1,154.72	28.29	41.820		
3,700.00	3,574.03	3,436.38	3,356.31	18.68	15.52	143.58	-416.63	-533.17	1,224.73	1,195.58	29.15	42.012		
3,800.00	3,669.40	3,527.26	3,444.32	19.27	15.98	143.60	-430.96	-550.75	1,266.45	1,236.43	30.02	42.192		
3,900.00	3,764.76	3,618.14	3,532.32	19.86	16.45	143.61	-445.29	-568.34	1,308.17	1,277.29	30.88	42.360		
4,000.00	3,860.12	3,709.02	3,620.33	20.45	16.92	143.63	-459.61	-585.92	1,349.89	1,318.14	31.75	42.520		
4,100.00	3,955.49	3,799.90	3,708.33	21.04	17.39	143.64	-473.94	-603.50	1,391.61	1,359.00	32.61	42.669		
4,200.00	4,050.85	3,890.78	3,796.34	21.63	17.85	143.65	-488.27	-621.09	1,433.33	1,399.85	33.48	42.811		
4,300.00	4,146.22	3,981.67	3,884.34	22.23	18.32	143.66	-502.60	-638.67	1,475.05	1,440.70	34.35	42.945		
4,400.00	4,241.58	4,072.55	3,971.15	22.82	18.79	143.67	-516.93	-656.25	1,516.77	1,481.42	35.22	43.074		
4,500.00	4,336.94	4,163.43	4,058.03	23.41	19.26	143.68	-531.26	-673.83	1,558.49	1,523.14	36.09	43.200		
4,600.00	4,432.31	4,254.31	4,144.91	24.00	19.73	143.69	-545.59	-691.41	1,600.21	1,564.86	36.96	43.324		
4,700.00	4,527.67	4,345.19	4,231.79	24.60	20.20	143.70	-559.93	-708.99	1,641.93	1,606.58	37.83	43.448		
4,765.60	4,590.23	4,407.75	4,294.35	24.99	20.59	143.71	-574.26	-726.57	1,683.65	1,648.30	38.70	43.572		
4,800.00	4,622.74	4,439.26	4,326.86	25.20	20.80	143.72	-588.59	-744.15	1,725.37	1,690.02	39.57	43.696		
4,850.00	4,668.81	4,485.33	4,372.93	25.56	21.16	143.73	-602.92	-761.73	1,767.09	1,731.74	40.44	43.820		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 209H - Slot 2
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Reference Site:	N15 2308 Pad	MD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 209H	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 Rev 2	Offset TVD Reference:	Offset Datum

Offset Design N15 2308 Pad - # 211H - Original Drilling - APD Rev 2													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		
4,900.00	4,713.22	6,217.22	5,016.00	25.97	36.44	99.67	-1,650.43	80.40	1,262.42	1,202.98	59.44	21.238		
4,950.00	4,755.70	6,243.23	5,015.81	26.44	37.00	98.95	-1,668.97	98.65	1,254.22	1,193.24	60.98	20.567		
5,000.00	4,795.98	6,272.50	5,015.60	26.96	37.63	98.11	-1,689.83	119.19	1,247.74	1,185.16	62.59	19.936		
5,050.00	4,833.82	6,304.87	5,015.36	27.54	38.34	97.16	-1,712.89	141.90	1,242.83	1,178.58	64.25	19.343		
5,100.00	4,868.98	6,340.13	5,015.11	28.17	39.11	96.13	-1,738.02	166.63	1,239.29	1,173.31	65.98	18.782		
5,150.00	4,901.25	6,378.05	5,014.83	28.86	39.95	95.04	-1,765.04	193.24	1,236.94	1,169.16	67.77	18.251		
5,200.00	4,930.43	6,418.42	5,014.54	29.61	40.85	93.93	-1,793.81	221.56	1,235.54	1,165.91	69.63	17.745		
5,250.00	4,956.33	6,460.97	5,014.24	30.40	41.81	92.85	-1,824.13	251.41	1,234.89	1,163.35	71.54	17.262		
5,287.04	4,973.32	6,493.75	5,014.00	31.02	42.55	92.09	-1,847.49	274.41	1,234.77	1,161.77	72.99	16.916		
5,300.00	4,978.81	6,505.45	5,013.92	31.24	42.81	91.84	-1,855.83	282.62	1,234.78	1,161.28	73.50	16.799		
5,350.00	4,997.71	6,551.59	5,013.58	32.13	43.87	90.93	-1,888.70	314.98	1,235.02	1,159.49	75.53	16.351		
5,400.00	5,012.93	6,599.09	5,013.24	33.05	44.96	90.16	-1,922.55	348.31	1,235.44	1,157.83	77.60	15.920		
5,450.00	5,024.36	6,647.66	5,012.89	34.01	46.08	89.55	-1,957.16	382.39	1,235.89	1,156.16	79.73	15.502		
5,500.00	5,031.95	6,697.02	5,012.53	34.99	47.23	89.13	-1,992.33	417.01	1,236.27	1,154.39	81.88	15.099		
5,550.00	5,035.63	6,746.84	5,012.17	35.98	48.40	88.92	-2,027.83	451.96	1,236.49	1,152.43	84.06	14.710		
5,576.23	5,036.00	6,773.06	5,011.99	36.51	49.01	88.89	-2,046.52	470.36	1,236.53	1,151.32	85.21	14.512		
5,600.00	5,035.84	6,796.83	5,011.81	36.99	49.57	88.89	-2,063.46	487.03	1,236.54	1,150.29	86.25	14.337		
5,700.00	5,035.18	6,896.83	5,011.09	39.05	51.94	88.88	-2,134.71	557.19	1,236.58	1,145.89	90.70	13.634		
5,800.00	5,034.52	6,996.83	5,010.37	41.17	54.33	88.88	-2,205.97	627.35	1,236.63	1,141.41	95.22	12.987		
5,900.00	5,033.86	7,096.83	5,009.65	43.34	56.73	88.88	-2,277.23	697.50	1,236.68	1,136.87	99.81	12.390		
6,000.00	5,033.20	7,196.83	5,008.93	45.55	59.15	88.88	-2,348.49	767.66	1,236.73	1,132.27	104.45	11.840		
6,100.00	5,032.54	7,296.83	5,008.21	47.80	61.58	88.87	-2,419.75	837.81	1,236.77	1,127.63	109.15	11.331		
6,200.00	5,031.88	7,396.83	5,007.49	50.08	64.03	88.87	-2,491.00	907.97	1,236.82	1,122.94	113.88	10.861		
6,300.00	5,031.22	7,496.83	5,006.76	52.39	66.48	88.87	-2,562.26	978.12	1,236.87	1,118.21	118.65	10.424		
6,400.00	5,030.56	7,596.83	5,006.04	54.72	68.95	88.86	-2,633.52	1,048.28	1,236.91	1,113.46	123.46	10.019		
6,500.00	5,029.90	7,696.83	5,005.32	57.08	71.42	88.86	-2,704.78	1,118.43	1,236.96	1,108.67	128.29	9.642		
6,600.00	5,029.24	7,796.83	5,004.60	59.45	73.90	88.86	-2,776.04	1,188.59	1,237.01	1,103.86	133.15	9.290		
6,700.00	5,028.58	7,896.83	5,003.88	61.84	76.38	88.86	-2,847.29	1,258.74	1,237.05	1,099.02	138.03	8.962		
6,800.00	5,027.92	7,996.83	5,003.16	64.24	78.87	88.85	-2,918.55	1,328.90	1,237.10	1,094.17	142.93	8.655		
6,900.00	5,027.26	8,096.83	5,002.44	66.66	81.37	88.85	-2,989.81	1,399.05	1,237.15	1,089.30	147.85	8.368		
7,000.00	5,026.60	8,196.83	5,001.71	69.09	83.87	88.85	-3,061.07	1,469.21	1,237.19	1,084.41	152.79	8.098		
7,100.00	5,025.94	8,296.83	5,000.99	71.53	86.38	88.84	-3,132.33	1,539.36	1,237.24	1,079.50	157.74	7.844		
7,200.00	5,025.29	8,396.83	5,000.27	73.98	88.89	88.84	-3,203.58	1,609.52	1,237.29	1,074.59	162.70	7.605		
7,300.00	5,024.63	8,496.83	4,999.55	76.43	91.40	88.84	-3,274.84	1,679.67	1,237.33	1,069.66	167.67	7.379		
7,400.00	5,023.97	8,596.83	4,998.83	78.90	93.92	88.84	-3,346.10	1,749.83	1,237.38	1,064.72	172.66	7.167		
7,500.00	5,023.31	8,696.83	4,998.11	81.37	96.44	88.83	-3,417.36	1,819.98	1,237.43	1,059.77	177.66	6.965		
7,600.00	5,022.65	8,796.83	4,997.39	83.85	98.97	88.83	-3,488.62	1,890.14	1,237.47	1,054.81	182.66	6.775		
7,700.00	5,021.99	8,896.83	4,996.66	86.33	101.49	88.83	-3,559.87	1,960.30	1,237.52	1,049.85	187.68	6.594		
7,800.00	5,021.33	8,996.83	4,995.94	88.82	104.02	88.82	-3,631.13	2,030.45	1,237.57	1,044.87	192.70	6.422		
7,900.00	5,020.67	9,096.83	4,995.22	91.31	106.56	88.82	-3,702.39	2,100.61	1,237.62	1,039.89	197.73	6.259		
8,000.00	5,020.01	9,196.83	4,994.50	93.81	109.09	88.82	-3,773.65	2,170.76	1,237.66	1,034.90	202.76	6.104		
8,100.00	5,019.35	9,296.83	4,993.78	96.32	111.63	88.82	-3,844.91	2,240.92	1,237.71	1,029.91	207.80	5.956		
8,200.00	5,018.69	9,396.83	4,993.06	98.82	114.16	88.81	-3,916.17	2,311.07	1,237.76	1,024.91	212.85	5.815		
8,300.00	5,018.03	9,496.83	4,992.34	101.33	116.70	88.81	-3,987.42	2,381.23	1,237.80	1,019.90	217.90	5.681		
8,400.00	5,017.37	9,596.83	4,991.61	103.85	119.24	88.81	-4,058.68	2,451.38	1,237.85	1,014.89	222.96	5.552		
8,500.00	5,016.71	9,696.83	4,990.89	106.37	121.79	88.80	-4,129.94	2,521.54	1,237.90	1,009.88	228.02	5.429		
8,600.00	5,016.05	9,796.83	4,990.17	108.89	124.33	88.80	-4,201.20	2,591.69	1,237.94	1,004.86	233.09	5.311		
8,700.00	5,015.39	9,896.83	4,989.45	111.41	126.88	88.80	-4,272.46	2,661.85	1,237.99	999.84	238.16	5.198		
8,800.00	5,014.73	9,996.83	4,988.73	113.93	129.42	88.80	-4,343.71	2,732.00	1,238.04	994.81	243.23	5.090		
8,900.00	5,014.07	10,096.83	4,988.01	116.46	131.97	88.79	-4,414.97	2,802.16	1,238.08	989.78	248.31	4.986		
9,000.00	5,013.41	10,196.83	4,987.29	118.99	134.52	88.79	-4,486.23	2,872.31	1,238.13	984.75	253.39	4.886		
9,100.00	5,012.75	10,296.83	4,986.56	121.52	137.07	88.79	-4,557.49	2,942.47	1,238.18	979.71	258.47	4.790		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 209H - Slot 2
Project:	Betonnies Tsois Unit	TVD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Reference Site:	N15 2308 Pad	MD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 209H	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 Rev 2	Offset TVD Reference:	Offset Datum

Offset Design N15 2308 Pad - # 211H - Original Drilling - APD Rev 2													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,200.00	5,012.09	10,396.83	4,985.84	124.06	139.62	88.79	-4,628.75	3,012.62	1,238.23	974.67	263.55	4.698		
9,300.00	5,011.43	10,496.83	4,985.12	126.59	142.18	88.78	-4,700.00	3,082.78	1,238.27	969.63	268.64	4.609		
9,400.00	5,010.77	10,596.83	4,984.40	129.13	144.73	88.78	-4,771.26	3,152.93	1,238.32	964.59	273.73	4.524		
9,500.00	5,010.11	10,696.83	4,983.68	131.67	147.28	88.78	-4,842.52	3,223.09	1,238.37	959.54	278.83	4.441		
9,600.00	5,009.45	10,796.83	4,982.96	134.21	149.84	88.77	-4,913.78	3,293.25	1,238.41	954.49	283.92	4.362		
9,700.00	5,008.79	10,896.83	4,982.24	136.75	152.39	88.77	-4,985.04	3,363.40	1,238.46	949.44	289.02	4.285		
9,800.00	5,008.13	10,996.83	4,981.51	139.29	154.95	88.77	-5,056.29	3,433.56	1,238.51	944.39	294.12	4.211		
9,900.00	5,007.47	11,096.83	4,980.79	141.84	157.51	88.77	-5,127.55	3,503.71	1,238.55	939.33	299.22	4.139		
10,000.00	5,006.81	11,196.83	4,980.07	144.38	160.07	88.76	-5,198.81	3,573.87	1,238.60	934.27	304.33	4.070		
10,100.00	5,006.15	11,206.80	4,980.00	146.93	160.32	88.76	-5,205.92	3,580.86	1,241.91	935.33	306.59	4.051 SF		
10,200.00	5,005.49	11,206.80	4,980.00	149.48	160.32	88.76	-5,205.92	3,580.86	1,253.19	946.49	306.70	4.086		
10,300.00	5,004.83	11,206.80	4,980.00	152.03	160.32	88.76	-5,205.92	3,580.86	1,272.24	967.27	304.97	4.172		
10,400.00	5,004.17	11,206.80	4,980.00	154.58	160.32	88.76	-5,205.92	3,580.86	1,298.74	997.13	301.60	4.306		
10,500.00	5,003.51	11,206.80	4,980.00	157.13	160.32	88.76	-5,205.92	3,580.86	1,332.23	1,035.39	296.84	4.488		
10,600.00	5,002.85	11,206.80	4,980.00	159.68	160.32	88.76	-5,205.92	3,580.86	1,372.21	1,081.24	290.97	4.716		
10,700.00	5,002.19	11,206.80	4,980.00	162.23	160.32	88.76	-5,205.92	3,580.86	1,418.13	1,133.85	284.27	4.989		
10,800.00	5,001.53	11,206.80	4,980.00	164.79	160.32	88.76	-5,205.92	3,580.86	1,469.42	1,192.41	277.01	5.305		
10,900.00	5,000.87	11,206.80	4,980.00	167.34	160.32	88.76	-5,205.92	3,580.86	1,525.56	1,256.14	269.42	5.662		
11,000.00	5,000.21	11,206.80	4,980.00	169.90	160.32	88.76	-5,205.92	3,580.86	1,586.02	1,324.34	261.68	6.061		
11,100.00	4,999.55	11,206.80	4,980.00	172.45	160.32	88.76	-5,205.92	3,580.86	1,650.32	1,396.38	253.94	6.499		
11,200.00	4,998.89	11,206.80	4,980.00	175.01	160.32	88.76	-5,205.92	3,580.86	1,718.05	1,471.72	246.33	6.975		
11,300.00	4,998.23	11,206.80	4,980.00	177.56	160.32	88.76	-5,205.92	3,580.86	1,788.80	1,549.89	238.91	7.487		
11,400.00	4,997.57	11,206.80	4,980.00	180.12	160.32	88.76	-5,205.92	3,580.86	1,862.24	1,630.50	231.74	8.036		
11,500.00	4,996.91	11,206.80	4,980.00	182.68	160.32	88.76	-5,205.92	3,580.86	1,938.05	1,713.18	224.87	8.619		
11,600.00	4,996.25	11,206.80	4,980.00	185.24	160.32	88.76	-5,205.92	3,580.86	2,015.98	1,797.67	218.31	9.235		
11,700.00	4,995.59	11,206.80	4,980.00	187.80	160.32	88.76	-5,205.92	3,580.86	2,095.78	1,883.72	212.06	9.883		
11,800.00	4,994.93	11,206.80	4,980.00	190.36	160.32	88.76	-5,205.92	3,580.86	2,177.25	1,971.11	206.14	10.562		
11,900.00	4,994.27	11,206.80	4,980.00	192.92	160.32	88.76	-5,205.92	3,580.86	2,260.21	2,059.68	200.53	11.271		
12,000.00	4,993.61	11,206.80	4,980.00	195.48	160.32	88.76	-5,205.92	3,580.86	2,344.50	2,149.27	195.22	12.009		
12,100.00	4,992.95	11,206.80	4,980.00	198.04	160.32	88.76	-5,205.92	3,580.86	2,429.98	2,239.77	190.21	12.775		
12,200.00	4,992.29	11,206.80	4,980.00	200.60	160.32	88.76	-5,205.92	3,580.86	2,516.53	2,331.05	185.47	13.568		
12,300.00	4,991.63	11,206.80	4,980.00	203.16	160.32	88.76	-5,205.92	3,580.86	2,604.04	2,423.04	181.00	14.387		
12,400.00	4,990.97	11,206.80	4,980.00	205.73	160.32	88.76	-5,205.92	3,580.86	2,692.42	2,515.65	176.78	15.231		
12,500.00	4,990.31	11,206.80	4,980.00	208.29	160.32	88.76	-5,205.92	3,580.86	2,781.59	2,608.81	172.78	16.099		
12,600.00	4,989.65	11,206.80	4,980.00	210.85	160.32	88.76	-5,205.92	3,580.86	2,871.48	2,702.47	169.01	16.990		
12,700.00	4,988.99	11,206.80	4,980.00	213.42	160.32	88.76	-5,205.92	3,580.86	2,962.01	2,796.56	165.45	17.903		
12,800.00	4,988.33	11,206.80	4,980.00	215.98	160.32	88.76	-5,205.92	3,580.86	3,053.13	2,891.06	162.07	18.838		
12,900.00	4,987.67	11,206.80	4,980.00	218.55	160.32	88.76	-5,205.92	3,580.86	3,144.80	2,985.92	158.88	19.794		
13,000.00	4,987.01	11,206.80	4,980.00	221.11	160.32	88.76	-5,205.92	3,580.86	3,236.95	3,081.10	155.85	20.769		
13,100.00	4,986.35	11,206.80	4,980.00	223.68	160.32	88.76	-5,205.92	3,580.86	3,329.56	3,176.58	152.98	21.764		
13,200.00	4,985.69	11,206.80	4,980.00	226.24	160.32	88.76	-5,205.92	3,580.86	3,422.59	3,272.32	150.26	22.777		
13,300.00	4,985.03	11,206.80	4,980.00	228.81	160.32	88.76	-5,205.92	3,580.86	3,516.00	3,368.32	147.68	23.808		
13,400.00	4,984.37	11,206.80	4,980.00	231.37	160.32	88.76	-5,205.92	3,580.86	3,609.76	3,464.53	145.23	24.856		
13,500.00	4,983.71	11,206.80	4,980.00	233.94	160.32	88.76	-5,205.92	3,580.86	3,703.85	3,560.95	142.89	25.920		
13,600.00	4,983.05	11,206.80	4,980.00	236.51	160.32	88.76	-5,205.92	3,580.86	3,798.24	3,657.56	140.67	27.000		
13,700.00	4,982.39	11,206.80	4,980.00	239.07	160.32	88.76	-5,205.92	3,580.86	3,892.91	3,754.35	138.56	28.095		
13,800.00	4,981.73	11,206.80	4,980.00	241.64	160.32	88.76	-5,205.92	3,580.86	3,987.84	3,851.29	136.55	29.205		
13,900.00	4,981.07	11,206.80	4,980.00	244.21	160.32	88.76	-5,205.92	3,580.86	4,083.01	3,948.38	134.63	30.329		
14,000.00	4,980.41	11,206.80	4,980.00	246.77	160.32	88.76	-5,205.92	3,580.86	4,178.41	4,045.61	132.79	31.466		
14,100.00	4,979.75	11,206.80	4,980.00	249.34	160.32	88.76	-5,205.92	3,580.86	4,274.02	4,142.97	131.04	32.615		
14,200.00	4,979.09	11,206.80	4,980.00	251.91	160.32	88.76	-5,205.92	3,580.86	4,369.82	4,240.45	129.37	33.777		
14,300.00	4,978.43	11,206.80	4,980.00	254.48	160.32	88.76	-5,205.92	3,580.86	4,465.81	4,338.04	127.77	34.951		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 209H - Slot 2
Project:	Betonnies Tsoie Unit	TVD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Reference Site:	N15 2308 Pad	MD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 209H	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 Rev 2	Offset TVD Reference:	Offset Datum

Offset Design N15 2308 Pad - # 211H - Original Drilling - APD Rev 2												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	
14,400.00	4,977.77	11,206.80	4,980.00	257.05	160.32	88.76	-5,205.92	3,580.86	4,561.97	4,435.73	126.24	36.136	
14,500.00	4,977.11	11,206.80	4,980.00	259.62	160.32	88.76	-5,205.92	3,580.86	4,658.29	4,533.51	124.78	37.332	
14,600.00	4,976.45	11,206.80	4,980.00	262.18	160.32	88.76	-5,205.92	3,580.86	4,754.77	4,631.39	123.38	38.538	
14,700.00	4,975.79	11,206.80	4,980.00	264.75	160.32	88.76	-5,205.92	3,580.86	4,851.38	4,729.35	122.03	39.754	
14,800.00	4,975.13	11,206.80	4,980.00	267.32	160.32	88.76	-5,205.92	3,580.86	4,948.14	4,827.39	120.75	40.980	
14,900.00	4,974.47	11,206.80	4,980.00	269.89	160.32	88.76	-5,205.92	3,580.86	5,045.02	4,925.51	119.51	42.214	
15,000.00	4,973.81	11,206.80	4,980.00	272.46	160.32	88.76	-5,205.92	3,580.86	5,142.01	5,023.69	118.32	43.458	
15,100.00	4,973.15	11,206.80	4,980.00	275.03	160.32	88.76	-5,205.92	3,580.86	5,239.12	5,121.94	117.18	44.709	
15,200.00	4,972.49	11,206.80	4,980.00	277.60	160.32	88.76	-5,205.92	3,580.86	5,336.34	5,220.25	116.09	45.968	
15,300.00	4,971.83	11,206.80	4,980.00	280.17	160.32	88.76	-5,205.92	3,580.86	5,433.66	5,318.63	115.03	47.235	
15,400.00	4,971.17	11,206.80	4,980.00	282.74	160.32	88.76	-5,205.92	3,580.86	5,531.07	5,417.05	114.02	48.509	
15,500.00	4,970.51	11,206.80	4,980.00	285.31	160.32	88.76	-5,205.92	3,580.86	5,628.58	5,515.53	113.05	49.790	
15,600.00	4,969.85	11,206.80	4,980.00	287.88	160.32	88.76	-5,205.92	3,580.86	5,726.17	5,614.06	112.11	51.077	
15,700.00	4,969.19	11,206.80	4,980.00	290.45	160.32	88.76	-5,205.92	3,580.86	5,823.84	5,712.64	111.20	52.371	
15,800.00	4,968.53	11,206.80	4,980.00	293.02	160.32	88.76	-5,205.92	3,580.86	5,921.59	5,811.26	110.33	53.670	
15,881.04	4,968.00	11,206.80	4,980.00	295.11	160.32	88.76	-5,205.92	3,580.86	6,000.86	5,891.21	109.65	54.727	



Lonestar Consulting, LLC

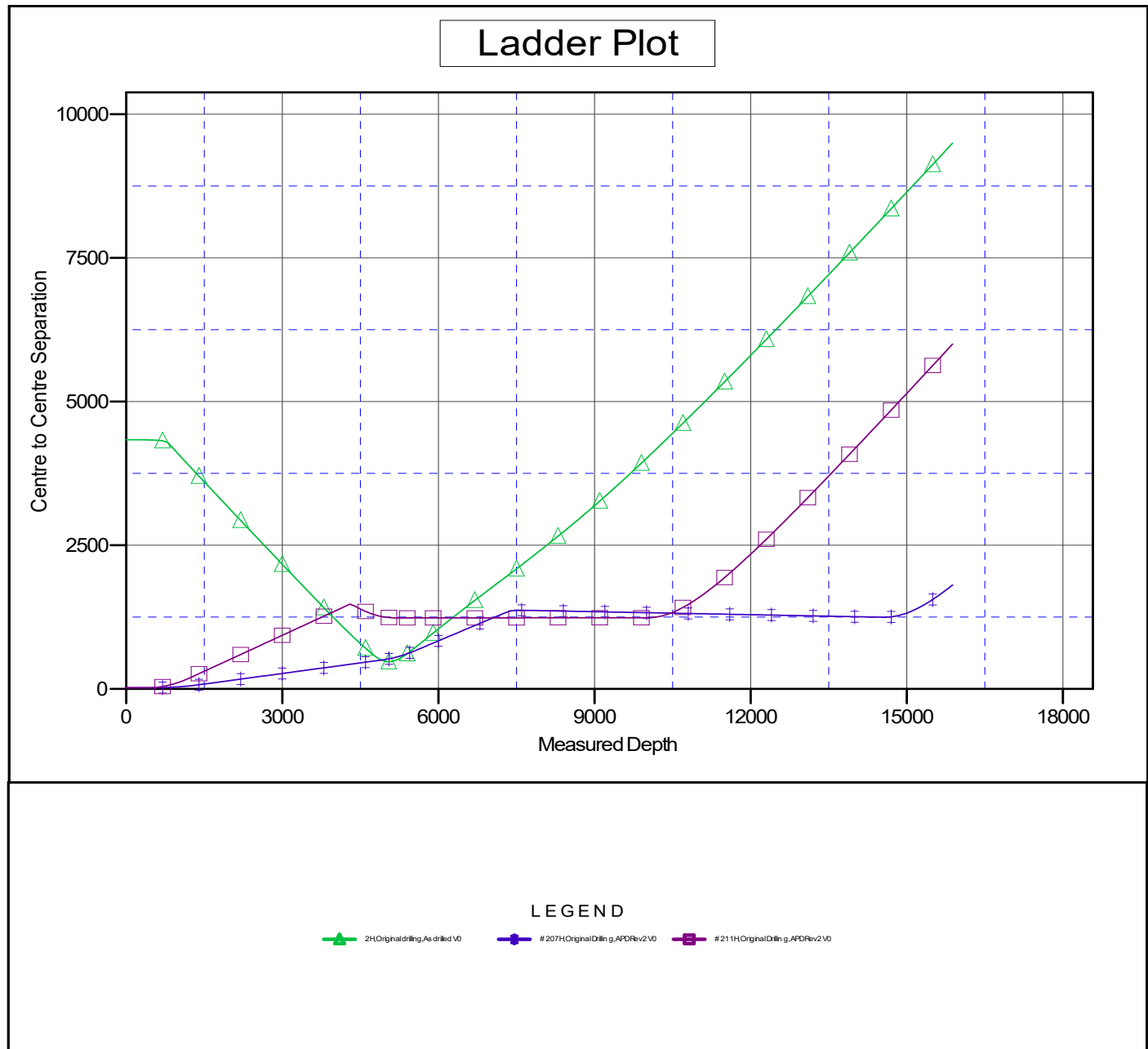
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 209H - Slot 2
Project:	Betonne Tsoie Unit	TVD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Reference Site:	N15 2308 Pad	MD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 209H	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 Rev 2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 6830' & RKB 14' @ 6844.00usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -107.8333333

Coordinates are relative to: # 209H - Slot 2
 Coordinate System is US State Plane 1983, New Mexico Western Zone
 Grid Convergence at Surface is: 0.10°





Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 209H - Slot 2
Project:	Betonne Tsoie Unit	TVD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Reference Site:	N15 2308 Pad	MD Reference:	GL 6830' & RKB 14' @ 6844.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	# 209H	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 Rev 2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 6830' & RKB 14' @ 6844.00usft

Offset Depths are relative to Offset Datum

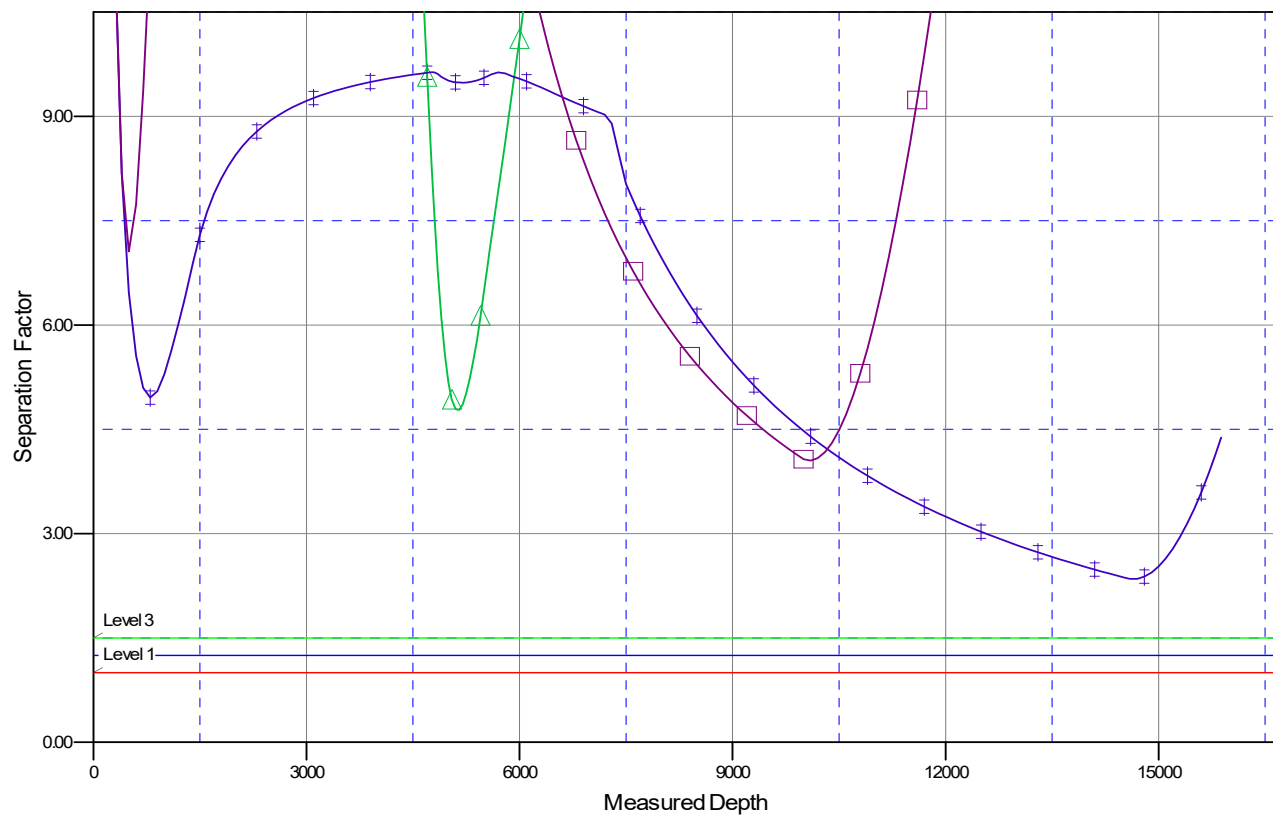
Central Meridian is -107.8333333

Coordinates are relative to: # 209H - Slot 2

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

Grid Convergence at Surface is: 0.10°

Separation Factor Plot



LEGEND

2H Original drilling, As drilled V0 # 207H Original Drilling, APD Rev2 V0 # 211H Original Drilling, APD Rev2 V0

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

CONDITIONS

Action 122276

CONDITIONS

Operator: DJR OPERATING, LLC 1 Road 3263 Aztec, NM 87410	OGRID:
	371838
	Action Number: 122276
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Notify OCD 24 hours prior to casing & cement	7/8/2022
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104	7/8/2022
kpickford	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	7/8/2022
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing	7/8/2022
kpickford	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	7/8/2022