

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. 30-043-21504
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)



Approval Date: 09/13/2022

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-043-21504		² Pool Code 42289	³ Pool Name LYBROOK GALLUP OIL POOL
⁴ Property Code 325271	⁵ Property Name VENADO CANYON UNIT		⁶ Well Number 515H
⁷ OGRID No. 371838	⁸ Operator Name DJR OPERATING, LLC		⁹ Elevation 6919'

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
E	01	22N	6W		1964'	NORTH	355'	WEST	SANDOVAL

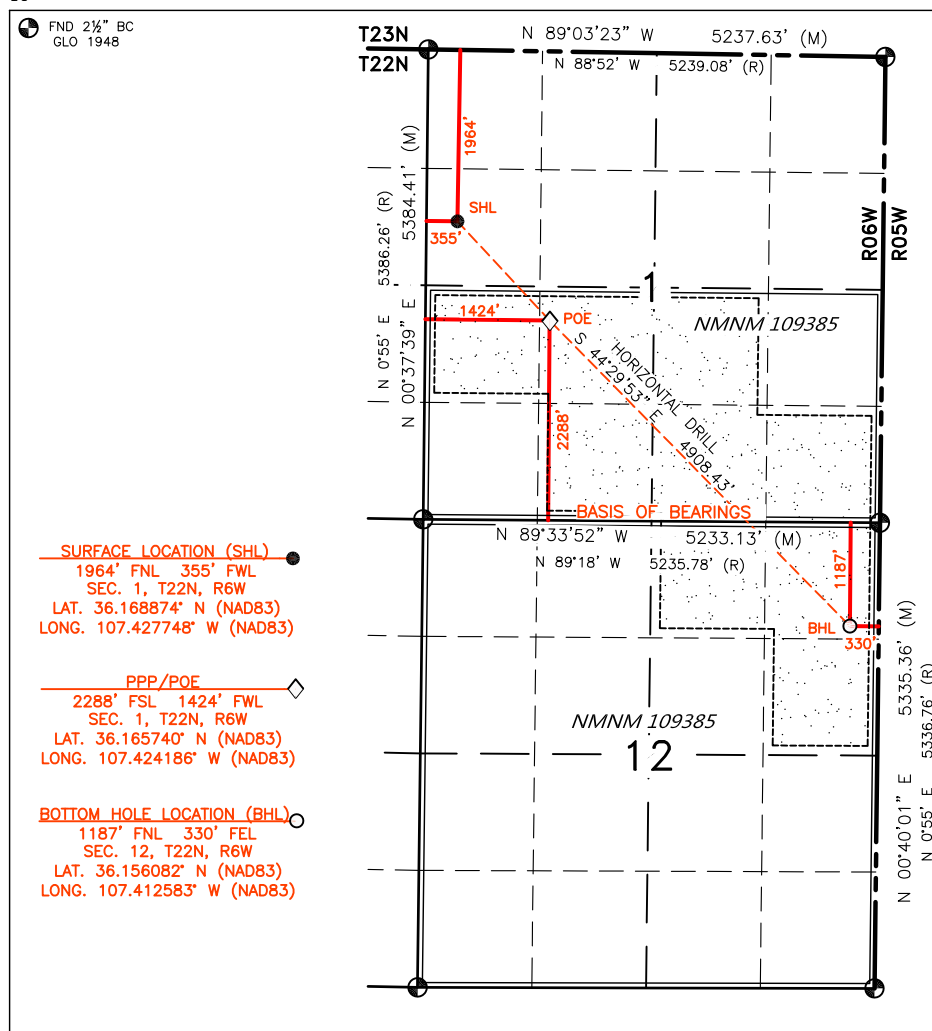
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	12	22N	6W		1187'	NORTH	330'	EAST	SANDOVAL

¹² Dedicated Acres PENETRATED SPACING UNIT; SEC 1: NW/SW, NE/SW, SE/SW, NW/SE, SW/SE & SE/SE (240 AC.); SEC 12: NW/NE, NE/NE & SE/NE (120 AC.) = 360 ACRES	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-14067 R-14067A
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

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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 01/12/22
Signature Date

Shaw-Marie Ford

Printed Name

sford@djrlc.com

E-mail Address

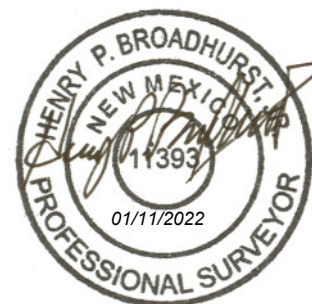
SURVEYOR CERTIFICATION

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 1, 2021

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:** 09 / 29 / 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
Venado Canyon Unit 002H	TBD	E-01-22N-06W	1984 FNL x 350 FWL	360	540	130
Venado Canyon Unit 515H	TBD	E-01-22N-06W	1694 FNL x 355 FWL	260	200	90

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
Venado Canyon Unit 002H	TBD	01/16/2023	02/17/2023	03/17/2023	02/27/2023	02/29/2023
Venado Canyon Unit 515H	TBD	01/17/2023	02/18/2023	03/18/2023	02/28/2023	02/29/2023

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: 09/29/2022
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
Venado Canyon Unit 002H and 515H
SWNW E-01-22N-06W

SEPARATION EQUIPMENT

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

Separation equipment will be set as follows:

- Individual 3 phase 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.



DJR OPERATING, LLC.
OGRID NO: 371838
NATURAL GAS MANAGEMENT PLAN
Venado Canyon Unit 002H and 515H
SWNW E-01-22N-06W

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:

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



DJR OPERATING, LLC.
OGRID NO: 371838
NATURAL GAS MANAGEMENT PLAN
Venado Canyon Unit 002H and 515H
SWNW E-01-22N-06W

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
Venado Canyon Unit 002H and 515H
SWNW E-01-22N-06W

BEST MANAGEMENT PRACTICES

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

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

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

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

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

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

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

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

Rev 0



DRILLING PLAN

Venado Canyon Unit #515H

Sandoval County, New Mexico

Surface Location

355-ft FWL & 1964-ft FNL
 Sec 1 T22N R06W
 Graded Elevation 6919' MSL
 RKB Elevation 6933' (14' KB)

SHL Geographical Coordinates (NAD-83)

Latitude 36.1688740° N
 Longitude 107.4277480° W

Kick Off Point for Horizontal Build Curve

4560-ft MD
 4445-ft TVD

Local Coordinates (from SHL)

698-ft South
 627-ft East

Heel Location (Pay zone entry)

1424-ft FWL & 2288-ft FSL
 Sec 1 T22N R06W

Heel Geographical Coordinates (NAD-83)

Latitude 36.1657399° N
 Longitude 107.42418620° W

Bottom Hole Location (TD)

330-ft FEL & 1187-ft FNL
 Sec 12 T22N R06W

BHL Geographical Coordinates (NAD-83)

Latitude 36.156082° N
 Longitude 107.4125830° W

Well objectives

This well is planned as a 4910-ft lateral in the Mancos Silt sand.

Bottom Hole temperature and pressure

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

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

Name	MD (ft)	TVD (ft)	Lithology	Pore fluid	Expected Pore Pressure (ppg)	Planned Mud Weight (ppg)
Ojo Alamo	1353	1340	Sd	W	8.3	8.4 – 8.8
Kirtland	1455	1438	Sh	-	8.3	8.4 – 8.8
Fruitland	1662	1639	C	G	8.3	9.0 - 9.5
Pictured Cliffs	1870	1840	Sd	W	8.3	9.0 - 9.5
Lewis	1978	1945	Sh	-		9.0 - 9.5
Chacra	2751	2693	Sd	-	8.3	9.0 - 9.5
Menefee	3476	3395	Sd, C	G	8.3	9.0 - 9.5
Point Lookout	4209	4105	Sd	-	8.3	9.0 - 9.5
Mancos	4356	4247	Sh	-		9.0 - 9.5
Mancos Silt	4732	4603	Slt	O/G	6.6	9.0 - 9.5
Gallup A	NP	NP	Slt	O/G	6.6	9.0 - 9.5
Gallup B	NP	NP	Sd	O/G	6.6	8.8 - 9.0
Gallup C	NP	NP	Sd	O/G	6.6	8.8 - 9.0
Target	5396	4922	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	5344	surf	4920	surface
4-1/2"	6-1/8"	11.6	P-110	BTC	5066	10305	4837	4899	5066

Note: all casing will be new

Rev 0

**Casing Design Load Cases**

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

Note #

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

Casing Design Factors

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

Cement Design9-5/8" Surface Casing

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

7" Intermediate Casing

	<u>Lead</u>	<u>Tail</u>
	BJ Services	BJ Services
Type	III	Poz/G
Planned top	Surface	4060-ft
Density (ppg)	12.30	13.50
Yield (cf/sx)	2.34	1.50
Mix water (gal/sx)	13.26	7.20
Volume (sx)	394	206
Volume (bbls)	164	55
Volume (cu.ft.)	923	308
Excess %	55	55



Rev 0

4-1/2" Production Liner

	BJ Services
Type	Poz/G
Planned top	5066-ft
Density (ppg)	13.3
Yield (cf/sx)	1.56
Mix water (gal/sx)	7.71
Volume (sx)	439
Volume (bbls)	122
Volume (cu.ft)	687
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 – 5344	9.0 – 9.5	38 – 45	8 – 14	<20
Production	Low solids, non-dispersed	5344 – 10305	8.8 – 9.2	34 – 38	6 – 8	6 – 8

Cores, tests and logs

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

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

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

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

Cuttings and drilling fluids management

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

Completion

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



Company: DJR Operating
Project: Venado Canyon Unit
Site: E01 2206 Pad
Well: # 515H
Wellbore: Original drilling
Design: APD

PROJECT DETAILS: Venado Canyon Unit

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



WELL DETAILS: # 515H

GL 6919' & RKB 14' @ 6933ft

+N/-S	+E/-W	North	East	Latitude	Longitude
0	0	1881017.05	2842802.70	36.1688740	-107.4277480

Plan: APD (# 515H/Original drilling)

Created By: Janie Collins Date: 15:37, April 08 2021

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	North	East	Latitude	Longitude
515H Heel	4922	-1141	1051	1879880.59	2843858.80	36.1657399	-107.4241862
515H Toe	4899	-4656	4477	1876379.55	2847298.95	36.1560820	-107.4125830

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0	0.00	0.00	0	0	0	0.00	0.00	0	
450	0.00	0.00	450	0	0	0.00	0.00	0	
1174	14.49	138.08	1167	-68	61	2.00	138.08	91	
4560	14.49	138.08	4445	-698	627	0.00	0.00	938	
5396	89.74	135.74	4922	-1141	1051	9.00	-2.42	1551	515H Heel
10305	90.80	135.74	4899	-4656	4477	0.02	0.06	6459	515H Toe



Azimuths to True North
Magnetic North: 8.63°

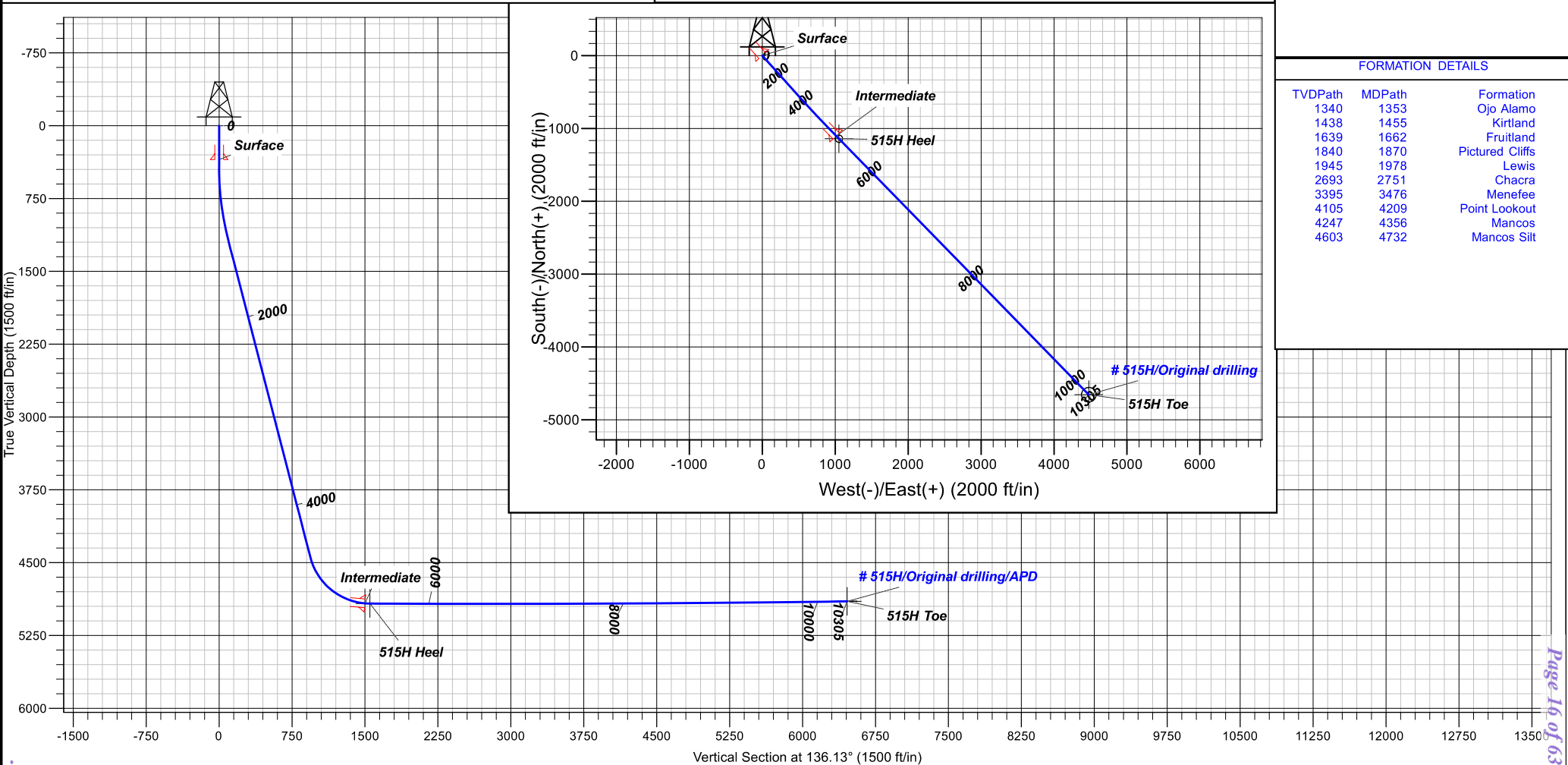
Magnetic Field
Strength: 49359.01
Dip Angle: 62.83°
Date: 2/17/2021
Model: IGRF2015

CASING DETAILS

TVD	MD	Name
350	350	Surface
4920	5344	Intermediate

FORMATION DETAILS

TVDPPath	MDPath	Formation
1340	1353	Ojo Alamo
1438	1455	Kirtland
1639	1662	Fruitland
1840	1870	Pictured Cliffs
1945	1978	Lewis
2693	2751	Chacra
3395	3476	Menefee
4105	4209	Point Lookout
4247	4356	Mancos
4603	4732	Mancos Silt





DJR Operating

Venado Canyon Unit

E01 2206 Pad

515H - Slot 2

Original drilling

Plan: APD

Standard Planning Report

08 April, 2021





Lonestar Consulting, LLC
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well # 515H - Slot 2
Company:	DJR Operating	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Project:	Venado Canyon Unit	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site:	E01 2206 Pad	North Reference:	True
Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original drilling		
Design:	APD		

Project	Venado Canyon 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	E01 2206 Pad		
Site Position:		Northing:	1,880,998.10 usft
From:	Lat/Long	Easting:	2,842,797.47 usft
Position Uncertainty:	0 ft	Slot Radius:	13.20 in
		Latitude:	36.1688220
		Longitude:	-107.4277660
		Grid Convergence:	0.24 °

Well	# 515H - Slot 2		
Well Position	+N/-S	19 ft	Northing: 1,881,017.05 usft
	+E/-W	5 ft	Easting: 2,842,802.71 usft
Position Uncertainty	0 ft	Wellhead Elevation:	Latitude: 36.1688740
			Longitude: -107.4277480
			Ground Level: 6924 ft

Wellbore	Original drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/17/2021	8.68	62.86	49,359.84382773

Design	APD			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0	0	0	136.13

Plan Survey Tool Program	Date	4/8/2021		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0	10,305	APD (Original drilling)	MWD+IGRF
				OWSG MWD + IGRF or WMM

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0	0.00	0.00	0	0	0	0.00	0.00	0.00	0.00	
450	0.00	0.00	450	0	0	0.00	0.00	0.00	0.00	
1174	14.49	138.08	1167	-68	61	2.00	2.00	0.00	138.08	
4560	14.49	138.08	4445	-698	627	0.00	0.00	0.00	0.00	
5396	89.74	135.74	4922	-1141	1051	9.00	9.00	-0.28	-2.42	515H Heel
10,305	90.80	135.74	4899	-4656	4477	0.02	0.02	0.00	0.06	515H Toe



Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well # 515H - Slot 2
Company:	DJR Operating	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Project:	Venado Canyon Unit	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site:	E01 2206 Pad	North Reference:	True
Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original drilling		
Design:	APD		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0	0.00	0.00	0	0	0	0	0.00	0.00	0.00
100	0.00	0.00	100	0	0	0	0.00	0.00	0.00
200	0.00	0.00	200	0	0	0	0.00	0.00	0.00
300	0.00	0.00	300	0	0	0	0.00	0.00	0.00
400	0.00	0.00	400	0	0	0	0.00	0.00	0.00
450	0.00	0.00	450	0	0	0	0.00	0.00	0.00
500	1.00	138.08	500	0	0	0	2.00	2.00	0.00
600	3.00	138.08	600	-3	3	4	2.00	2.00	0.00
700	5.00	138.08	700	-8	7	11	2.00	2.00	0.00
800	7.00	138.08	799	-16	14	21	2.00	2.00	0.00
900	9.00	138.08	898	-26	24	35	2.00	2.00	0.00
1000	11.00	138.08	997	-39	35	53	2.00	2.00	0.00
1100	13.00	138.08	1094	-55	49	73	2.00	2.00	0.00
1174	14.49	138.08	1167	-68	61	91	2.00	2.00	0.00
1200	14.49	138.08	1191	-73	65	97	0.00	0.00	0.00
1300	14.49	138.08	1288	-91	82	122	0.00	0.00	0.00
1400	14.49	138.08	1385	-110	99	147	0.00	0.00	0.00
1500	14.49	138.08	1482	-128	115	172	0.00	0.00	0.00
1600	14.49	138.08	1579	-147	132	197	0.00	0.00	0.00
1700	14.49	138.08	1676	-166	149	222	0.00	0.00	0.00
1800	14.49	138.08	1772	-184	165	247	0.00	0.00	0.00
1900	14.49	138.08	1869	-203	182	272	0.00	0.00	0.00
2000	14.49	138.08	1966	-221	199	297	0.00	0.00	0.00
2100	14.49	138.08	2063	-240	216	322	0.00	0.00	0.00
2200	14.49	138.08	2160	-259	232	347	0.00	0.00	0.00
2300	14.49	138.08	2257	-277	249	372	0.00	0.00	0.00
2400	14.49	138.08	2353	-296	266	398	0.00	0.00	0.00
2500	14.49	138.08	2450	-315	282	423	0.00	0.00	0.00
2600	14.49	138.08	2547	-333	299	448	0.00	0.00	0.00
2700	14.49	138.08	2644	-352	316	473	0.00	0.00	0.00
2800	14.49	138.08	2741	-370	333	498	0.00	0.00	0.00
2900	14.49	138.08	2837	-389	349	523	0.00	0.00	0.00
3000	14.49	138.08	2934	-408	366	548	0.00	0.00	0.00
3100	14.49	138.08	3031	-426	383	573	0.00	0.00	0.00
3200	14.49	138.08	3128	-445	399	598	0.00	0.00	0.00
3300	14.49	138.08	3225	-463	416	623	0.00	0.00	0.00
3400	14.49	138.08	3322	-482	433	648	0.00	0.00	0.00
3500	14.49	138.08	3418	-501	450	673	0.00	0.00	0.00
3600	14.49	138.08	3515	-519	466	698	0.00	0.00	0.00
3700	14.49	138.08	3612	-538	483	723	0.00	0.00	0.00
3800	14.49	138.08	3709	-557	500	748	0.00	0.00	0.00
3900	14.49	138.08	3806	-575	516	773	0.00	0.00	0.00
4000	14.49	138.08	3902	-594	533	798	0.00	0.00	0.00
4100	14.49	138.08	3999	-612	550	823	0.00	0.00	0.00
4200	14.49	138.08	4096	-631	567	848	0.00	0.00	0.00
4300	14.49	138.08	4193	-650	583	873	0.00	0.00	0.00
4400	14.49	138.08	4290	-668	600	898	0.00	0.00	0.00
4500	14.49	138.08	4387	-687	617	923	0.00	0.00	0.00
4560	14.49	138.08	4445	-698	627	938	0.00	0.00	0.00
4600	18.09	137.59	4483	-706	634	949	9.00	8.99	-1.22
4700	27.09	136.92	4575	-734	660	987	9.00	9.00	-0.67
4800	36.09	136.57	4660	-773	696	1040	9.00	9.00	-0.35
4900	45.09	136.34	4736	-820	741	1105	9.00	9.00	-0.23
5000	54.09	136.18	4801	-875	794	1181	9.00	9.00	-0.16



Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well # 515H - Slot 2
Company:	DJR Operating	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Project:	Venado Canyon Unit	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site:	E01 2206 Pad	North Reference:	True
Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original drilling		
Design:	APD		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5100	63.09	136.05	4853	-936	853	1266	9.00	9.00	-0.13
5200	72.09	135.93	4891	-1002	917	1358	9.00	9.00	-0.11
5300	81.08	135.83	4914	-1072	985	1455	9.00	9.00	-0.10
5396	89.74	135.74	4922	-1141	1051	1551	9.00	9.00	-0.10
5400	89.74	135.74	4922	-1144	1054	1555	0.02	0.02	0.00
5500	89.76	135.74	4922	-1215	1124	1655	0.02	0.02	0.00
5600	89.78	135.74	4923	-1287	1194	1755	0.02	0.02	0.00
5700	89.80	135.74	4923	-1358	1263	1855	0.02	0.02	0.00
5800	89.82	135.74	4924	-1430	1333	1955	0.02	0.02	0.00
5900	89.85	135.74	4924	-1502	1403	2055	0.02	0.02	0.00
6000	89.87	135.74	4924	-1573	1473	2155	0.02	0.02	0.00
6100	89.89	135.74	4924	-1645	1543	2255	0.02	0.02	0.00
6200	89.91	135.74	4924	-1717	1612	2355	0.02	0.02	0.00
6300	89.93	135.74	4925	-1788	1682	2455	0.02	0.02	0.00
6400	89.95	135.74	4925	-1860	1752	2555	0.02	0.02	0.00
6500	89.98	135.74	4925	-1931	1822	2655	0.02	0.02	0.00
6600	90.00	135.74	4925	-2003	1892	2755	0.02	0.02	0.00
6700	90.02	135.74	4925	-2075	1961	2855	0.02	0.02	0.00
6800	90.04	135.74	4925	-2146	2031	2955	0.02	0.02	0.00
6900	90.06	135.74	4925	-2218	2101	3055	0.02	0.02	0.00
7000	90.08	135.74	4925	-2290	2171	3155	0.02	0.02	0.00
7100	90.11	135.74	4924	-2361	2240	3255	0.02	0.02	0.00
7200	90.13	135.74	4924	-2433	2310	3355	0.02	0.02	0.00
7300	90.15	135.74	4924	-2504	2380	3455	0.02	0.02	0.00
7400	90.17	135.74	4924	-2576	2450	3555	0.02	0.02	0.00
7500	90.19	135.74	4923	-2648	2520	3655	0.02	0.02	0.00
7600	90.21	135.74	4923	-2719	2589	3755	0.02	0.02	0.00
7700	90.24	135.74	4923	-2791	2659	3855	0.02	0.02	0.00
7800	90.26	135.74	4922	-2863	2729	3955	0.02	0.02	0.00
7900	90.28	135.74	4922	-2934	2799	4055	0.02	0.02	0.00
8000	90.30	135.74	4921	-3006	2869	4155	0.02	0.02	0.00
8100	90.32	135.74	4921	-3077	2938	4255	0.02	0.02	0.00
8200	90.34	135.74	4920	-3149	3008	4355	0.02	0.02	0.00
8300	90.37	135.74	4919	-3221	3078	4455	0.02	0.02	0.00
8400	90.39	135.74	4919	-3292	3148	4555	0.02	0.02	0.00
8500	90.41	135.74	4918	-3364	3217	4655	0.02	0.02	0.00
8600	90.43	135.74	4917	-3435	3287	4755	0.02	0.02	0.00
8700	90.45	135.74	4917	-3507	3357	4855	0.02	0.02	0.00
8800	90.47	135.74	4916	-3579	3427	4955	0.02	0.02	0.00
8900	90.50	135.74	4915	-3650	3497	5055	0.02	0.02	0.00
9000	90.52	135.74	4914	-3722	3566	5155	0.02	0.02	0.00
9100	90.54	135.74	4913	-3794	3636	5255	0.02	0.02	0.00
9200	90.56	135.74	4912	-3865	3706	5355	0.02	0.02	0.00
9300	90.58	135.74	4911	-3937	3776	5455	0.02	0.02	0.00
9400	90.60	135.74	4910	-4008	3846	5555	0.02	0.02	0.00
9500	90.63	135.74	4909	-4080	3915	5655	0.02	0.02	0.00
9600	90.65	135.74	4908	-4152	3985	5755	0.02	0.02	0.00
9700	90.67	135.74	4907	-4223	4055	5855	0.02	0.02	0.00
9800	90.69	135.74	4906	-4295	4125	5955	0.02	0.02	0.00
9900	90.71	135.74	4904	-4366	4194	6055	0.02	0.02	0.00
10,000	90.73	135.74	4903	-4438	4264	6155	0.02	0.02	0.00
10,100	90.76	135.74	4902	-4510	4334	6255	0.02	0.02	0.00
10,200	90.78	135.74	4900	-4581	4404	6355	0.02	0.02	0.00
10,300	90.80	135.74	4899	-4653	4474	6455	0.02	0.02	0.00



Lonestar Consulting, LLC
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well # 515H - Slot 2
Company:	DJR Operating	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Project:	Venado Canyon Unit	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site:	E01 2206 Pad	North Reference:	True
Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original drilling		
Design:	APD		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,305	90.80	135.74	4899	-4656	4477	6459	0.02	0.02	0.00

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
515H Toe - plan hits target center - Circle (radius 100)	0.00	0.00	4899	-4656	4477	1,876,379.55	2,847,298.95	36.1560820	-107.4125830
515H Heel - plan hits target center - Circle (radius 50)	0.00	0.00	4922	-1141	1051	1,879,880.59	2,843,858.81	36.1657399	-107.4241862

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
350	350	Surface	9.63	12.25	
5344	4920	Intermediate	7.00	8.75	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1353	1340	Ojo Alamo		0.00	0.00
1455	1438	Kirtland		0.00	0.00
1662	1639	Fruitland		0.00	0.00
1870	1840	Pictured Cliffs		0.00	0.00
1978	1945	Lewis		0.00	0.00
2751	2693	Chacra		0.00	0.00
3476	3395	Menefee		0.00	0.00
4209	4105	Point Lookout		0.00	0.00
4356	4247	Mancos		0.00	0.00
4732	4603	Mancos Silt		0.00	0.00



DJR Operating

Venado Canyon Unit

E01 2206 Pad

515H

Original drilling

APD

Anticollision Report

08 April, 2021





Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference	APD		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 10,000ft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	4/8/2021		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0	10,305	APD (Original drilling)	MWD+IGRF	OWSG MWD + IGRF or WMM	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
E01 2206 Pad						
# 002H - Original drilling - APD	400	400	20	17	7.966	CC, ES
# 002H - Original drilling - APD	10,305	11,061	565	347	2.593	SF
Chaco 2206 02H 225H - OH - OH	445	475	699	697	354.216	CC
Chaco 2206 02H 225H - OH - OH	450	480	699	697	349.139	ES
Chaco 2206 02H 225H - OH - OH	4850	4806	2643	2608	74.088	SF
Chaco 2206 02H 226H - OH - OH	900	1039	731	726	153.038	CC, ES
Chaco 2206 02H 226H - OH - OH	4400	4402	1270	1239	40.796	SF
Chaco 2206 02H 272H - OH - OH	4418	4614	719	685	21.354	CC, ES
Chaco 2206 02H 272H - OH - OH	4600	4737	726	691	20.771	SF
Chaco 2206 02P 227H - OH - OH	5132	5116	1375	1330	30.546	CC
Chaco 2206 02P 227H - OH - OH	5150	5116	1375	1330	30.395	ES
Chaco 2206 02P 227H - OH - OH	5900	5052	1562	1505	27.020	SF
Chaco 2206 2P 228H - OH - OH	5459	4867	2628	2578	52.560	CC
Chaco 2206 2P 228H - OH - OH	5500	4867	2628	2577	51.726	ES
Chaco 2206 2P 228H - OH - OH	6800	4835	2949	2876	40.730	SF
Logos 601H - OH - OH	6416	10,747	4696	4529	28.127	CC
Logos 601H - OH - OH	6600	10,747	4700	4525	26.815	ES
Logos 601H - OH - OH	8800	10,747	5268	5020	21.216	SF
Logos 701H - OH - OH	10,305	10,766	847	642	4.131	CC, ES, SF
Logos 702H - OH - OH	10,305	11,221	1143	978	6.937	CC, ES, SF
Lybrook A01 2206 1H - OH - OH	4719	8949	2188	2075	19.243	CC, ES
Lybrook A01 2206 1H - OH - OH	4850	8890	2202	2086	19.107	SF
Lybrook H01 2206 1H - OH - OH	4957	8775	941	845	9.798	CC
Lybrook H01 2206 1H - OH - OH	5000	8753	943	844	9.579	ES
Lybrook H01 2206 1H - OH - OH	5150	8644	976	872	9.319	SF

Offset Design: E01 2206 Pad - # 002H - Original drilling - APD													Offset Site Error: 0 ft	
Survey Program: 0-MWD+IGRF		Offset		Semi Major Axis		Offset Wellbore Centre			Rule Assigned:				Offset Well Error: 0 ft	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0	0	0	0	0	0	-164.32	-19	-5	20					
100	100	100	100	0	0	-164.32	-19	-5	20	19	0.32	61.973		
200	200	200	200	1	1	-164.32	-19	-5	20	19	1.03	19.011		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - # 002H - Original drilling - APD													Offset Site Error:	0 ft
Survey Program: 0-MWD+IGRF													Offset Well Error:	0 ft
Reference	Offset	Rule Assigned:												
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
300	300	300	300	1	1	-164.32	-19	-5	20	18	1.75	11.227		
400	400	400	400	1	1	-164.32	-19	-5	20	17	2.47	7.966 CC, ES		
450	450	450	450	1	1	-164.83	-19	-5	20	17	2.82	7.117		
500	500	499	499	2	2	56.64	-21	-5	21	18	3.16	6.649		
600	600	599	598	2	2	58.62	-26	-4	24	20	3.83	6.238		
700	700	698	697	2	2	63.07	-34	-3	28	24	4.51	6.235		
800	799	797	795	3	3	68.46	-46	-1	34	29	5.23	6.513		
900	898	896	894	3	3	74.48	-60	1	41	35	6.00	6.871		
1000	997	995	992	3	3	82.56	-75	3	48	41	6.84	7.062		
1100	1094	1095	1090	4	4	91.99	-90	6	56	48	7.74	7.248		
1174	1167	1168	1163	4	4	99.36	-101	7	63	55	8.44	7.466		
1200	1191	1194	1188	4	4	101.84	-104	8	66	57	8.69	7.563		
1300	1288	1293	1286	5	5	109.81	-119	10	77	67	9.63	8.004		
1400	1385	1391	1384	6	5	115.66	-133	12	90	79	10.56	8.482		
1500	1482	1490	1481	6	6	120.06	-148	14	103	91	11.48	8.951		
1600	1579	1589	1579	7	6	123.45	-163	17	116	104	12.39	9.392		
1700	1676	1688	1677	7	7	126.12	-177	19	130	117	13.30	9.800		
1800	1772	1787	1775	8	7	128.27	-192	21	145	130	14.21	10.173		
1900	1869	1886	1872	8	7	130.04	-206	23	159	144	15.11	10.513		
2000	1966	1985	1970	9	8	131.51	-221	26	173	157	16.02	10.823		
2100	2063	2083	2068	10	8	132.76	-235	28	188	171	16.92	11.105		
2200	2160	2182	2166	10	9	133.82	-250	30	203	185	17.83	11.363		
2300	2257	2281	2263	11	9	134.74	-264	32	217	199	18.73	11.600		
2400	2353	2380	2361	11	10	135.55	-279	34	232	212	19.64	11.817		
2500	2450	2479	2459	12	10	136.26	-293	37	247	226	20.54	12.017		
2600	2547	2578	2557	13	11	136.89	-308	39	262	240	21.45	12.201		
2700	2644	2677	2654	13	11	137.45	-323	41	277	254	22.35	12.371		
2800	2741	2775	2752	14	11	137.95	-337	43	291	268	23.26	12.530		
2900	2837	2874	2850	14	12	138.41	-352	46	306	282	24.16	12.677		
3000	2934	2973	2948	15	12	138.82	-366	48	321	296	25.07	12.814		
3100	3031	3072	3045	16	13	139.20	-381	50	336	310	25.97	12.941		
3200	3128	3171	3143	16	13	139.54	-395	52	351	324	26.88	13.061		
3300	3225	3270	3241	17	14	139.86	-410	54	366	338	27.78	13.173		
3400	3322	3369	3339	17	14	140.15	-424	57	381	352	28.69	13.279		
3500	3418	3467	3436	18	15	140.42	-439	59	396	366	29.60	13.378		
3600	3515	3566	3534	19	15	140.67	-454	61	411	380	30.50	13.471		
3700	3612	3665	3632	19	16	140.90	-468	63	426	394	31.41	13.559		
3800	3709	3764	3730	20	16	141.12	-483	66	441	409	32.32	13.643		
3900	3806	3863	3827	20	16	141.32	-497	68	456	423	33.22	13.722		
4000	3902	3962	3925	21	17	141.51	-512	70	471	437	34.13	13.797		
4100	3999	4061	4023	22	17	141.69	-526	72	486	451	35.04	13.868		
4200	4096	4159	4121	22	18	141.85	-541	75	501	465	35.95	13.935		
4300	4193	4258	4218	23	18	142.01	-555	77	516	479	36.85	14.000		
4400	4290	4357	4316	23	19	142.16	-570	79	531	493	37.76	14.061		
4500	4387	4456	4414	24	19	142.30	-584	81	546	507	38.67	14.120		
4560	4445	4515	4473	24	19	142.38	-593	83	555	516	39.21	14.153		
4600	4483	4555	4512	25	20	142.60	-599	83	562	522	39.57	14.202		
4650	4530	4603	4559	25	20	142.71	-606	84	574	534	40.01	14.335		
4700	4575	4651	4606	25	20	142.72	-613	86	588	548	40.44	14.548		
4750	4619	4697	4652	26	20	142.65	-620	87	606	565	40.85	14.838		
4800	4660	4741	4696	26	20	142.49	-626	88	627	586	41.24	15.203		
4850	4700	4784	4738	27	21	142.21	-633	89	651	609	41.61	15.642		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - # 002H - Original drilling - APD													Offset Site Error:	0 ft	
Survey Program:		0-MWD+IGRF		Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error:	0 ft
Measured Depth	Reference Vertical	Measured Depth	Offset Vertical	Reference	Offset	Highside Toolface	+N/-S	+E/-W	Between Centres	Distance Ellipses	Minimum Separation	Separation Factor	Warning		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)				
4900	4736	4824	4778	28	21	141.76	-639	89	678	636	41.95	16.153			
4950	4770	5557	5310	28	28	143.61	-987	364	688	651	37.19	18.509			
5000	4801	5782	5340	29	32	138.14	-1147	517	664	628	36.77	18.067			
5050	4829	5823	5340	30	32	138.18	-1177	546	642	603	38.77	16.551			
5100	4853	5867	5340	31	33	138.09	-1208	577	622	581	40.82	15.242			
5150	4874	5912	5339	32	34	137.91	-1241	608	606	563	42.88	14.126			
5200	4891	5959	5339	33	35	137.69	-1274	641	592	547	44.91	13.187			
5250	4905	6007	5339	33	36	137.47	-1309	675	582	535	46.88	12.412			
5300	4914	6056	5339	34	37	137.29	-1344	709	574	526	48.75	11.784			
5350	4920	6106	5339	35	38	137.17	-1379	744	570	519	50.46	11.294			
5396	4922	6152	5339	36	39	137.13	-1412	776	568	516	51.89	10.953			
5400	4922	6156	5339	36	39	137.13	-1415	778	568	516	52.00	10.929			
5500	4922	6256	5338	38	41	137.08	-1486	848	568	513	54.96	10.329			
5600	4923	6356	5338	41	43	137.04	-1558	918	567	509	57.99	9.778			
5700	4923	6456	5337	43	45	137.00	-1630	988	566	505	61.09	9.272			
5800	4924	6556	5337	45	47	136.96	-1701	1058	566	502	64.24	8.808			
5900	4924	6656	5337	47	49	136.92	-1773	1128	565	498	67.44	8.381			
6000	4924	6756	5336	49	52	136.89	-1844	1198	565	494	70.69	7.989			
6100	4924	6856	5336	51	54	136.85	-1916	1268	564	490	73.97	7.628			
6200	4924	6956	5336	54	56	136.82	-1987	1338	564	486	77.28	7.294			
6300	4925	7056	5335	56	58	136.79	-2059	1407	563	483	80.62	6.986			
6400	4925	7156	5335	58	61	136.77	-2130	1477	563	479	83.98	6.701			
6500	4925	7256	5334	61	63	136.74	-2202	1547	562	475	87.36	6.437			
6600	4925	7356	5334	63	65	136.72	-2273	1617	562	471	90.77	6.192			
6700	4925	7456	5334	65	68	136.70	-2345	1687	562	467	94.18	5.963			
6800	4925	7556	5333	68	70	136.69	-2417	1757	561	464	97.61	5.750			
6900	4925	7656	5333	70	72	136.67	-2488	1827	561	460	101.05	5.551			
7000	4925	7756	5332	72	75	136.66	-2560	1897	561	456	104.51	5.365			
7100	4924	7856	5332	75	77	136.65	-2631	1966	560	452	107.97	5.190			
7200	4924	7956	5331	77	80	136.64	-2703	2036	560	449	111.43	5.027			
7300	4924	8056	5331	80	82	136.64	-2774	2106	560	445	114.91	4.873			
7400	4924	8156	5331	82	84	136.64	-2846	2176	560	441	118.38	4.728			
7500	4923	8256	5330	84	87	136.64	-2917	2246	560	438	121.86	4.592			
7600	4923	8356	5330	87	89	136.64	-2989	2316	559	434	125.35	4.463			
7700	4923	8456	5329	89	92	136.64	-3060	2386	559	430	128.83	4.341			
7800	4922	8556	5329	92	94	136.65	-3132	2456	559	427	132.32	4.226			
7900	4922	8656	5328	94	96	136.66	-3204	2526	559	423	135.80	4.117			
8000	4921	8756	5328	96	99	136.67	-3275	2595	559	420	139.28	4.014			
8100	4921	8856	5327	99	101	136.69	-3347	2665	559	416	142.77	3.916			
8135	4920	8892	5327	100	102	136.69	-3372	2690	559	415	144.00	3.882			
8200	4920	8956	5327	101	104	136.70	-3418	2735	559	413	146.24	3.823			
8300	4919	9056	5326	104	106	136.72	-3490	2805	559	409	149.72	3.734			
8400	4919	9156	5326	106	109	136.74	-3561	2875	559	406	153.19	3.650			
8500	4918	9256	5325	109	111	136.77	-3633	2945	559	403	156.66	3.570			
8600	4917	9356	5325	111	113	136.79	-3704	3015	559	399	160.12	3.493			
8700	4917	9456	5324	113	116	136.82	-3776	3085	559	396	163.58	3.420			
8800	4916	9556	5324	116	118	136.85	-3848	3154	560	393	167.03	3.350			
8900	4915	9656	5323	118	121	136.88	-3919	3224	560	389	170.47	3.284			
9000	4914	9756	5323	121	123	136.92	-3991	3294	560	386	173.91	3.220			
9100	4913	9856	5322	123	126	136.96	-4062	3364	560	383	177.33	3.159			
9200	4912	9956	5322	126	128	137.00	-4134	3434	560	380	180.75	3.101			
9300	4911	10,056	5321	128	131	137.04	-4205	3504	561	377	184.16	3.045			



Lonestar Consulting, LLC
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - # 002H - Original drilling - APD													Offset Site Error:	0 ft
Survey Program: 0-MWD+IGRF													Offset Well Error:	0 ft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Rule Assigned:				Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	+N/-S	+E/-W	Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)			
9400	4910	10,156	5321	131	133	137.08	-4277	3574	561	373	187.56	2.991		
9500	4909	10,256	5320	133	135	137.13	-4348	3644	561	370	190.95	2.940		
9600	4908	10,356	5320	135	138	137.18	-4420	3714	562	367	194.33	2.890		
9700	4907	10,456	5319	138	140	137.23	-4491	3783	562	364	197.70	2.843		
9800	4906	10,556	5319	140	143	137.29	-4563	3853	562	361	201.06	2.798		
9900	4904	10,656	5318	143	145	137.34	-4635	3923	563	359	204.41	2.754		
10,000	4903	10,756	5318	145	148	137.40	-4706	3993	563	356	207.74	2.712		
10,100	4902	10,856	5317	148	150	137.46	-4778	4063	564	353	211.07	2.671		
10,200	4900	10,956	5317	150	153	137.52	-4849	4133	564	350	214.37	2.633		
10,305	4899	11,061	5316	153	155	137.59	-4924	4206	565	347	217.82	2.593 SF		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Chaco 2206 02H 225H - OH - OH													Offset Site Error:	0 ft
Survey Program: 429-MWD													Offset Well Error:	0 ft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0	0	30	30	0	0	-63.73	310	-627	700					
100	100	130	130	0	0	-63.76	309	-628	700	699	0.31	2,280.091		
200	200	230	230	1	0	-63.82	309	-628	700	699	0.78	901.669		
300	300	330	330	1	0	-63.92	307	-628	700	698	1.24	561.915		
400	400	431	431	1	0	-64.06	306	-629	699	698	1.72	407.673		
445	445	475	475	1	1	-64.12	305	-629	699	697	1.97	354.216 CC		
450	450	480	480	1	1	-64.13	305	-629	699	697	2.00	349.139 ES		
500	500	528	528	2	1	157.75	305	-630	700	698	2.27	308.115		
600	600	615	615	2	1	157.86	306	-630	704	702	2.77	254.096		
700	700	703	703	2	1	158.37	311	-631	714	710	3.29	216.633		
800	799	796	795	3	1	159.29	321	-630	728	724	3.86	188.703		
900	898	887	886	3	1	160.38	333	-629	746	741	4.45	167.737		
1000	997	980	978	3	2	161.64	347	-627	768	763	5.07	151.463		
1100	1094	1075	1071	4	2	163.06	363	-625	795	789	5.73	138.702		
1174	1167	1142	1137	4	2	164.15	376	-622	817	810	6.23	131.111		
1200	1191	1164	1159	4	2	164.55	380	-621	825	818	6.40	128.831		
1300	1288	1250	1242	5	3	166.13	398	-618	857	850	7.06	121.334		
1400	1385	1324	1314	6	3	167.50	414	-615	891	883	7.69	115.878		
1500	1482	1399	1386	6	3	168.93	433	-611	927	918	8.33	111.265		
1600	1579	1460	1445	7	4	170.14	451	-608	966	957	8.91	108.439		
1700	1676	1528	1510	7	4	171.50	473	-606	1008	998	9.53	105.802		
1800	1772	1603	1579	8	5	172.96	499	-603	1052	1042	10.19	103.182		
1900	1869	1682	1653	8	5	174.49	527	-599	1097	1087	10.87	100.914		
2000	1966	1769	1734	9	6	176.04	558	-595	1144	1132	11.61	98.539		
2100	2063	1849	1809	10	6	177.47	589	-591	1191	1178	12.31	96.699		
2200	2160	1937	1890	10	7	178.93	621	-585	1238	1225	13.04	94.935		
2300	2257	2008	1956	11	7	-179.95	648	-581	1287	1273	13.67	94.120		
2400	2353	2096	2036	11	8	-178.64	682	-576	1336	1322	14.42	92.648		
2500	2450	2186	2120	12	8	-177.44	716	-570	1385	1370	15.17	91.311		
2600	2547	2277	2205	13	9	-176.30	750	-565	1435	1419	15.94	89.978		
2700	2644	2356	2278	13	9	-175.42	778	-561	1484	1468	16.61	89.338		
2800	2741	2419	2336	14	10	-174.73	802	-558	1535	1518	17.18	89.380		
2900	2837	2483	2395	14	10	-174.05	827	-555	1587	1570	17.75	89.434		
3000	2934	2582	2486	15	11	-173.08	865	-550	1640	1621	18.58	88.256		
3100	3031	2675	2572	16	11	-172.25	900	-546	1692	1672	19.36	87.372		
3200	3128	2780	2670	16	12	-171.36	939	-541	1743	1723	20.24	86.128		
3300	3225	2883	2765	17	13	-170.53	977	-534	1793	1772	21.10	85.009		
3400	3322	2965	2842	17	13	-169.89	1006	-528	1844	1822	21.80	84.567		
3500	3418	3039	2910	18	14	-169.35	1033	-523	1895	1872	22.44	84.430		
3600	3515	3117	2983	19	14	-168.82	1062	-519	1946	1923	23.11	84.201		
3700	3612	3180	3041	19	15	-168.42	1085	-516	1998	1974	23.65	84.462		
3800	3709	3244	3100	20	15	-168.03	1109	-513	2051	2027	24.21	84.702		
3900	3806	3308	3159	20	16	-167.63	1134	-509	2105	2080	24.78	84.937		
4000	3902	3406	3249	21	16	-167.02	1172	-504	2159	2133	25.63	84.247		
4100	3999	3512	3347	22	17	-166.45	1212	-498	2212	2186	26.52	83.411		
4200	4096	3579	3409	22	18	-166.08	1238	-494	2266	2239	27.11	83.568		
4300	4193	3679	3501	23	18	-165.57	1276	-489	2319	2291	27.97	82.928		
4400	4290	3739	3557	23	19	-165.28	1299	-486	2373	2345	28.50	83.263		
4500	4387	3817	3628	24	19	-164.91	1329	-481	2427	2398	29.18	83.201		
4560	4445	3865	3672	24	20	-164.69	1348	-479	2460	2431	29.59	83.137		
4600	4483	3978	3777	25	20	-163.03	1390	-473	2483	2452	30.53	81.312		
4650	4530	4091	3883	25	21	-161.28	1428	-468	2512	2480	31.44	79.890		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Chaco 2206 02H 225H - OH - OH											Offset Site Error:	0 ft
Survey Program: 429-MWD											Offset Well Error:	0 ft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor
4700	4575	4294	4078	25	22	-159.70	1486	-461	2543	2510	32.88	77.342
4750	4619	4370	4152	26	22	-158.24	1504	-459	2574	2541	33.44	76.986
4800	4660	4436	4216	26	23	-156.64	1518	-458	2608	2574	33.94	76.843
4850	4700	4806	4582	27	24	-156.59	1573	-448	2643	2608	35.68	74.088 SF
4900	4736	4873	4648	28	24	-155.20	1577	-447	2677	2641	36.08	74.215
4950	4770	4936	4711	28	24	-153.59	1579	-447	2714	2677	36.45	74.439
5000	4801	5024	4799	29	24	-152.02	1582	-446	2752	2715	36.87	74.632
5050	4829	5049	4825	30	24	-149.30	1582	-446	2792	2755	37.14	75.166
5100	4853	5053	4828	31	24	-145.45	1582	-446	2834	2797	37.36	75.858
5150	4874	5053	4828	32	24	-140.30	1582	-446	2878	2841	37.55	76.638
5200	4891	5053	4828	33	24	-133.44	1582	-446	2924	2886	37.73	77.480
5250	4905	5053	4828	33	24	-124.24	1582	-446	2970	2932	37.90	78.375
5300	4914	5053	4828	34	24	-112.15	1582	-446	3018	2980	38.05	79.313
5350	4920	5053	4828	35	24	-97.30	1582	-446	3066	3027	38.19	80.285
5396	4922	5053	4828	36	24	-82.44	1582	-446	3110	3072	38.30	81.202
5400	4922	5053	4828	36	24	-82.44	1582	-446	3114	3076	38.31	81.280
5500	4922	5053	4828	38	24	-82.36	1582	-446	3210	3172	38.55	83.280
5600	4923	5053	4828	41	24	-82.28	1582	-446	3307	3268	38.78	85.273
5700	4923	5053	4828	43	24	-82.20	1582	-446	3404	3365	39.01	87.262
5800	4924	5053	4828	45	24	-82.11	1582	-446	3501	3462	39.23	89.246
5900	4924	5053	4828	47	24	-82.02	1582	-446	3598	3559	39.44	91.226
6000	4924	5053	4828	49	24	-81.93	1582	-446	3695	3656	39.65	93.202
6100	4924	5053	4828	51	24	-81.84	1582	-446	3793	3753	39.85	95.175
6200	4924	5053	4828	54	24	-81.74	1582	-446	3890	3850	40.05	97.146
6300	4925	5053	4828	56	24	-81.64	1582	-446	3988	3948	40.24	99.113
6400	4925	5053	4828	58	24	-81.54	1582	-446	4086	4046	40.42	101.078
6500	4925	5053	4828	61	24	-81.44	1582	-446	4184	4143	40.60	103.041
6600	4925	5053	4828	63	24	-81.33	1582	-446	4282	4241	40.78	105.001
6700	4925	5053	4828	65	24	-81.22	1582	-446	4380	4339	40.95	106.959
6800	4925	5053	4828	68	24	-81.11	1582	-446	4478	4437	41.12	108.914
6900	4925	5053	4828	70	24	-81.00	1582	-446	4577	4535	41.28	110.868
7000	4925	5053	4828	72	24	-80.88	1582	-446	4675	4633	41.44	112.818
7100	4924	3753	3569	75	19	-23.52	1305	-485	4773	4740	33.10	144.224
7200	4924	3737	3555	77	19	-23.10	1298	-486	4868	4835	33.10	147.085
7300	4924	3724	3543	80	19	-22.77	1293	-486	4963	4930	33.13	149.816
7400	4924	3712	3531	82	18	-22.45	1289	-487	5058	5025	33.16	152.553
7500	4923	3689	3510	84	18	-21.91	1280	-488	5153	5120	33.09	155.738
7600	4923	3684	3506	87	18	-21.78	1278	-489	5249	5215	33.19	158.150
7700	4923	3657	3480	89	18	-21.13	1268	-490	5344	5311	33.07	161.586
7800	4922	3630	3456	92	18	-20.53	1258	-492	5439	5406	32.97	164.980
7900	4922	3584	3414	94	18	-19.54	1240	-494	5535	5502	32.68	169.373
8000	4921	3562	3393	96	17	-19.05	1232	-496	5630	5598	32.60	172.682
8100	4921	3541	3374	99	17	-18.61	1223	-497	5726	5693	32.54	175.947
8200	4920	3527	3361	101	17	-18.31	1218	-498	5821	5789	32.55	178.862
8300	4919	3513	3348	104	17	-18.03	1213	-498	5917	5884	32.55	181.780
8400	4919	3505	3340	106	17	-17.84	1210	-499	6013	5980	32.60	184.462
8500	4918	3416	3258	109	16	-16.22	1176	-503	6108	6076	31.95	191.174
8600	4917	3365	3211	111	16	-15.32	1156	-506	6204	6172	31.63	196.137
8700	4917	3333	3182	113	16	-14.76	1144	-508	6299	6268	31.47	200.172
8800	4916	3307	3158	116	16	-14.32	1133	-509	6395	6363	31.37	203.874
8900	4915	3289	3142	118	16	-14.02	1126	-510	6490	6459	31.33	207.156
9000	4914	3274	3128	121	15	-13.77	1120	-511	6586	6554	31.32	210.264



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Chaco 2206 02H 225H - OH - OH													Offset Site Error:	0 ft
Survey Program: 429-MWD													Offset Well Error:	0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9100	4913	3260	3115	123	15	-13.53	1115	-512	6681	6650	31.31	213.371		
9200	4912	3244	3100	126	15	-13.28	1109	-513	6777	6746	31.30	216.529		
9300	4911	3244	3100	128	15	-13.26	1109	-513	6873	6841	31.41	218.780		
9400	4910	3217	3075	131	15	-12.85	1098	-514	6969	6937	31.31	222.571		
9500	4909	3203	3063	133	15	-12.64	1093	-515	7065	7033	31.31	225.608		
9600	4908	3180	3041	135	15	-12.31	1085	-516	7161	7129	31.24	229.181		
9700	4907	3180	3041	138	15	-12.29	1085	-516	7257	7225	31.36	231.420		
9800	4906	3180	3041	140	15	-12.28	1085	-516	7353	7321	31.47	233.653		
9900	4904	3180	3041	143	15	-12.26	1085	-516	7449	7417	31.58	235.882		
10,000	4903	3153	3016	145	15	-11.87	1075	-517	7545	7513	31.48	239.666		
10,100	4902	3144	3008	148	15	-11.75	1072	-517	7641	7610	31.53	242.344		
10,200	4900	3117	2983	150	14	-11.38	1062	-519	7738	7706	31.44	246.142		
10,305	4899	3117	2983	153	14	-11.37	1062	-519	7838	7807	31.55	248.453		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Chaco 2206 02H 226H - OH - OH													Offset Site Error:	0 ft
Survey Program: 461-SDI MWD													Offset Well Error:	0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0	0	30	30	0	0	-66.73	291	-678	738					
100	100	128	128	0	0	-66.72	292	-678	738	737	0.30	2,434.744		
200	200	227	227	1	0	-66.70	292	-678	738	737	0.77	959.740		
300	300	326	326	1	0	-66.68	292	-678	739	737	1.23	598.002		
400	400	424	424	1	0	-66.64	293	-679	739	738	1.70	434.576		
450	450	474	474	1	1	-66.62	293	-679	740	738	1.95	379.639		
500	500	523	523	2	1	155.34	294	-679	740	738	2.23	332.142		
600	600	686	686	2	1	155.75	295	-673	741	738	2.89	256.474		
700	700	823	822	2	1	156.45	293	-658	736	733	3.52	209.176		
800	799	933	931	3	2	157.31	293	-643	733	729	4.13	177.279		
900	898	1038	1035	3	2	158.53	295	-625	731	726	4.78	153.088		
900	898	1039	1035	3	2	158.53	295	-625	731	726	4.78	153.038 CC, ES		
1000	997	1134	1128	3	2	159.85	299	-608	733	728	5.43	134.933		
1100	1094	1230	1223	4	3	161.29	304	-590	739	733	6.11	120.981		
1174	1167	1301	1293	4	3	162.40	307	-578	747	740	6.63	112.565		
1200	1191	1327	1318	4	3	162.81	309	-573	750	743	6.82	109.900		
1300	1288	1413	1402	5	3	164.20	314	-558	761	754	7.51	101.413		
1400	1385	1504	1493	6	4	165.54	318	-543	776	767	8.19	94.746		
1500	1482	1608	1596	6	4	166.78	321	-529	790	781	8.88	88.956		
1600	1579	1700	1687	7	4	167.84	324	-516	804	795	9.55	84.190		
1700	1676	1817	1802	7	5	169.20	327	-498	819	808	10.31	79.419		
1800	1772	1935	1918	8	5	170.55	329	-477	830	819	11.08	74.910		
1900	1869	2033	2014	8	5	171.74	331	-458	841	830	11.84	71.088		
2000	1966	2129	2109	9	6	172.93	333	-439	853	840	12.60	67.679		
2100	2063	2213	2190	10	6	174.00	336	-423	865	852	13.32	64.966		
2200	2160	2310	2286	10	7	175.23	341	-404	880	865	14.10	62.356		
2300	2257	2404	2378	11	7	176.44	346	-385	894	879	14.90	59.988		
2400	2353	2489	2460	11	7	177.49	351	-368	909	894	15.64	58.148		
2500	2450	2578	2548	12	8	178.49	357	-353	927	911	16.38	56.593		
2600	2547	2671	2639	13	8	179.48	363	-337	945	928	17.13	55.166		
2700	2644	2794	2761	13	8	-179.29	370	-316	963	945	18.03	53.408		
2800	2741	2900	2865	14	9	-178.28	373	-296	978	960	18.85	51.901		
2900	2837	2994	2957	14	9	-177.44	376	-279	994	975	19.62	50.683		
3000	2934	3089	3050	15	10	-176.62	380	-262	1011	990	20.39	49.570		
3100	3031	3180	3140	16	10	-175.88	383	-246	1028	1007	21.14	48.612		
3200	3128	3283	3241	16	10	-175.08	387	-228	1045	1023	21.95	47.617		
3300	3225	3389	3345	17	11	-174.26	390	-209	1062	1039	22.79	46.599		
3400	3322	3482	3437	17	11	-173.57	393	-192	1079	1055	23.57	45.774		
3500	3418	3578	3532	18	11	-172.90	396	-176	1096	1072	24.35	45.013		
3600	3515	3674	3626	19	12	-172.25	398	-159	1114	1088	25.14	44.297		
3700	3612	3776	3726	19	12	-171.53	402	-141	1131	1105	25.98	43.542		
3800	3709	3873	3821	20	13	-170.85	405	-122	1149	1122	26.80	42.858		
3900	3806	3966	3913	20	13	-170.26	409	-106	1167	1139	27.59	42.291		
4000	3902	4055	4001	21	13	-169.77	411	-91	1185	1157	28.33	41.834		
4100	3999	4134	4079	22	13	-169.34	414	-79	1205	1176	29.02	41.527		
4200	4096	4223	4166	22	14	-168.87	419	-65	1226	1196	29.75	41.205		
4300	4193	4315	4258	23	14	-168.45	423	-52	1248	1217	30.49	40.917		
4400	4290	4402	4344	23	14	-168.22	426	-43	1270	1239	31.13	40.796 SF		
4500	4387	4484	4426	24	14	-168.20	428	-39	1293	1261	31.66	40.838		
4560	4445	4536	4478	24	15	-168.25	428	-37	1307	1276	31.97	40.898		
4600	4483	4575	4516	25	15	-167.59	429	-37	1318	1286	32.19	40.958		
4650	4530	4625	4567	25	15	-166.96	429	-36	1335	1303	32.48	41.113		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Chaco 2206 02H 226H - OH - OH													Offset Site Error: 0 ft	
Survey Program: 461-SDI MWD													Offset Well Error: 0 ft	
Measured Depth Depth (ft)	Vertical Depth (ft)	Offset		Semi Major Axis		Highside Toolface (")	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
		Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
4700	4575	4675	4617	25	15	-166.39	429	-35	1355	1323	32.77	41.362		
4750	4619	4716	4658	26	15	-165.79	429	-34	1379	1346	33.03	41.750		
4800	4660	4751	4693	26	15	-165.10	429	-34	1406	1373	33.26	42.268		
4850	4700	4775	4717	27	15	-164.23	429	-34	1436	1403	33.45	42.949		
4900	4736	4792	4734	28	15	-163.11	429	-34	1470	1437	33.59	43.769		
4950	4770	4811	4753	28	15	-161.76	429	-35	1507	1473	33.73	44.681		
5000	4801	4823	4765	29	15	-159.93	430	-35	1547	1513	33.83	45.715		
5050	4829	4835	4777	30	15	-157.55	430	-36	1589	1555	33.93	46.826		
5100	4853	4844	4786	31	15	-154.23	430	-37	1633	1599	34.00	48.027		
5150	4874	4855	4797	32	15	-149.68	430	-37	1679	1645	34.08	49.265		
5200	4891	4855	4797	33	15	-142.33	430	-37	1726	1692	34.10	50.621		
5250	4905	4855	4797	33	15	-130.83	430	-37	1774	1740	34.11	52.013		
5300	4914	4855	4797	34	15	-112.76	430	-37	1823	1789	34.12	53.427		
5350	4920	4855	4797	35	15	-87.96	430	-37	1872	1838	34.14	54.851		
5396	4922	4855	4797	36	15	-65.18	430	-37	1918	1884	34.15	56.163		
5400	4922	4855	4797	36	15	-65.18	430	-37	1922	1887	34.15	56.273		
5500	4922	4855	4797	38	15	-65.07	430	-37	2020	1986	34.18	59.108		
5600	4923	4855	4797	41	15	-64.95	430	-37	2119	2084	34.20	61.940		
5700	4923	4855	4797	43	15	-64.83	430	-37	2217	2183	34.23	64.771		
5800	4924	4855	4797	45	15	-64.71	430	-37	2316	2282	34.26	67.600		
5900	4924	4855	4797	47	15	-64.58	430	-37	2415	2381	34.29	70.425		
6000	4924	4855	4797	49	15	-64.44	430	-37	2514	2480	34.32	73.247		
6100	4924	4855	4797	51	15	-64.30	430	-37	2613	2579	34.35	76.066		
6200	4924	4855	4797	54	15	-64.15	430	-37	2712	2678	34.38	78.881		
6300	4925	4842	4784	56	15	-62.16	430	-36	2811	2777	34.36	81.823		
6400	4925	4840	4782	58	15	-61.78	430	-36	2910	2876	34.38	84.649		
6500	4925	4839	4781	61	15	-61.41	430	-36	3010	2975	34.41	87.469		
6600	4925	4837	4779	63	15	-61.05	430	-36	3109	3075	34.44	90.284		
6700	4925	4836	4778	65	15	-60.69	430	-36	3208	3174	34.46	93.093		
6800	4925	4823	4765	68	15	-58.83	430	-35	3308	3273	34.44	96.033		
6900	4925	4823	4765	70	15	-58.67	430	-35	3407	3373	34.48	98.817		
7000	4925	4823	4765	72	15	-58.50	430	-35	3507	3472	34.52	101.594		
7100	4924	4823	4765	75	15	-58.32	430	-35	3606	3571	34.55	104.365		
7200	4924	4823	4765	77	15	-58.14	430	-35	3705	3671	34.59	107.129		
7300	4924	4823	4765	80	15	-57.96	430	-35	3805	3770	34.63	109.887		
7400	4924	4823	4765	82	15	-57.77	430	-35	3904	3870	34.66	112.637		
7500	4923	4823	4765	84	15	-57.58	430	-35	4004	3969	34.70	115.380		
7600	4923	4823	4765	87	15	-57.38	430	-35	4104	4069	34.74	118.116		
7700	4923	4823	4765	89	15	-57.18	430	-35	4203	4168	34.78	120.844		
7800	4922	4823	4765	92	15	-56.98	430	-35	4303	4268	34.82	123.564		
7900	4922	4823	4765	94	15	-56.77	430	-35	4402	4368	34.86	126.277		
8000	4921	4823	4765	96	15	-56.56	430	-35	4502	4467	34.90	128.981		
8100	4921	4823	4765	99	15	-56.34	430	-35	4602	4567	34.95	131.677		
8200	4920	4823	4765	101	15	-56.12	430	-35	4701	4666	34.99	134.364		
8300	4919	4823	4765	104	15	-55.90	430	-35	4801	4766	35.03	137.043		
8400	4919	4823	4765	106	15	-55.68	430	-35	4901	4866	35.08	139.713		
8500	4918	4823	4765	109	15	-55.45	430	-35	5000	4965	35.12	142.374		
8600	4917	4823	4765	111	15	-55.21	430	-35	5100	5065	35.17	145.026		
8700	4917	4823	4765	113	15	-54.98	430	-35	5200	5165	35.21	147.669		
8800	4916	4823	4765	116	15	-54.74	430	-35	5300	5264	35.26	150.303		
8900	4915	4823	4765	118	15	-54.50	430	-35	5399	5364	35.31	152.928		
9000	4914	4810	4752	121	15	-52.78	429	-35	5499	5464	35.30	155.762		



Lonestar Consulting, LLC
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Chaco 2206 02H 226H - OH - OH													Offset Site Error:	0 ft
Survey Program: 461-SDI MWD													Offset Well Error:	0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9100	4913	4809	4751	123	15	-52.44	429	-35	5599	5563	35.35	158.386		
9200	4912	4808	4750	126	15	-52.10	429	-35	5698	5663	35.39	161.000		
9300	4911	4807	4749	128	15	-51.76	429	-35	5798	5763	35.44	163.605		
9400	4910	4807	4748	131	15	-51.42	429	-35	5898	5862	35.49	166.199		
9500	4909	4806	4748	133	15	-51.08	429	-35	5998	5962	35.53	168.784		
9600	4908	4805	4747	135	15	-50.74	429	-35	6097	6062	35.58	171.358		
9700	4907	4792	4734	138	15	-49.16	429	-34	6197	6162	35.59	174.150		
9800	4906	4792	4734	140	15	-48.92	429	-34	6297	6261	35.64	176.691		
9900	4904	4792	4734	143	15	-48.67	429	-34	6397	6361	35.69	179.221		
10,000	4903	4792	4734	145	15	-48.43	429	-34	6497	6461	35.75	181.741		
10,100	4902	4792	4734	148	15	-48.18	429	-34	6596	6561	35.80	184.250		
10,200	4900	4792	4734	150	15	-47.93	429	-34	6696	6660	35.86	186.748		
10,305	4899	4792	4734	153	15	-47.66	429	-34	6801	6765	35.92	189.351		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Chaco 2206 02H 272H - OH - OH													Offset Site Error:	0 ft
Survey Program: 463-SDI MWD													Offset Well Error:	0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0	0	30	30	0	0	-68.56	270	-686	737					
100	100	131	131	0	0	-68.54	270	-686	737	737	0.31	2,406.914		
200	200	232	232	1	0	-68.52	270	-686	737	736	0.77	951.152		
300	300	333	333	1	0	-68.47	270	-685	737	735	1.24	592.431		
400	400	434	434	1	0	-68.41	271	-685	736	735	1.71	429.994		
450	450	485	485	1	1	-68.38	271	-684	736	734	1.97	373.647		
479	479	516	516	2	1	153.56	271	-684	736	734	2.13	345.061		
500	500	538	538	2	1	153.58	271	-684	736	734	2.25	327.073		
600	600	693	692	2	1	153.55	266	-678	734	732	2.91	252.533		
700	700	813	812	2	1	153.29	254	-669	730	727	3.52	207.401		
800	799	919	916	3	2	153.04	242	-661	728	724	4.13	176.059		
839	838	958	955	3	2	152.98	237	-658	728	723	4.38	166.207		
900	898	1023	1020	3	2	152.89	229	-652	728	723	4.77	152.605		
1000	997	1179	1172	3	3	152.67	206	-634	728	722	5.56	130.823		
1100	1094	1284	1275	4	3	152.52	187	-618	726	719	6.26	115.842		
1128	1122	1313	1303	4	3	152.50	182	-614	725	719	6.46	112.233		
1174	1167	1362	1350	4	3	152.48	173	-606	726	719	6.79	106.852		
1200	1191	1390	1378	4	3	152.45	168	-602	726	719	6.99	103.908		
1300	1288	1502	1486	5	4	152.31	145	-583	726	718	7.78	93.320		
1400	1385	1604	1584	6	5	152.17	124	-566	724	716	8.54	84.808		
1488	1470	1683	1660	6	5	152.11	109	-552	724	715	9.17	78.900		
1500	1482	1693	1670	6	5	152.11	107	-551	724	714	9.26	78.187		
1600	1579	1777	1752	7	5	152.10	91	-538	725	715	9.95	72.913		
1700	1676	1874	1846	7	6	152.11	74	-524	728	717	10.67	68.236		
1800	1772	1970	1940	8	6	152.02	56	-511	731	720	11.43	63.989		
1900	1869	2080	2047	8	7	151.80	34	-497	734	722	12.25	59.923		
2000	1966	2178	2141	9	7	151.71	15	-483	736	723	13.03	56.500		
2100	2063	2280	2241	10	8	151.62	-4	-468	739	725	13.81	53.482		
2200	2160	2396	2352	10	8	151.38	-28	-451	739	725	14.68	50.354		
2300	2257	2501	2454	11	9	151.17	-50	-434	739	723	15.53	47.570		
2400	2353	2595	2544	11	9	151.06	-69	-418	738	722	16.32	45.252		
2431	2383	2628	2577	12	9	151.04	-75	-413	738	722	16.57	44.568		
2500	2450	2701	2647	12	10	151.02	-89	-400	738	721	17.13	43.088		
2600	2547	2803	2746	13	10	150.91	-110	-383	737	719	17.95	41.065		
2700	2644	2901	2840	13	11	150.78	-130	-366	736	717	18.76	39.224		
2800	2741	2996	2932	14	11	150.56	-151	-351	735	716	19.59	37.537		
2812	2752	3007	2942	14	11	150.54	-153	-349	735	716	19.69	37.355		
2900	2837	3095	3027	14	12	150.43	-171	-335	736	715	20.41	36.033		
3000	2934	3203	3131	15	12	150.28	-193	-317	735	714	21.27	34.559		
3100	3031	3304	3228	16	13	150.08	-214	-300	734	712	22.13	33.162		
3200	3128	3409	3330	16	13	149.77	-238	-282	733	710	23.04	31.798		
3300	3225	3509	3425	17	14	149.41	-261	-265	731	707	23.95	30.508		
3400	3322	3605	3517	17	14	149.18	-282	-248	729	704	24.81	29.385		
3500	3418	3707	3615	18	15	148.97	-304	-231	728	702	25.69	28.323		
3600	3515	3805	3709	19	15	148.78	-325	-214	726	700	26.55	27.353		
3700	3612	3905	3806	19	16	148.58	-346	-197	725	697	27.43	26.427		
3800	3709	4002	3899	20	16	148.40	-367	-180	724	696	28.29	25.585		
3900	3806	4102	3995	20	17	148.23	-388	-164	723	694	29.16	24.797		
4000	3902	4197	4087	21	17	148.13	-407	-148	723	693	30.00	24.091		
4100	3999	4306	4192	22	18	147.97	-429	-129	722	691	30.90	23.376		
4200	4096	4412	4294	22	18	147.75	-452	-111	720	688	31.82	22.638		
4300	4193	4499	4378	23	19	147.61	-470	-95	719	686	32.66	22.013		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Chaco 2206 02H 272H - OH - OH													Offset Site Error: 0 ft	
Survey Program: Reference		463-SDI MWD						Rule Assigned:					Offset Well Error: 0 ft	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
4400	4290	4597	4473	23	19	147.54	-489	-79	719	685	33.50	21.449	21.354 CC, ES	
4418	4307	4614	4489	23	19	147.54	-493	-76	719	685	33.65	21.008		
4500	4387	4674	4547	24	20	147.55	-503	-67	719	685	34.25	20.810		
4560	4445	4715	4587	24	20	147.47	-512	-61	722	687	34.68	20.771 SF		
4600	4483	4737	4608	25	20	147.70	-516	-59	726	691	34.93	20.832		
4650	4530	4769	4639	25	20	147.61	-524	-58	735	699	35.26			
4700	4575	4791	4660	25	20	147.19	-529	-57	748	713	35.47	21.097		
4750	4619	4813	4682	26	20	146.44	-535	-57	767	731	35.67	21.500		
4800	4660	4832	4700	26	20	145.34	-540	-58	790	754	35.78	22.071		
4850	4700	4864	4731	27	20	143.97	-550	-61	817	781	36.10	22.623		
4900	4736	4877	4743	28	21	142.12	-553	-63	847	811	36.10	23.471		
4950	4770	4895	4760	28	21	139.89	-558	-65	881	845	36.17	24.356		
5000	4801	4916	4780	29	21	137.24	-564	-68	918	881	36.31	25.275		
5050	4829	4926	4789	30	21	133.64	-567	-70	957	920	36.24	26.399		
5100	4853	4940	4802	31	21	129.31	-571	-72	998	962	36.26	27.524		
5150	4874	4947	4809	32	21	123.59	-573	-74	1041	1005	36.18	28.778		
5200	4891	4958	4820	33	21	116.78	-575	-76	1086	1050	36.19	30.002		
5250	4905	4958	4820	33	21	107.47	-575	-76	1131	1095	36.02	31.408		
5300	4914	4958	4820	34	21	96.41	-575	-76	1178	1142	35.88	32.826		
5350	4920	4958	4820	35	21	84.22	-575	-76	1225	1189	35.77	34.243		
5396	4922	4958	4820	36	21	72.91	-575	-76	1268	1233	35.68	35.540		
5400	4922	4958	4820	36	21	72.91	-575	-76	1272	1236	35.68	35.648		
5500	4922	4958	4820	38	21	72.85	-575	-76	1366	1331	35.54	38.447		
5600	4923	4958	4820	41	21	72.79	-575	-76	1462	1426	35.42	41.260		
5700	4923	4958	4820	43	21	72.72	-575	-76	1557	1522	35.33	44.083		
5800	4924	4958	4820	45	21	72.64	-575	-76	1654	1618	35.25	46.915		
5900	4924	4958	4820	47	21	72.57	-575	-76	1750	1715	35.18	49.751		
6000	4924	4958	4820	49	21	72.48	-575	-76	1847	1812	35.13	52.591		
6100	4924	4958	4820	51	21	72.39	-575	-76	1945	1910	35.08	55.433		
6200	4924	4958	4820	54	21	72.30	-575	-76	2042	2007	35.05	58.276		
6300	4925	4958	4820	56	21	72.20	-575	-76	2140	2105	35.02	61.119		
6400	4925	4958	4820	58	21	72.10	-575	-76	2238	2203	34.99	63.960		
6500	4925	4958	4820	61	21	72.00	-575	-76	2336	2301	34.98	66.799		
6600	4925	4958	4820	63	21	71.88	-575	-76	2435	2400	34.96	69.636		
6700	4925	4958	4820	65	21	71.77	-575	-76	2533	2498	34.95	72.470		
6800	4925	4958	4820	68	21	71.65	-575	-76	2632	2597	34.95	75.300		
6900	4925	4958	4820	70	21	71.52	-575	-76	2730	2695	34.95	78.127		
7000	4925	4958	4820	72	21	71.39	-575	-76	2829	2794	34.95	80.949		
7100	4924	4958	4820	75	21	71.26	-575	-76	2928	2893	34.95	83.766		
7200	4924	4958	4820	77	21	71.12	-575	-76	3027	2992	34.96	86.578		
7300	4924	4958	4820	80	21	70.98	-575	-76	3126	3091	34.97	89.385		
7400	4924	4958	4820	82	21	70.83	-575	-76	3225	3190	34.98	92.186		
7500	4923	4958	4820	84	21	70.68	-575	-76	3324	3289	35.00	94.982		
7600	4923	4958	4820	87	21	70.52	-575	-76	3423	3388	35.01	97.771		
7700	4923	4958	4820	89	21	70.36	-575	-76	3522	3487	35.03	100.553		
7800	4922	4958	4820	92	21	70.20	-575	-76	3622	3587	35.05	103.329		
7900	4922	4958	4820	94	21	70.03	-575	-76	3721	3686	35.07	106.099		
8000	4921	4958	4820	96	21	69.85	-575	-76	3820	3785	35.09	108.861		
8100	4921	4958	4820	99	21	69.68	-575	-76	3920	3885	35.12	111.616		
8200	4920	4958	4820	101	21	69.49	-575	-76	4019	3984	35.14	114.364		
8300	4919	4958	4820	104	21	69.31	-575	-76	4118	4083	35.17	117.104		
8400	4919	4958	4820	106	21	69.12	-575	-76	4218	4183	35.20	119.836		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Chaco 2206 02H 272H - OH - OH													Offset Site Error:	0 ft	
Survey Program:		463-SDI MWD						Rule Assigned:						Offset Well Error:	0 ft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance				Warning					
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	+N/-S	+E/-W	Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)				
8500	4918	4958	4820	109	21	68.92	-575	-76	4317	4282	35.23	122.560			
8600	4917	4958	4820	111	21	68.72	-575	-76	4417	4382	35.26	125.277			
8700	4917	4958	4820	113	21	68.52	-575	-76	4516	4481	35.29	127.985			
8800	4916	4958	4820	116	21	68.32	-575	-76	4616	4581	35.32	130.685			
8900	4915	4958	4820	118	21	68.11	-575	-76	4715	4680	35.35	133.376			
9000	4914	4958	4820	121	21	67.89	-575	-76	4815	4780	35.39	136.059			
9100	4913	4958	4820	123	21	67.67	-575	-76	4915	4879	35.42	138.732			
9200	4912	4958	4820	126	21	67.45	-575	-76	5014	4979	35.46	141.398			
9300	4911	4958	4820	128	21	67.23	-575	-76	5114	5078	35.50	144.054			
9400	4910	4958	4820	131	21	67.00	-575	-76	5213	5178	35.54	146.701			
9500	4909	4958	4820	133	21	66.76	-575	-76	5313	5277	35.58	149.339			
9600	4908	4958	4820	135	21	66.53	-575	-76	5413	5377	35.62	151.967			
9700	4907	4958	4820	138	21	66.29	-575	-76	5512	5477	35.66	154.586			
9800	4906	4958	4820	140	21	66.04	-575	-76	5612	5576	35.70	157.196			
9900	4904	4958	4820	143	21	65.80	-575	-76	5712	5676	35.74	159.796			
10,000	4903	4958	4820	145	21	65.55	-575	-76	5811	5776	35.79	162.386			
10,100	4902	4958	4820	148	21	65.29	-575	-76	5911	5875	35.83	164.967			
10,200	4900	4958	4820	150	21	65.04	-575	-76	6011	5975	35.88	167.538			
10,305	4899	4958	4820	153	21	64.76	-575	-76	6115	6079	35.93	170.217			



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Chaco 2206 02P 227H - OH - OH													Offset Site Error:	0 ft
Survey Program: 465-MWD													Offset Well Error:	0 ft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0	0	24	24	0	0	-156.40	-2781	-1215	3035					
100	100	118	118	0	0	-156.41	-2781	-1215	3035	3035	0.29	N/A		
200	200	212	212	1	0	-156.42	-2782	-1214	3035	3034	0.76	4,014.876		
300	300	307	307	1	0	-156.43	-2782	-1214	3036	3034	1.22	2,491.228		
400	400	401	401	1	0	-156.46	-2784	-1213	3036	3035	1.68	1,806.190		
450	450	448	448	1	0	-156.47	-2784	-1212	3037	3035	1.91	1,587.980		
500	500	515	515	2	1	65.43	-2785	-1211	3037	3035	2.21	1,374.019		
600	600	755	755	2	1	65.50	-2784	-1202	3033	3030	3.07	988.716		
700	700	1708	1680	2	5	64.94	-2664	-1034	3009	3002	6.34	474.794		
800	799	1781	1747	3	6	65.47	-2649	-1012	2973	2966	6.97	426.272		
900	898	1926	1882	3	6	65.97	-2618	-967	2936	2928	7.95	369.078		
1000	997	2009	1958	3	7	66.65	-2600	-941	2896	2888	8.72	332.185		
1100	1094	2072	2016	4	7	67.44	-2587	-921	2856	2847	9.40	303.793		
1174	1167	2135	2075	4	8	68.09	-2574	-902	2826	2816	10.01	282.423		
1200	1191	2157	2095	4	8	68.11	-2569	-895	2815	2805	10.22	275.586		
1300	1288	2228	2162	5	9	68.19	-2554	-874	2775	2764	10.99	252.485		
1400	1385	2323	2250	6	9	68.30	-2534	-847	2735	2723	11.87	230.475		
1500	1482	2438	2357	6	10	68.38	-2510	-811	2693	2681	12.87	209.250		
1600	1579	2530	2443	7	11	68.46	-2491	-783	2652	2639	13.78	192.479		
1700	1676	2656	2558	7	12	68.55	-2464	-743	2610	2595	14.84	175.887		
1800	1772	2736	2633	8	12	68.62	-2446	-718	2568	2552	15.71	163.430		
1900	1869	2820	2711	8	13	68.72	-2427	-693	2526	2509	16.59	152.257		
2000	1966	2923	2807	9	13	68.87	-2404	-662	2484	2466	17.53	141.648		
2100	2063	2990	2868	10	14	68.96	-2389	-642	2442	2424	18.37	132.945		
2200	2160	3055	2929	10	14	69.04	-2375	-623	2401	2382	19.20	125.054		
2300	2257	3142	3010	11	15	69.16	-2357	-597	2361	2341	20.10	117.438		
2400	2353	3234	3096	11	16	69.29	-2338	-570	2321	2300	21.02	110.409		
2500	2450	3352	3206	12	16	69.45	-2313	-535	2279	2257	22.03	103.487		
2600	2547	3467	3312	13	17	69.60	-2288	-499	2238	2215	23.02	97.195		
2700	2644	3540	3380	13	18	69.70	-2272	-477	2195	2172	23.91	91.807		
2800	2741	3639	3471	14	18	69.85	-2250	-446	2154	2129	24.86	86.649		
2900	2837	3734	3559	14	19	70.00	-2230	-418	2112	2086	25.79	81.893		
3000	2934	3823	3642	15	20	70.13	-2210	-390	2070	2043	26.72	77.471		
3100	3031	3919	3730	16	20	70.29	-2188	-361	2028	2000	27.64	73.356		
3200	3128	3992	3798	16	21	70.43	-2172	-338	1986	1957	28.54	69.585		
3300	3225	4061	3862	17	21	70.54	-2158	-317	1945	1916	29.43	66.085		
3400	3322	4160	3954	17	22	70.70	-2137	-287	1904	1874	30.38	62.694		
3500	3418	4249	4037	18	23	70.87	-2119	-260	1864	1832	31.30	59.544		
3600	3515	4398	4174	19	24	71.06	-2087	-211	1822	1789	32.33	56.348		
3700	3612	4484	4252	19	25	71.12	-2068	-181	1778	1745	33.31	53.380		
3800	3709	4547	4310	20	25	71.22	-2054	-161	1735	1701	34.24	50.691		
3900	3806	4610	4369	20	25	71.38	-2040	-142	1694	1659	35.14	48.220		
4000	3902	4677	4432	21	26	71.58	-2026	-123	1655	1619	36.02	45.936		
4100	3999	4735	4487	22	26	71.79	-2015	-108	1617	1580	36.89	43.820		
4200	4096	4859	4604	22	27	72.60	-1986	-83	1578	1540	37.58	41.989		
4300	4193	4910	4653	23	27	73.22	-1971	-79	1541	1502	38.29	40.237		
4400	4290	4925	4667	23	27	73.44	-1966	-78	1507	1467	39.09	38.538		
4500	4387	4988	4728	24	27	74.45	-1950	-81	1477	1437	39.63	37.274		
4560	4445	4988	4728	24	27	74.45	-1950	-81	1461	1421	40.07	36.457		
4600	4483	4988	4728	25	27	75.80	-1950	-81	1451	1411	40.35	35.961		
4650	4530	4988	4728	25	27	77.21	-1950	-81	1440	1399	40.70	35.374		
4700	4575	5021	4760	25	27	79.25	-1943	-84	1428	1387	40.97	34.860		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Chaco 2206 02P 227H - OH - OH													Offset Site Error: 0 ft	
Survey Program: 465-MWD		Offset		Semi Major Axis		Offset Wellbore Centre			Rule Assigned:				Offset Well Error: 0 ft	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
4750	4619	5052	4790	26	27	81.28	-1936	-89	1418	1377	41.27	34.356		
4800	4660	5052	4790	26	27	82.32	-1936	-89	1408	1366	41.66	33.792		
4850	4700	5052	4790	27	27	83.21	-1936	-89	1399	1357	42.06	33.263		
4900	4736	5071	4808	28	27	84.65	-1933	-93	1392	1349	42.47	32.765		
4950	4770	5082	4818	28	27	85.67	-1931	-95	1385	1342	42.92	32.271		
5000	4801	5090	4827	29	27	86.51	-1929	-97	1380	1337	43.42	31.788		
5050	4829	5097	4833	30	27	87.13	-1928	-98	1377	1333	43.96	31.317		
5100	4853	5116	4851	31	27	88.09	-1924	-103	1375	1330	44.59	30.839		
5132	4867	5116	4851	31	27	88.14	-1924	-103	1375	1330	45.00	30.546	CC	
5150	4874	5116	4851	32	27	88.14	-1924	-103	1375	1330	45.23	30.395	ES	
5200	4891	5116	4851	33	27	88.03	-1924	-103	1376	1330	45.92	29.967		
5250	4905	5116	4851	33	27	87.75	-1924	-103	1379	1333	46.68	29.553		
5300	4914	5116	4851	34	27	87.32	-1924	-103	1384	1337	47.48	29.155		
5350	4920	5116	4851	35	27	86.73	-1924	-103	1391	1342	48.34	28.773		
5396	4922	5096	4832	36	27	85.27	-1928	-98	1398	1349	49.03	28.510		
5400	4922	5096	4832	36	27	85.25	-1928	-98	1399	1349	49.10	28.484		
5500	4922	5084	4820	38	27	84.77	-1930	-96	1419	1368	50.87	27.902		
5600	4923	5072	4809	41	27	84.29	-1932	-93	1446	1394	52.66	27.468		
5700	4923	5052	4790	43	27	83.49	-1936	-89	1480	1425	54.35	27.224		
5800	4924	5052	4790	45	27	83.48	-1936	-89	1518	1462	56.14	27.045		
5900	4924	5052	4790	47	27	83.47	-1936	-89	1562	1505	57.82	27.020	SF	
6000	4924	5052	4790	49	27	83.46	-1936	-89	1612	1552	59.38	27.141		
6100	4924	5028	4767	51	27	82.51	-1941	-86	1665	1604	60.60	27.470		
6200	4924	5022	4761	54	27	82.23	-1942	-85	1722	1660	61.83	27.855		
6300	4925	5015	4754	56	27	81.96	-1944	-84	1783	1721	62.92	28.344		
6400	4925	4988	4728	58	27	80.88	-1950	-81	1848	1785	63.74	28.999		
6500	4925	4988	4728	61	27	80.86	-1950	-81	1916	1851	64.64	29.636		
6600	4925	4988	4728	63	27	80.84	-1950	-81	1986	1920	65.42	30.350		
6700	4925	4988	4728	65	27	80.81	-1950	-81	2058	1992	66.11	31.131		
6800	4925	4988	4728	68	27	80.79	-1950	-81	2133	2066	66.70	31.973		
6900	4925	4988	4728	70	27	80.76	-1950	-81	2209	2142	67.22	32.868		
7000	4925	4988	4728	72	27	80.74	-1950	-81	2288	2220	67.67	33.810		
7100	4924	4988	4728	75	27	80.71	-1950	-81	2368	2300	68.05	34.794		
7200	4924	4963	4704	77	27	79.72	-1956	-79	2449	2381	68.28	35.869		
7300	4924	4957	4698	80	27	79.47	-1957	-79	2532	2463	68.55	36.931		
7400	4924	4951	4692	82	27	79.22	-1959	-79	2615	2547	68.79	38.021		
7500	4923	4925	4667	84	27	78.22	-1966	-78	2701	2632	68.94	39.174		
7600	4923	4925	4667	87	27	78.19	-1966	-78	2786	2717	69.14	40.298		
7700	4923	4925	4667	89	27	78.15	-1966	-78	2873	2803	69.32	41.445		
7800	4922	4925	4667	92	27	78.11	-1966	-78	2960	2891	69.47	42.612		
7900	4922	4925	4667	94	27	78.07	-1966	-78	3048	2979	69.60	43.798		
8000	4921	4925	4667	96	27	78.03	-1966	-78	3137	3068	69.72	45.001		
8100	4921	4925	4667	99	27	77.99	-1966	-78	3227	3157	69.82	46.219		
8200	4920	4925	4667	101	27	77.94	-1966	-78	3317	3247	69.90	47.452		
8300	4919	4925	4667	104	27	77.90	-1966	-78	3408	3338	69.98	48.697		
8400	4919	4925	4667	106	27	77.85	-1966	-78	3499	3429	70.04	49.953		
8500	4918	4925	4667	109	27	77.80	-1966	-78	3591	3520	70.10	51.221		
8600	4917	4925	4667	111	27	77.75	-1966	-78	3683	3613	70.15	52.498		
8700	4917	4925	4667	113	27	77.70	-1966	-78	3775	3705	70.19	53.783		
8800	4916	4925	4667	116	27	77.65	-1966	-78	3868	3798	70.23	55.077		
8900	4915	4896	4640	118	27	76.57	-1975	-79	3960	3890	70.22	56.399		
9000	4914	4894	4637	121	27	76.44	-1976	-79	4054	3984	70.25	57.707		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Chaco 2206 02P 227H - OH - OH													Offset Site Error: 0 ft	
Survey Program: 465-MWD													Offset Well Error: 0 ft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
9100	4913	4892	4635	123	27	76.31	-1976	-80	4147	4077	70.27	59.020		
9200	4912	4862	4607	126	27	75.24	-1985	-82	4242	4172	70.27	60.369		
9300	4911	4862	4607	128	27	75.18	-1985	-82	4336	4266	70.29	61.688		
9400	4910	4862	4607	131	27	75.12	-1985	-82	4431	4360	70.31	63.012		
9500	4909	4862	4607	133	27	75.06	-1985	-82	4525	4455	70.33	64.342		
9600	4908	4862	4607	135	27	75.00	-1985	-82	4620	4550	70.35	65.675		
9700	4907	4862	4607	138	27	74.93	-1985	-82	4715	4645	70.36	67.013		
9800	4906	4862	4607	140	27	74.87	-1985	-82	4810	4740	70.38	68.354		
9900	4904	4862	4607	143	27	74.80	-1985	-82	4906	4835	70.39	69.698		
10,000	4903	4862	4607	145	27	74.73	-1985	-82	5001	4931	70.40	71.045		
10,100	4902	4862	4607	148	27	74.66	-1985	-82	5097	5027	70.41	72.395		
10,200	4900	4862	4607	150	27	74.59	-1985	-82	5193	5123	70.42	73.747		
10,305	4899	4862	4607	153	27	74.52	-1985	-82	5294	5223	70.43	75.165		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Chaco 2206 2P 228H - OH - OH													Offset Site Error:	0 ft
Survey Program: 469-MWD													Offset Well Error:	0 ft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance				Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0	0	40	40	0	0	-156.87	-2817	-1203	3063					
100	100	198	198	0	0	-156.82	-2814	-1205	3062	3061	0.42	7,226.660		
200	200	356	355	1	0	-156.70	-2807	-1209	3059	3058	0.98	3,120.327		
300	300	513	512	1	1	-156.51	-2795	-1215	3053	3052	1.54	1,985.168		
400	400	530	529	1	1	-156.50	-2795	-1215	3049	3047	1.97	1,546.573		
450	450	556	555	1	1	-156.48	-2793	-1216	3048	3045	2.20	1,384.599		
500	500	592	591	2	1	65.50	-2792	-1217	3046	3044	2.44	1,247.134		
600	600	641	641	2	1	65.61	-2791	-1218	3044	3041	2.88	1,058.148		
700	700	713	712	2	1	65.78	-2791	-1219	3041	3038	3.37	903.221		
800	799	803	803	3	1	66.02	-2791	-1220	3037	3033	3.91	776.775		
900	898	906	905	3	1	66.37	-2791	-1221	3032	3028	4.50	673.475		
1000	997	1006	1005	3	2	66.80	-2792	-1222	3026	3021	5.12	591.032		
1100	1094	1095	1094	4	2	67.28	-2792	-1223	3018	3013	5.75	524.996		
1174	1167	1170	1170	4	2	67.72	-2792	-1224	3012	3006	6.26	480.820		
1200	1191	1198	1197	4	2	67.84	-2792	-1224	3010	3003	6.45	466.722		
1300	1288	1305	1304	5	2	68.33	-2792	-1225	3001	2993	7.18	417.661		
1400	1385	1402	1401	6	3	68.78	-2792	-1225	2991	2984	7.92	377.848		
1500	1482	1484	1483	6	3	69.14	-2793	-1225	2983	2974	8.62	345.882		
1600	1579	1575	1574	7	3	69.50	-2795	-1223	2975	2965	9.35	318.027		
1700	1676	1668	1666	7	3	69.81	-2799	-1218	2967	2957	10.09	293.987		
1800	1772	1759	1757	8	3	70.08	-2803	-1212	2959	2948	10.84	273.054		
1900	1869	1868	1866	8	3	70.35	-2810	-1202	2952	2940	11.63	253.715		
2000	1966	1973	1969	9	4	70.55	-2817	-1190	2944	2932	12.44	236.616		
2100	2063	2104	2099	10	4	70.76	-2828	-1171	2936	2922	13.34	220.039		
2200	2160	2224	2217	10	4	70.88	-2837	-1151	2926	2912	14.25	205.306		
2300	2257	2327	2318	11	5	70.94	-2846	-1132	2917	2902	15.16	192.409		
2400	2353	2413	2401	11	5	70.94	-2855	-1114	2907	2891	16.05	181.195		
2500	2450	2499	2484	12	5	70.91	-2865	-1094	2898	2881	16.97	170.831		
2600	2547	2601	2583	13	6	70.85	-2878	-1070	2890	2872	17.93	161.143		
2700	2644	2703	2681	13	6	70.80	-2890	-1047	2881	2862	18.90	152.456		
2800	2741	2797	2772	14	7	70.73	-2902	-1024	2872	2852	19.88	144.447		
2900	2837	2899	2870	14	7	70.67	-2914	-1000	2863	2842	20.87	137.191		
3000	2934	3007	2974	15	7	70.61	-2927	-975	2854	2833	21.92	130.204		
3100	3031	3121	3084	16	8	70.55	-2941	-948	2845	2822	23.02	123.596		
3200	3128	3228	3188	16	8	70.48	-2953	-923	2835	2811	24.08	117.766		
3300	3225	3328	3284	17	9	70.45	-2963	-900	2825	2800	25.09	112.614		
3400	3322	3424	3378	17	9	70.46	-2973	-880	2816	2789	26.07	107.981		
3500	3418	3515	3466	18	10	70.50	-2981	-862	2806	2779	27.02	103.830		
3600	3515	3609	3558	19	10	70.58	-2989	-845	2797	2769	27.97	99.981		
3700	3612	3695	3643	19	10	70.69	-2996	-832	2788	2759	28.87	96.562		
3800	3709	3799	3746	20	11	70.89	-3003	-819	2779	2749	29.79	93.280		
3900	3806	3909	3856	20	11	71.19	-3008	-808	2770	2739	30.69	90.267		
4000	3902	4019	3965	21	11	71.55	-3011	-800	2761	2729	31.55	87.503		
4100	3999	4149	4095	22	12	72.03	-3013	-791	2750	2718	32.42	84.830		
4200	4096	4235	4181	22	12	72.39	-3012	-788	2740	2707	33.20	82.532		
4300	4193	4298	4244	23	12	72.67	-3013	-785	2731	2697	33.94	80.463		
4400	4290	4373	4319	23	12	73.01	-3013	-783	2722	2688	34.69	78.484		
4500	4387	4455	4401	24	12	73.40	-3014	-782	2715	2680	35.44	76.608		
4560	4445	4508	4454	24	12	73.65	-3014	-782	2711	2675	35.90	75.524		
4600	4483	4545	4491	25	12	74.59	-3015	-782	2708	2672	36.22	74.763		
4650	4530	4596	4542	25	12	75.71	-3015	-782	2704	2667	36.69	73.691		
4700	4575	4643	4589	25	12	76.81	-3016	-781	2699	2661	37.21	72.523		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Chaco 2206 2P 228H - OH - OH												Offset Site Error:	0 ft
Survey Program: 469-MWD												Offset Well Error:	0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4750	4619	4685	4631	26	12	77.92	-3016	-781	2693	2655	37.78	71.274	
4800	4660	4725	4670	26	13	79.07	-3016	-781	2686	2648	38.40	69.951	
4850	4700	4764	4710	27	13	80.28	-3017	-780	2680	2641	39.08	68.563	
4900	4736	4803	4749	28	13	81.54	-3017	-780	2673	2633	39.82	67.124	
4950	4770	4804	4750	28	13	82.22	-3017	-780	2666	2625	40.54	65.758	
5000	4801	4804	4750	29	13	82.84	-3017	-780	2660	2618	41.31	64.382	
5050	4829	4804	4750	30	13	83.40	-3017	-780	2654	2612	42.12	63.005	
5100	4853	4830	4776	31	13	84.43	-3017	-781	2648	2605	43.02	61.554	
5150	4874	4835	4781	32	13	84.99	-3018	-781	2643	2599	43.92	60.180	
5200	4891	4838	4784	33	13	85.47	-3018	-781	2639	2594	44.85	58.833	
5250	4905	4841	4787	33	13	85.87	-3018	-781	2635	2589	45.80	57.523	
5300	4914	4867	4813	34	13	86.72	-3018	-784	2632	2586	46.83	56.208	
5350	4920	4867	4813	35	13	86.93	-3018	-784	2630	2582	47.82	54.999	
5396	4922	4867	4813	36	13	87.07	-3018	-784	2629	2580	48.74	53.935	
5400	4922	4867	4813	36	13	87.07	-3018	-784	2629	2580	48.81	53.849	
5459	4922	4867	4813	38	13	87.07	-3018	-784	2628	2578	50.00	52.560 CC	
5500	4922	4867	4813	38	13	87.07	-3018	-784	2628	2577	50.81	51.726 ES	
5600	4923	4842	4787	41	13	86.51	-3018	-782	2631	2578	52.75	49.881	
5700	4923	4841	4787	43	13	86.50	-3018	-781	2638	2583	54.72	48.211	
5800	4924	4840	4786	45	13	86.48	-3018	-781	2649	2592	56.67	46.750	
5900	4924	4840	4785	47	13	86.46	-3018	-781	2664	2605	58.57	45.484	
6000	4924	4839	4785	49	13	86.44	-3018	-781	2682	2622	60.41	44.400	
6100	4924	4838	4784	51	13	86.43	-3018	-781	2704	2642	62.19	43.483	
6200	4924	4838	4784	54	13	86.41	-3018	-781	2729	2665	63.89	42.719	
6300	4925	4837	4783	56	13	86.39	-3018	-781	2758	2693	65.52	42.098	
6400	4925	4837	4783	58	13	86.37	-3018	-781	2790	2723	67.06	41.606	
6500	4925	4836	4782	61	13	86.35	-3018	-781	2825	2757	68.52	41.232	
6600	4925	4836	4782	63	13	86.33	-3018	-781	2864	2794	69.90	40.968	
6700	4925	4835	4781	65	13	86.31	-3018	-781	2905	2834	71.19	40.803	
6800	4925	4835	4781	68	13	86.29	-3018	-781	2949	2876	72.40	40.730 SF	
6900	4925	4834	4780	70	13	86.27	-3018	-781	2996	2922	73.53	40.741	
7000	4925	4834	4780	72	13	86.24	-3018	-781	3045	2970	74.58	40.828	
7100	4924	4833	4779	75	13	86.22	-3017	-781	3097	3021	75.55	40.987	
7200	4924	4833	4779	77	13	86.20	-3017	-781	3151	3074	76.45	41.210	
7300	4924	4832	4778	80	13	86.17	-3017	-781	3207	3130	77.29	41.494	
7400	4924	4832	4778	82	13	86.15	-3017	-781	3265	3187	78.05	41.833	
7500	4923	4832	4778	84	13	86.12	-3017	-781	3326	3247	78.76	42.224	
7600	4923	4804	4750	87	13	85.51	-3017	-780	3389	3309	79.30	42.729	
7700	4923	4804	4750	89	13	85.49	-3017	-780	3453	3373	79.90	43.210	
7800	4922	4804	4750	92	13	85.47	-3017	-780	3518	3438	80.45	43.731	
7900	4922	4804	4750	94	13	85.45	-3017	-780	3585	3504	80.95	44.289	
8000	4921	4804	4750	96	13	85.43	-3017	-780	3654	3573	81.41	44.883	
8100	4921	4804	4750	99	13	85.41	-3017	-780	3724	3642	81.83	45.509	
8200	4920	4804	4750	101	13	85.39	-3017	-780	3796	3714	82.22	46.166	
8300	4919	4804	4750	104	13	85.36	-3017	-780	3868	3786	82.57	46.851	
8400	4919	4804	4750	106	13	85.34	-3017	-780	3942	3859	82.89	47.562	
8500	4918	4804	4750	109	13	85.31	-3017	-780	4017	3934	83.18	48.298	
8600	4917	4804	4750	111	13	85.29	-3017	-780	4094	4010	83.45	49.057	
8700	4917	4804	4750	113	13	85.26	-3017	-780	4171	4087	83.69	49.837	
8800	4916	4804	4750	116	13	85.24	-3017	-780	4249	4165	83.90	50.637	
8900	4915	4804	4750	118	13	85.21	-3017	-780	4328	4244	84.10	51.457	
9000	4914	4804	4750	121	13	85.18	-3017	-780	4408	4323	84.28	52.294	



Lonestar Consulting, LLC
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Chaco 2206 2P 228H - OH - OH												Offset Site Error:	0 ft
Survey Program: 469-MWD												Offset Well Error:	0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
9100	4913	4804	4750	123	13	85.15	-3017	-780	4488	4404	84.45	53.148	
9200	4912	4804	4750	126	13	85.12	-3017	-780	4570	4485	84.59	54.017	
9300	4911	4804	4750	128	13	85.09	-3017	-780	4652	4567	84.73	54.902	
9400	4910	4804	4750	131	13	85.06	-3017	-780	4734	4650	84.85	55.800	
9500	4909	4804	4750	133	13	85.02	-3017	-780	4818	4733	84.96	56.711	
9600	4908	4804	4750	135	13	84.99	-3017	-780	4902	4817	85.05	57.635	
9700	4907	4804	4750	138	13	84.96	-3017	-780	4987	4902	85.14	58.570	
9800	4906	4804	4750	140	13	84.92	-3017	-780	5072	4987	85.22	59.516	
9900	4904	4804	4750	143	13	84.88	-3017	-780	5158	5072	85.29	60.473	
10,000	4903	4804	4750	145	13	84.85	-3017	-780	5244	5159	85.35	61.439	
10,100	4902	4804	4750	148	13	84.81	-3017	-780	5331	5245	85.41	62.415	
10,200	4900	4804	4750	150	13	84.77	-3017	-780	5418	5332	85.45	63.400	
10,305	4899	4804	4750	153	13	84.73	-3017	-780	5509	5424	85.50	64.439	



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Logos 601H - OH - OH												Offset Site Error:	0 ft
Survey Program: 562-MWD												Offset Well Error:	0 ft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0	0	10,747	5403	0	153	74.80	1388	5106	7582				
100	100	10,747	5403	0	153	74.80	1388	5106	7511	7466	44.59	168.434	
200	200	10,747	5403	1	153	74.80	1388	5106	7440	7396	44.66	166.612	
300	300	10,747	5403	1	153	74.80	1388	5106	7370	7326	44.76	164.651	
400	400	10,747	5403	1	153	74.80	1388	5106	7301	7256	44.91	162.570	
450	450	10,747	5403	1	153	74.80	1388	5106	7267	7222	45.00	161.492	
500	500	10,747	5403	2	153	-64.13	1388	5106	7232	7187	45.10	160.365	
600	600	10,747	5403	2	153	-65.85	1388	5106	7163	7118	45.36	157.936	
700	700	10,747	5403	2	153	-67.61	1388	5106	7094	7049	45.69	155.269	
800	799	10,747	5403	3	153	-69.41	1388	5106	7025	6979	46.10	152.392	
900	898	10,747	5403	3	153	-71.23	1388	5106	6955	6909	46.58	149.310	
1000	997	10,747	5403	3	153	-73.08	1388	5106	6886	6838	47.15	146.027	
1100	1094	10,747	5403	4	153	-74.94	1388	5106	6816	6768	47.82	142.548	
1174	1167	10,747	5403	4	153	-76.34	1388	5106	6764	6716	48.37	139.833	
1200	1191	10,747	5403	4	153	-76.34	1388	5106	6746	6698	48.58	138.883	
1300	1288	10,747	5403	5	153	-76.34	1388	5106	6678	6628	49.39	135.199	
1400	1385	10,747	5403	6	153	-76.34	1388	5106	6609	6559	50.25	131.544	
1500	1482	10,747	5403	6	153	-76.34	1388	5106	6542	6491	51.14	127.933	
1600	1579	10,747	5403	7	153	-76.34	1388	5106	6476	6424	52.06	124.379	
1700	1676	10,747	5403	7	153	-76.34	1388	5106	6410	6357	53.02	120.890	
1800	1772	10,747	5403	8	153	-76.34	1388	5106	6345	6291	54.02	117.473	
1900	1869	10,747	5403	8	153	-76.34	1388	5106	6282	6227	55.04	114.133	
2000	1966	10,747	5403	9	153	-76.34	1388	5106	6219	6163	56.09	110.873	
2100	2063	10,747	5403	10	153	-76.34	1388	5106	6157	6100	57.17	107.696	
2200	2160	10,747	5403	10	153	-76.34	1388	5106	6096	6038	58.28	104.604	
2300	2257	10,747	5403	11	153	-76.34	1388	5106	6037	5977	59.42	101.598	
2400	2353	10,747	5403	11	153	-76.34	1388	5106	5978	5917	60.58	98.678	
2500	2450	10,747	5403	12	153	-76.34	1388	5106	5920	5859	61.77	95.846	
2600	2547	10,747	5403	13	153	-76.34	1388	5106	5864	5801	62.98	93.101	
2700	2644	10,747	5403	13	153	-76.34	1388	5106	5809	5744	64.22	90.443	
2800	2741	10,747	5403	14	153	-76.34	1388	5106	5755	5689	65.49	87.871	
2900	2837	10,747	5403	14	153	-76.34	1388	5106	5702	5635	66.78	85.386	
3000	2934	10,747	5403	15	153	-76.34	1388	5106	5650	5582	68.09	82.987	
3100	3031	10,747	5403	16	153	-76.34	1388	5106	5600	5531	69.42	80.672	
3200	3128	10,747	5403	16	153	-76.34	1388	5106	5551	5480	70.77	78.441	
3300	3225	10,747	5403	17	153	-76.34	1388	5106	5504	5431	72.14	76.292	
3400	3322	10,747	5403	17	153	-76.34	1388	5106	5458	5384	73.53	74.224	
3500	3418	10,747	5403	18	153	-76.34	1388	5106	5413	5338	74.93	72.237	
3600	3515	10,747	5403	19	153	-76.34	1388	5106	5370	5293	76.35	70.329	
3700	3612	10,747	5403	19	153	-76.34	1388	5106	5328	5250	77.79	68.497	
3800	3709	10,747	5403	20	153	-76.34	1388	5106	5288	5209	79.23	66.743	
3900	3806	10,747	5403	20	153	-76.34	1388	5106	5250	5169	80.69	65.062	
4000	3902	10,747	5403	21	153	-76.34	1388	5106	5213	5131	82.15	63.455	
4100	3999	10,747	5403	22	153	-76.34	1388	5106	5178	5094	83.62	61.920	
4200	4096	10,747	5403	22	153	-76.34	1388	5106	5144	5059	85.10	60.455	
4300	4193	10,747	5403	23	153	-76.34	1388	5106	5113	5026	86.57	59.058	
4400	4290	10,747	5403	23	153	-76.34	1388	5106	5083	4995	88.05	57.729	
4500	4387	10,747	5403	24	153	-76.34	1388	5106	5055	4965	89.52	56.465	
4560	4445	10,747	5403	24	153	-76.34	1388	5106	5039	4948	90.40	55.739	
4600	4483	10,747	5403	25	153	-76.83	1388	5106	5028	4937	91.03	55.233	
4650	4530	10,747	5403	25	153	-77.70	1388	5106	5014	4922	91.96	54.530	
4700	4575	10,747	5403	25	153	-78.75	1388	5106	5000	4907	93.02	53.755	



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Logos 601H - OH - OH													Offset Site Error: 0 ft	
Survey Program: 562-MWD		Offset		Semi Major Axis		Offset Wellbore Centre			Rule Assigned:				Offset Well Error: 0 ft	
Measured Depth	Vertical Reference	Measured Depth	Vertical Offset	Reference	Offset	Highside Toolface	+N/-S	+E/-W	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)			
4750	4619	10,747	5403	26	153	-79.92	1388	5106	4986	4891	94.22	52.915		
4800	4660	10,747	5403	26	153	-81.16	1388	5106	4971	4875	95.55	52.021		
4850	4700	10,747	5403	27	153	-82.46	1388	5106	4956	4859	97.02	51.081		
4900	4736	10,747	5403	28	153	-83.80	1388	5106	4941	4842	98.61	50.105		
4950	4770	10,747	5403	28	153	-85.15	1388	5106	4926	4825	100.31	49.102		
5000	4801	10,747	5403	29	153	-86.52	1388	5106	4911	4808	102.13	48.082		
5050	4829	10,747	5403	30	153	-87.87	1388	5106	4896	4792	104.05	47.053		
5100	4853	10,747	5403	31	153	-89.21	1388	5106	4881	4775	106.06	46.024		
5150	4874	10,747	5403	32	153	-90.51	1388	5106	4867	4759	108.15	45.002		
5200	4891	10,747	5403	33	153	-91.78	1388	5106	4853	4743	110.31	43.996		
5250	4905	10,747	5403	33	153	-92.99	1388	5106	4840	4728	112.53	43.011		
5300	4914	10,747	5403	34	153	-94.14	1388	5106	4828	4713	114.80	42.055		
5350	4920	10,747	5403	35	153	-95.22	1388	5106	4816	4699	117.09	41.132		
5396	4922	10,747	5403	36	153	-96.16	1388	5106	4806	4687	119.21	40.314		
5400	4922	10,747	5403	36	153	-96.16	1388	5106	4805	4686	119.39	40.247		
5500	4922	10,747	5403	38	153	-96.16	1388	5106	4785	4661	124.02	38.580		
5600	4923	10,747	5403	41	153	-96.16	1388	5106	4767	4638	128.70	37.035		
5700	4923	10,747	5403	43	153	-96.17	1388	5106	4751	4617	133.42	35.606		
5800	4924	10,747	5403	45	153	-96.17	1388	5106	4736	4598	138.15	34.285		
5900	4924	10,747	5403	47	153	-96.17	1388	5106	4724	4582	142.88	33.065		
6000	4924	10,747	5403	49	153	-96.18	1388	5106	4715	4567	147.61	31.939		
6100	4924	10,747	5403	51	153	-96.18	1388	5106	4707	4554	152.32	30.900		
6200	4924	10,747	5403	54	153	-96.18	1388	5106	4701	4544	157.01	29.942		
6300	4925	10,747	5403	56	153	-96.18	1388	5106	4698	4536	161.65	29.060		
6400	4925	10,747	5403	58	153	-96.18	1388	5106	4696	4530	166.25	28.248		
6416	4925	10,747	5403	59	153	-96.18	1388	5106	4696	4529	166.96	28.127	CC	
6500	4925	10,747	5403	61	153	-96.18	1388	5106	4697	4526	170.79	27.501		
6600	4925	10,747	5403	63	153	-96.18	1388	5106	4700	4525	175.27	26.815	ES	
6700	4925	10,747	5403	65	153	-96.18	1388	5106	4705	4525	179.67	26.186		
6800	4925	10,747	5403	68	153	-96.18	1388	5106	4712	4528	184.00	25.608		
6900	4925	10,747	5403	70	153	-96.17	1388	5106	4721	4533	188.24	25.080		
7000	4925	10,747	5403	72	153	-96.17	1388	5106	4732	4540	192.39	24.598		
7100	4924	10,747	5403	75	153	-96.17	1388	5106	4746	4549	196.45	24.159		
7200	4924	10,747	5403	77	153	-96.17	1388	5106	4761	4561	200.40	23.759		
7300	4924	10,747	5403	80	153	-96.16	1388	5106	4779	4575	204.25	23.397		
7400	4924	10,747	5403	82	153	-96.16	1388	5106	4798	4590	207.99	23.070		
7500	4923	10,747	5403	84	153	-96.15	1388	5106	4820	4608	211.62	22.776		
7600	4923	10,747	5403	87	153	-96.15	1388	5106	4843	4628	215.14	22.513		
7700	4923	10,747	5403	89	153	-96.14	1388	5106	4869	4650	218.54	22.279		
7800	4922	10,747	5403	92	153	-96.14	1388	5106	4896	4675	221.83	22.073		
7900	4922	10,747	5403	94	153	-96.13	1388	5106	4926	4701	225.00	21.892		
8000	4921	10,747	5403	96	153	-96.12	1388	5106	4957	4729	228.05	21.736		
8100	4921	10,747	5403	99	153	-96.12	1388	5106	4990	4759	230.98	21.602		
8200	4920	10,747	5403	101	153	-96.11	1388	5106	5024	4791	233.79	21.491		
8300	4919	10,747	5403	104	153	-96.10	1388	5106	5061	4824	236.49	21.399		
8400	4919	10,747	5403	106	153	-96.09	1388	5106	5099	4860	239.08	21.328		
8500	4918	10,747	5403	109	153	-96.08	1388	5106	5139	4897	241.55	21.274		
8600	4917	10,747	5403	111	153	-96.07	1388	5106	5180	4936	243.91	21.238		
8700	4917	10,747	5403	113	153	-96.06	1388	5106	5223	4977	246.16	21.219		
8800	4916	10,747	5403	116	153	-96.05	1388	5106	5268	5020	248.30	21.216	SF	
8900	4915	10,747	5403	118	153	-96.04	1388	5106	5314	5064	250.34	21.227		
9000	4914	10,747	5403	121	153	-96.03	1388	5106	5361	5109	252.27	21.253		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Logos 601H - OH - OH													Offset Site Error:	0 ft
Survey Program: 562-MWD													Offset Well Error:	0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9100	4913	10,747	5403	123	153	-96.01	1388	5106	5410	5156	254.11	21.292		
9200	4912	10,747	5403	126	153	-96.00	1388	5106	5461	5205	255.85	21.344		
9300	4911	10,747	5403	128	153	-95.99	1388	5106	5513	5255	257.50	21.408		
9400	4910	10,747	5403	131	153	-95.98	1388	5106	5566	5307	259.06	21.485		
9500	4909	10,747	5403	133	153	-95.96	1388	5106	5620	5360	260.53	21.572		
9600	4908	10,747	5403	135	153	-95.95	1388	5106	5676	5414	261.92	21.670		
9700	4907	10,747	5403	138	153	-95.93	1388	5106	5732	5469	263.22	21.778		
9800	4906	10,747	5403	140	153	-95.92	1388	5106	5790	5526	264.45	21.896		
9900	4904	10,747	5403	143	153	-95.90	1388	5106	5850	5584	265.61	22.024		
10,000	4903	10,747	5403	145	153	-95.88	1388	5106	5910	5643	266.69	22.160		
10,100	4902	10,747	5403	148	153	-95.87	1388	5106	5971	5703	267.70	22.305		
10,200	4900	10,747	5403	150	153	-95.85	1388	5106	6033	5765	268.65	22.458		
10,305	4899	10,747	5403	153	153	-95.83	1388	5106	6100	5830	269.58	22.627		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Logos 701H - OH - OH												Offset Site Error:	0 ft
Survey Program: 620-MWD												Offset Well Error:	0 ft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance			Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0	0	10,766	5401	0	151	130.00	-4240	5054	8498				
100	100	10,766	5401	0	151	130.00	-4240	5054	8436	8352	84.12	100.288	
200	200	10,766	5401	1	151	130.00	-4240	5054	8374	8289	84.62	98.958	
300	300	10,766	5401	1	151	130.00	-4240	5054	8313	8227	85.18	97.587	
400	400	10,766	5401	1	151	130.00	-4240	5054	8252	8166	85.79	96.187	
450	450	10,766	5401	1	151	130.00	-4240	5054	8222	8136	86.11	95.480	
500	500	10,766	5401	2	151	-8.19	-4240	5054	8192	8106	86.45	94.762	
600	600	10,766	5401	2	151	-8.42	-4240	5054	8130	8043	87.12	93.319	
700	700	10,766	5401	2	151	-8.66	-4240	5054	8067	7979	87.81	91.869	
800	799	10,766	5401	3	151	-8.92	-4240	5054	8001	7913	88.48	90.430	
900	898	10,766	5401	3	151	-9.21	-4240	5054	7934	7845	89.14	89.004	
1000	997	10,766	5401	3	151	-9.53	-4240	5054	7865	7775	89.79	87.593	
1100	1094	10,766	5401	4	151	-9.87	-4240	5054	7794	7703	90.42	86.196	
1174	1167	10,766	5401	4	151	-10.14	-4240	5054	7740	7649	90.88	85.163	
1200	1191	10,766	5401	4	151	-10.14	-4240	5054	7721	7630	91.04	84.809	
1300	1288	10,766	5401	5	151	-10.14	-4240	5054	7648	7556	91.63	83.465	
1400	1385	10,766	5401	6	151	-10.14	-4240	5054	7576	7484	92.24	82.133	
1500	1482	10,766	5401	6	151	-10.14	-4240	5054	7504	7411	92.86	80.816	
1600	1579	10,766	5401	7	151	-10.14	-4240	5054	7433	7340	93.49	79.515	
1700	1676	10,766	5401	7	151	-10.14	-4240	5054	7363	7269	94.12	78.229	
1800	1772	10,766	5401	8	151	-10.14	-4240	5054	7294	7199	94.77	76.962	
1900	1869	10,766	5401	8	151	-10.14	-4240	5054	7225	7130	95.43	75.713	
2000	1966	10,766	5401	9	151	-10.14	-4240	5054	7157	7061	96.09	74.482	
2100	2063	10,766	5401	10	151	-10.14	-4240	5054	7090	6993	96.76	73.272	
2200	2160	10,766	5401	10	151	-10.14	-4240	5054	7023	6926	97.43	72.081	
2300	2257	10,766	5401	11	151	-10.14	-4240	5054	6957	6859	98.11	70.911	
2400	2353	10,766	5401	11	151	-10.14	-4240	5054	6893	6794	98.80	69.762	
2500	2450	10,766	5401	12	151	-10.14	-4240	5054	6828	6729	99.49	68.634	
2600	2547	10,766	5401	13	151	-10.14	-4240	5054	6765	6665	100.19	67.528	
2700	2644	10,766	5401	13	151	-10.14	-4240	5054	6703	6602	100.88	66.444	
2800	2741	10,766	5401	14	151	-10.14	-4240	5054	6642	6540	101.58	65.383	
2900	2837	10,766	5401	14	151	-10.14	-4240	5054	6581	6479	102.28	64.344	
3000	2934	10,766	5401	15	151	-10.14	-4240	5054	6522	6419	102.98	63.329	
3100	3031	10,766	5401	16	151	-10.14	-4240	5054	6463	6360	103.69	62.336	
3200	3128	10,766	5401	16	151	-10.14	-4240	5054	6406	6302	104.39	61.368	
3300	3225	10,766	5401	17	151	-10.14	-4240	5054	6350	6245	105.09	60.423	
3400	3322	10,766	5401	17	151	-10.14	-4240	5054	6294	6189	105.79	59.502	
3500	3418	10,766	5401	18	151	-10.14	-4240	5054	6240	6134	106.48	58.605	
3600	3515	10,766	5401	19	151	-10.14	-4240	5054	6187	6080	107.17	57.733	
3700	3612	10,766	5401	19	151	-10.14	-4240	5054	6135	6028	107.86	56.886	
3800	3709	10,766	5401	20	151	-10.14	-4240	5054	6085	5976	108.53	56.063	
3900	3806	10,766	5401	20	151	-10.14	-4240	5054	6035	5926	109.21	55.266	
4000	3902	10,766	5401	21	151	-10.14	-4240	5054	5987	5877	109.87	54.494	
4100	3999	10,766	5401	22	151	-10.14	-4240	5054	5940	5830	110.52	53.748	
4200	4096	10,766	5401	22	151	-10.14	-4240	5054	5895	5784	111.17	53.028	
4300	4193	10,766	5401	23	151	-10.14	-4240	5054	5851	5739	111.80	52.333	
4400	4290	10,766	5401	23	151	-10.14	-4240	5054	5808	5696	112.42	51.665	
4500	4387	10,766	5401	24	151	-10.14	-4240	5054	5767	5654	113.02	51.023	
4560	4445	10,766	5401	24	151	-10.14	-4240	5054	5743	5629	113.37	50.651	
4600	4483	10,766	5401	25	151	-9.90	-4240	5054	5726	5612	113.61	50.397	
4650	4530	10,766	5401	25	151	-9.87	-4240	5054	5702	5588	113.89	50.062	
4700	4575	10,766	5401	25	151	-10.05	-4240	5054	5675	5560	114.16	49.708	



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Logos 701H - OH - OH												Offset Site Error:	0 ft
Survey Program: 620-MWD												Offset Well Error:	0 ft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance			Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
4750	4619	10,766	5401	26	151	-10.41	-4240	5054	5645	5530	114.41	49.339	
4800	4660	10,766	5401	26	151	-10.92	-4240	5054	5612	5497	114.64	48.956	
4850	4700	10,766	5401	27	151	-11.63	-4240	5054	5577	5462	114.84	48.562	
4900	4736	10,766	5401	28	151	-12.55	-4240	5054	5539	5424	115.02	48.159	
4950	4770	10,766	5401	28	151	-13.77	-4240	5054	5499	5384	115.17	47.748	
5000	4801	10,766	5401	29	151	-15.37	-4240	5054	5457	5342	115.30	47.332	
5050	4829	10,766	5401	30	151	-17.55	-4240	5054	5414	5298	115.39	46.914	
5100	4853	10,766	5401	31	151	-20.59	-4240	5054	5368	5253	115.46	46.494	
5150	4874	10,766	5401	32	151	-25.03	-4240	5054	5321	5206	115.50	46.074	
5200	4891	10,766	5401	33	151	-31.94	-4240	5054	5274	5158	115.50	45.658	
5250	4905	10,766	5401	33	151	-43.48	-4240	5054	5225	5109	115.48	45.246	
5300	4914	10,766	5401	34	151	-63.60	-4240	5054	5176	5060	115.42	44.841	
5350	4920	10,766	5401	35	151	-93.80	-4240	5054	5126	5011	115.34	44.444	
5396	4922	10,766	5401	36	151	-120.40	-4240	5054	5081	4965	115.24	44.087	
5400	4922	10,766	5401	36	151	-120.40	-4240	5054	5077	4962	115.23	44.058	
5500	4922	10,766	5401	38	151	-120.52	-4240	5054	4978	4863	114.99	43.292	
5600	4923	10,766	5401	41	151	-120.63	-4240	5054	4880	4765	114.75	42.524	
5700	4923	10,766	5401	43	151	-120.74	-4240	5054	4781	4666	114.51	41.753	
5800	4924	10,766	5401	45	151	-120.84	-4240	5054	4682	4568	114.26	40.980	
5900	4924	10,766	5401	47	151	-120.95	-4240	5054	4584	4470	114.02	40.204	
6000	4924	10,766	5401	49	151	-121.05	-4240	5054	4486	4372	113.78	39.425	
6100	4924	10,766	5401	51	151	-121.15	-4240	5054	4387	4274	113.54	38.643	
6200	4924	10,766	5401	54	151	-121.24	-4240	5054	4289	4176	113.30	37.859	
6300	4925	10,766	5401	56	151	-121.34	-4240	5054	4191	4078	113.06	37.071	
6400	4925	10,766	5401	58	151	-121.43	-4240	5054	4093	3980	112.82	36.279	
6500	4925	10,766	5401	61	151	-121.52	-4240	5054	3995	3883	112.59	35.485	
6600	4925	10,766	5401	63	151	-121.60	-4240	5054	3897	3785	112.36	34.687	
6700	4925	10,766	5401	65	151	-121.69	-4240	5054	3800	3688	112.14	33.886	
6800	4925	10,766	5401	68	151	-121.77	-4240	5054	3702	3590	111.92	33.081	
6900	4925	10,766	5401	70	151	-121.85	-4240	5054	3605	3493	111.70	32.273	
7000	4925	10,766	5401	72	151	-121.92	-4240	5054	3508	3396	111.49	31.461	
7100	4924	10,766	5401	75	151	-122.00	-4240	5054	3411	3299	111.29	30.646	
7200	4924	10,766	5401	77	151	-122.07	-4240	5054	3314	3203	111.09	29.828	
7300	4924	10,766	5401	80	151	-122.14	-4240	5054	3217	3106	110.90	29.007	
7400	4924	10,766	5401	82	151	-122.21	-4240	5054	3120	3010	110.72	28.183	
7500	4923	10,766	5401	84	151	-122.27	-4240	5054	3024	2914	110.55	27.356	
7600	4923	10,766	5401	87	151	-122.34	-4240	5054	2928	2818	110.39	26.527	
7700	4923	10,766	5401	89	151	-122.40	-4240	5054	2832	2722	110.23	25.696	
7800	4922	10,766	5401	92	151	-122.45	-4240	5054	2737	2627	110.09	24.863	
7900	4922	10,766	5401	94	151	-122.51	-4240	5054	2642	2532	109.95	24.029	
8000	4921	10,766	5401	96	151	-122.56	-4240	5054	2547	2437	109.82	23.195	
8100	4921	10,766	5401	99	151	-122.62	-4240	5054	2453	2343	109.70	22.361	
8200	4920	10,766	5401	101	151	-122.66	-4240	5054	2359	2250	109.59	21.529	
8300	4919	10,766	5401	104	151	-122.71	-4240	5054	2266	2157	109.48	20.698	
8400	4919	10,766	5401	106	151	-122.76	-4240	5054	2173	2064	109.38	19.871	
8500	4918	10,766	5401	109	151	-122.80	-4240	5054	2081	1972	109.27	19.049	
8600	4917	10,766	5401	111	151	-122.84	-4240	5054	1990	1881	109.16	18.233	
8700	4917	10,766	5401	113	151	-122.88	-4240	5054	1900	1791	109.05	17.425	
8800	4916	10,766	5401	116	151	-122.91	-4240	5054	1811	1702	108.92	16.626	
8900	4915	10,766	5401	118	151	-122.95	-4240	5054	1723	1614	108.77	15.840	
9000	4914	10,766	5401	121	151	-122.98	-4240	5054	1636	1528	108.59	15.068	
9100	4913	10,766	5401	123	151	-123.01	-4240	5054	1551	1443	108.39	14.312	



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Logos 701H - OH - OH													Offset Site Error:	0 ft
Survey Program: 620-MWD													Offset Well Error:	0 ft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9200	4912	10,766	5401	126	151	-123.04	-4240	5054	1468	1360	108.17	13.573		
9300	4911	10,766	5401	128	151	-123.06	-4240	5054	1387	1279	107.94	12.853		
9400	4910	10,766	5401	131	151	-123.08	-4240	5054	1309	1201	107.79	12.145		
9500	4909	10,766	5401	133	151	-123.10	-4240	5054	1234	1126	107.94	11.434		
9600	4908	10,766	5401	135	151	-123.12	-4240	5054	1163	1054	108.91	10.677		
9700	4907	10,766	5401	138	151	-123.14	-4240	5054	1096	984	112.04	9.783		
9800	4906	10,766	5401	140	151	-123.15	-4240	5054	1035	915	119.46	8.662		
9900	4904	10,766	5401	143	151	-123.16	-4240	5054	980	848	132.13	7.416		
10,000	4903	10,766	5401	145	151	-123.17	-4240	5054	932	784	148.60	6.275		
10,100	4902	10,766	5401	148	151	-123.18	-4240	5054	894	727	167.05	5.350		
10,200	4900	10,766	5401	150	151	-123.19	-4240	5054	865	679	186.00	4.651		
10,305	4899	10,766	5401	153	151	-123.19	-4240	5054	847	642	204.96	4.131 CC, ES, SF		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Logos 702H - OH - OH												Offset Site Error:	0 ft
Survey Program: 80-MWD												Offset Well Error:	0 ft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0	0	11,221	5390	0	154	137.82	-5551	5030	9203				
100	100	11,221	5390	0	154	137.82	-5551	5030	9146	9038	107.13	85.370	
200	200	11,221	5390	1	154	137.82	-5551	5030	9089	8981	107.74	84.360	
300	300	11,221	5390	1	154	137.82	-5551	5030	9032	8924	108.41	83.319	
400	400	11,221	5390	1	154	137.82	-5551	5030	8977	8868	109.13	82.258	
450	450	11,221	5390	1	154	137.82	-5551	5030	8949	8840	109.51	81.724	
500	500	11,221	5390	2	154	-0.26	-5551	5030	8922	8812	109.90	81.183	
600	600	11,221	5390	2	154	-0.27	-5551	5030	8865	8754	110.69	80.091	
700	700	11,221	5390	2	154	-0.27	-5551	5030	8806	8695	111.48	78.990	
800	799	11,221	5390	3	154	-0.28	-5551	5030	8745	8633	112.27	77.889	
900	898	11,221	5390	3	154	-0.29	-5551	5030	8682	8569	113.06	76.793	
1000	997	11,221	5390	3	154	-0.30	-5551	5030	8617	8503	113.83	75.701	
1100	1094	11,221	5390	4	154	-0.31	-5551	5030	8550	8435	114.59	74.614	
1174	1167	11,221	5390	4	154	-0.32	-5551	5030	8499	8384	115.15	73.806	
1200	1191	11,221	5390	4	154	-0.32	-5551	5030	8481	8366	115.34	73.529	
1300	1288	11,221	5390	5	154	-0.32	-5551	5030	8412	8296	116.07	72.474	
1400	1385	11,221	5390	6	154	-0.32	-5551	5030	8344	8227	116.81	71.430	
1500	1482	11,221	5390	6	154	-0.32	-5551	5030	8276	8159	117.56	70.399	
1600	1579	11,221	5390	7	154	-0.32	-5551	5030	8209	8091	118.32	69.381	
1700	1676	11,221	5390	7	154	-0.32	-5551	5030	8143	8024	119.09	68.377	
1800	1772	11,221	5390	8	154	-0.32	-5551	5030	8077	7957	119.86	67.388	
1900	1869	11,221	5390	8	154	-0.32	-5551	5030	8012	7892	120.64	66.413	
2000	1966	11,221	5390	9	154	-0.32	-5551	5030	7948	7827	121.43	65.454	
2100	2063	11,221	5390	10	154	-0.32	-5551	5030	7885	7762	122.22	64.511	
2200	2160	11,221	5390	10	154	-0.32	-5551	5030	7822	7699	123.02	63.583	
2300	2257	11,221	5390	11	154	-0.32	-5551	5030	7760	7636	123.82	62.672	
2400	2353	11,221	5390	11	154	-0.32	-5551	5030	7699	7574	124.63	61.777	
2500	2450	11,221	5390	12	154	-0.32	-5551	5030	7639	7513	125.43	60.899	
2600	2547	11,221	5390	13	154	-0.32	-5551	5030	7579	7453	126.24	60.038	
2700	2644	11,221	5390	13	154	-0.32	-5551	5030	7521	7394	127.05	59.194	
2800	2741	11,221	5390	14	154	-0.32	-5551	5030	7463	7335	127.86	58.367	
2900	2837	11,221	5390	14	154	-0.32	-5551	5030	7406	7278	128.67	57.558	
3000	2934	11,221	5390	15	154	-0.32	-5551	5030	7350	7221	129.48	56.766	
3100	3031	11,221	5390	16	154	-0.32	-5551	5030	7295	7165	130.29	55.992	
3200	3128	11,221	5390	16	154	-0.32	-5551	5030	7241	7110	131.10	55.236	
3300	3225	11,221	5390	17	154	-0.32	-5551	5030	7188	7057	131.90	54.498	
3400	3322	11,221	5390	17	154	-0.32	-5551	5030	7136	7004	132.70	53.778	
3500	3418	11,221	5390	18	154	-0.32	-5551	5030	7085	6952	133.50	53.076	
3600	3515	11,221	5390	19	154	-0.32	-5551	5030	7036	6901	134.29	52.392	
3700	3612	11,221	5390	19	154	-0.32	-5551	5030	6987	6852	135.07	51.727	
3800	3709	11,221	5390	20	154	-0.32	-5551	5030	6939	6803	135.85	51.081	
3900	3806	11,221	5390	20	154	-0.32	-5551	5030	6892	6756	136.61	50.453	
4000	3902	11,221	5390	21	154	-0.32	-5551	5030	6847	6710	137.37	49.844	
4100	3999	11,221	5390	22	154	-0.32	-5551	5030	6803	6665	138.12	49.253	
4200	4096	11,221	5390	22	154	-0.32	-5551	5030	6760	6621	138.85	48.682	
4300	4193	11,221	5390	23	154	-0.32	-5551	5030	6718	6578	139.58	48.130	
4400	4290	11,221	5390	23	154	-0.32	-5551	5030	6677	6537	140.29	47.596	
4500	4387	11,221	5390	24	154	-0.32	-5551	5030	6638	6497	140.98	47.082	
4560	4445	11,221	5390	24	154	-0.32	-5551	5030	6615	6473	141.39	46.783	
4600	4483	11,221	5390	25	154	0.21	-5551	5030	6598	6457	141.66	46.578	
4650	4530	11,221	5390	25	154	0.68	-5551	5030	6575	6433	142.00	46.303	
4700	4575	11,221	5390	25	154	1.04	-5551	5030	6549	6407	142.34	46.009	



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Logos 702H - OH - OH											Offset Site Error:	0 ft
Survey Program: 80-MWD											Offset Well Error:	0 ft
Reference	Offset	Semi Major Axis	Reference	Offset	Highside	Offset Wellbore Centre	Distance	Rule Assigned:				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor
4750	4619	11,221	5390	26	154	1.35	-5551	5030	6520	6377	142.66	45.699
4800	4660	11,221	5390	26	154	1.65	-5551	5030	6487	6344	142.97	45.375
4850	4700	11,221	5390	27	154	1.96	-5551	5030	6452	6309	143.27	45.037
4900	4736	11,221	5390	28	154	2.30	-5551	5030	6415	6272	143.55	44.689
4950	4770	11,221	5390	28	154	2.70	-5551	5030	6375	6232	143.81	44.333
5000	4801	11,221	5390	29	154	3.19	-5551	5030	6334	6189	144.04	43.969
5050	4829	11,221	5390	30	154	3.84	-5551	5030	6290	6145	144.26	43.601
5100	4853	11,221	5390	31	154	4.72	-5551	5030	6244	6100	144.45	43.229
5150	4874	11,221	5390	32	154	6.02	-5551	5030	6197	6053	144.61	42.856
5200	4891	11,221	5390	33	154	8.16	-5551	5030	6149	6005	144.75	42.483
5250	4905	11,221	5390	33	154	12.28	-5551	5030	6100	5956	144.86	42.113
5300	4914	11,221	5390	34	154	23.31	-5551	5030	6051	5906	144.94	41.748
5350	4920	11,221	5390	35	154	81.01	-5551	5030	6001	5856	144.99	41.388
5396	4922	11,221	5390	36	154	150.10	-5551	5030	5955	5810	145.02	41.063
5400	4922	11,221	5390	36	154	150.10	-5551	5030	5951	5806	145.02	41.036
5500	4922	11,221	5390	38	154	150.24	-5551	5030	5851	5706	145.05	40.339
5600	4923	11,221	5390	41	154	150.38	-5551	5030	5752	5607	145.09	39.642
5700	4923	11,221	5390	43	154	150.51	-5551	5030	5652	5507	145.13	38.945
5800	4924	11,221	5390	45	154	150.64	-5551	5030	5552	5407	145.17	38.247
5900	4924	11,221	5390	47	154	150.76	-5551	5030	5453	5307	145.21	37.550
6000	4924	11,221	5390	49	154	150.88	-5551	5030	5353	5208	145.26	36.852
6100	4924	11,221	5390	51	154	151.00	-5551	5030	5253	5108	145.30	36.155
6200	4924	11,221	5390	54	154	151.12	-5551	5030	5154	5008	145.35	35.457
6300	4925	11,221	5390	56	154	151.23	-5551	5030	5054	4909	145.41	34.759
6400	4925	11,221	5390	58	154	151.34	-5551	5030	4955	4809	145.47	34.061
6500	4925	11,221	5390	61	154	151.45	-5551	5030	4855	4710	145.53	33.363
6600	4925	11,221	5390	63	154	151.55	-5551	5030	4756	4610	145.59	32.665
6700	4925	11,221	5390	65	154	151.65	-5551	5030	4656	4511	145.66	31.966
6800	4925	11,221	5390	68	154	151.75	-5551	5030	4557	4411	145.73	31.268
6900	4925	11,221	5390	70	154	151.84	-5551	5030	4457	4312	145.81	30.570
7000	4925	11,221	5390	72	154	151.94	-5551	5030	4358	4212	145.89	29.871
7100	4924	11,221	5390	75	154	152.03	-5551	5030	4259	4113	145.98	29.173
7200	4924	11,221	5390	77	154	152.11	-5551	5030	4159	4013	146.07	28.474
7300	4924	11,221	5390	80	154	152.20	-5551	5030	4060	3914	146.17	27.775
7400	4924	11,221	5390	82	154	152.28	-5551	5030	3961	3814	146.28	27.077
7500	4923	11,221	5390	84	154	152.36	-5551	5030	3861	3715	146.39	26.378
7600	4923	11,221	5390	87	154	152.44	-5551	5030	3762	3616	146.51	25.679
7700	4923	11,221	5390	89	154	152.51	-5551	5030	3663	3517	146.65	24.980
7800	4922	11,221	5390	92	154	152.59	-5551	5030	3564	3417	146.79	24.281
7900	4922	11,221	5390	94	154	152.66	-5551	5030	3465	3318	146.94	23.581
8000	4921	11,221	5390	96	154	152.72	-5551	5030	3366	3219	147.11	22.882
8100	4921	11,221	5390	99	154	152.79	-5551	5030	3267	3120	147.29	22.183
8200	4920	11,221	5390	101	154	152.85	-5551	5030	3169	3021	147.49	21.483
8300	4919	11,221	5390	104	154	152.91	-5551	5030	3070	2922	147.71	20.783
8400	4919	11,221	5390	106	154	152.97	-5551	5030	2971	2823	147.95	20.083
8500	4918	11,221	5390	109	154	153.03	-5551	5030	2873	2725	148.21	19.383
8600	4917	11,221	5390	111	154	153.08	-5551	5030	2774	2626	148.50	18.683
8700	4917	11,221	5390	113	154	153.13	-5551	5030	2676	2527	148.82	17.982
8800	4916	11,221	5390	116	154	153.18	-5551	5030	2578	2429	149.17	17.282
8900	4915	11,221	5390	118	154	153.23	-5551	5030	2480	2330	149.57	16.581
9000	4914	11,221	5390	121	154	153.28	-5551	5030	2382	2232	150.01	15.881
9100	4913	11,221	5390	123	154	153.32	-5551	5030	2285	2134	150.50	15.181



Lonestar Consulting, LLC
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Logos 702H - OH - OH													Offset Site Error:	0 ft
Survey Program: 80-MWD													Offset Well Error:	0 ft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9200	4912	11,221	5390	126	154	153.36	-5551	5030	2187	2036	151.05	14.481		
9300	4911	11,221	5390	128	154	153.40	-5551	5030	2090	1938	151.67	13.781		
9400	4910	11,221	5390	131	154	153.44	-5551	5030	1993	1841	152.37	13.082		
9500	4909	11,221	5390	133	154	153.48	-5551	5030	1897	1744	153.16	12.385		
9600	4908	11,221	5390	135	154	153.51	-5551	5030	1801	1647	154.05	11.689		
9700	4907	11,221	5390	138	154	153.54	-5551	5030	1705	1550	155.06	10.996		
9800	4906	11,221	5390	140	154	153.57	-5551	5030	1610	1454	156.22	10.306		
9900	4904	11,221	5390	143	154	153.60	-5551	5030	1516	1358	157.52	9.621		
10,000	4903	11,221	5390	145	154	153.63	-5551	5030	1422	1263	159.01	8.942		
10,100	4902	11,221	5390	148	154	153.65	-5551	5030	1329	1168	160.69	8.272		
10,200	4900	11,221	5390	150	154	153.67	-5551	5030	1238	1075	162.58	7.612		
10,305	4899	11,221	5390	153	154	153.69	-5551	5030	1143	978	164.81	6.937 CC, ES, SF		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Lybrook A01 2206 1H - OH - OH													Offset Site Error:	0 ft
Survey Program: 555-MWD													Offset Well Error:	0 ft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0	0	0	0	0	0	80.21	750	4349	4413					
100	100	64	64	0	0	80.21	750	4349	4413	4413	0.23	N/A		
200	200	166	166	1	0	80.21	750	4349	4413	4413	0.70	6,279.896		
300	300	268	268	1	0	80.21	751	4349	4413	4412	1.17	3,764.269		
400	400	370	370	1	0	80.21	751	4349	4413	4411	1.64	2,687.587		
450	450	421	421	1	0	80.20	751	4349	4413	4411	1.88	2,351.295		
500	500	472	472	2	1	-57.88	751	4348	4413	4411	2.10	2,097.244		
600	600	576	576	2	1	-57.96	751	4348	4411	4408	2.58	1,710.116		
700	700	687	687	2	1	-58.13	752	4348	4406	4403	3.17	1,387.931		
800	799	779	779	3	1	-58.34	752	4347	4400	4397	3.71	1,185.143		
900	898	878	878	3	1	-58.63	752	4347	4393	4388	4.28	1,025.149		
1000	997	992	992	3	2	-59.01	752	4346	4383	4378	4.93	888.764		
1100	1094	1103	1103	4	2	-59.47	751	4345	4371	4366	5.61	779.178		
1174	1167	1199	1199	4	2	-59.91	750	4344	4361	4355	6.16	707.628		
1200	1191	1225	1225	4	2	-59.97	750	4344	4357	4351	6.34	687.322		
1300	1288	9620	5347	5	118	-156.20	1304	46	4327	4276	51.27	84.399		
1400	1385	9620	5347	6	118	-156.20	1304	46	4242	4189	52.34	81.041		
1500	1482	9620	5347	6	118	-156.20	1304	46	4157	4104	53.48	77.738		
1600	1579	9620	5347	7	118	-156.20	1304	46	4073	4019	54.68	74.497		
1700	1676	9617	5347	7	118	-156.12	1304	49	3990	3934	55.92	71.363		
1800	1772	9597	5348	8	117	-155.64	1304	69	3908	3851	57.06	68.491		
1900	1869	9501	5350	8	115	-153.30	1303	165	3826	3769	57.51	66.535		
2000	1966	9466	5350	9	114	-152.44	1303	200	3745	3687	58.61	63.901		
2100	2063	9445	5350	10	113	-151.91	1302	221	3665	3605	59.92	61.163		
2200	2160	9430	5350	10	113	-151.53	1302	237	3585	3524	61.36	58.430		
2300	2257	9415	5350	11	112	-151.16	1302	251	3507	3444	62.87	55.772		
2400	2353	9400	5350	11	112	-150.79	1302	266	3429	3365	64.47	53.192		
2500	2450	9383	5350	12	112	-150.37	1302	283	3353	3287	66.11	50.715		
2600	2547	9365	5350	13	111	-149.89	1302	301	3277	3210	67.80	48.339		
2700	2644	9345	5350	13	111	-149.40	1302	321	3203	3134	69.56	46.056		
2800	2741	9332	5350	14	110	-149.06	1302	334	3131	3059	71.46	43.815		
2900	2837	9314	5350	14	110	-148.61	1302	352	3060	2986	73.38	41.696		
3000	2934	9301	5350	15	109	-148.28	1302	365	2990	2915	75.43	39.637		
3100	3031	9288	5351	16	109	-147.94	1302	378	2922	2845	77.57	37.672		
3200	3128	9269	5351	16	108	-147.45	1301	397	2856	2776	79.69	35.838		
3300	3225	9260	5351	17	108	-147.22	1301	406	2792	2710	82.02	34.038		
3400	3322	9242	5351	17	108	-146.76	1301	424	2730	2645	84.29	32.382		
3500	3418	9224	5351	18	107	-146.28	1301	442	2670	2583	86.61	30.824		
3600	3515	9203	5352	19	107	-145.75	1301	463	2612	2523	88.94	29.367		
3700	3612	9172	5352	19	106	-144.95	1300	494	2557	2466	91.17	28.045		
3800	3709	9146	5352	20	105	-144.26	1300	520	2504	2411	93.48	26.787		
3900	3806	9128	5352	20	105	-143.78	1300	538	2454	2358	95.94	25.582		
4000	3902	9110	5352	21	104	-143.32	1300	556	2407	2309	98.40	24.464		
4100	3999	9092	5352	22	104	-142.86	1299	574	2364	2263	100.85	23.438		
4200	4096	9072	5352	22	103	-142.33	1299	594	2323	2220	103.22	22.509		
4300	4193	9046	5352	23	102	-141.64	1299	620	2286	2181	105.43	21.688		
4400	4290	9020	5352	23	102	-140.94	1298	646	2253	2146	107.53	20.954		
4500	4387	9001	5352	24	101	-140.44	1298	665	2224	2114	109.67	20.279		
4560	4445	8990	5352	24	101	-140.17	1298	676	2208	2097	110.90	19.911		
4600	4483	8982	5352	25	101	-140.03	1297	684	2199	2088	111.69	19.693		
4650	4530	8970	5352	25	100	-139.80	1297	696	2192	2079	112.61	19.467		
4700	4575	8956	5352	25	100	-139.40	1297	710	2189	2075	113.44	19.293		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Lybrook A01 2206 1H - OH - OH													Offset Site Error:	0 ft
Survey Program: 555-MWD													Offset Well Error:	0 ft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance				Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4719	4592	8949	5352	26	100	-139.18	1297	717	2188	2075	113.72	19.243	CC, ES	
4750	4619	8937	5352	26	99	-138.73	1296	729	2189	2075	114.15	19.178		
4800	4660	8915	5351	26	99	-137.81	1296	751	2193	2079	114.74	19.117		
4850	4700	8890	5351	27	98	-136.61	1295	776	2202	2086	115.22	19.107	SF	
4900	4736	8870	5351	28	98	-135.29	1295	796	2213	2098	115.71	19.128		
4950	4770	8847	5352	28	97	-133.69	1294	819	2228	2112	116.10	19.194		
5000	4801	8821	5352	29	96	-131.73	1293	845	2247	2130	116.35	19.311		
5050	4829	8776	5352	30	95	-129.12	1292	890	2268	2152	116.21	19.517		
5100	4853	8749	5351	31	94	-126.60	1291	917	2292	2175	116.34	19.699		
5150	4874	8727	5351	32	94	-123.88	1291	939	2318	2201	116.51	19.895		
5200	4891	8701	5351	33	93	-120.75	1290	965	2346	2230	116.55	20.132		
5250	4905	8673	5351	33	92	-117.27	1290	993	2377	2260	116.51	20.400		
5300	4914	8638	5351	34	91	-113.41	1289	1028	2409	2292	116.32	20.708		
5350	4920	8549	5351	35	89	-108.82	1286	1117	2441	2326	115.16	21.201		
5396	4922	8512	5350	36	88	-104.99	1285	1154	2472	2357	114.84	21.526		
5400	4922	8512	5350	36	88	-104.99	1285	1154	2475	2360	114.87	21.543		
5500	4922	8449	5350	38	86	-104.62	1282	1217	2542	2428	114.47	22.210		
5600	4923	8400	5350	41	85	-104.33	1281	1266	2611	2496	114.31	22.837		
5700	4923	8300	5350	43	82	-103.81	1278	1365	2679	2565	113.38	23.625		
5800	4924	8233	5350	45	80	-103.46	1275	1433	2746	2633	112.99	24.307		
5900	4924	8173	5350	47	78	-103.18	1273	1492	2815	2702	112.74	24.964		
6000	4924	8110	5351	49	77	-102.92	1271	1556	2883	2771	112.45	25.640		
6100	4924	8044	5352	51	75	-102.64	1269	1622	2952	2840	112.13	26.324		
6200	4924	8009	5353	54	74	-102.49	1268	1657	3021	2909	112.25	26.911		
6300	4925	7946	5354	56	72	-102.25	1267	1720	3091	2979	111.99	27.597		
6400	4925	7893	5355	58	71	-102.06	1266	1772	3161	3049	111.88	28.254		
6500	4925	7776	5356	61	68	-101.63	1265	1890	3231	3120	110.95	29.120		
6600	4925	7723	5356	63	66	-101.42	1264	1943	3300	3189	110.86	29.770		
6700	4925	7665	5356	65	65	-101.22	1263	2001	3370	3260	110.71	30.445		
6800	4925	7591	5356	68	63	-100.97	1262	2075	3440	3330	110.37	31.171		
6900	4925	7497	5358	70	60	-100.69	1260	2169	3510	3401	109.81	31.968		
7000	4925	7411	5358	72	58	-100.43	1258	2255	3580	3471	109.36	32.735		
7100	4924	7329	5359	75	56	-100.20	1256	2336	3649	3540	108.97	33.486		
7200	4924	7255	5360	77	54	-100.01	1254	2410	3718	3610	108.69	34.212		
7300	4924	7207	5360	80	52	-99.88	1253	2458	3788	3679	108.69	34.847		
7400	4924	4764	4764	82	9	-88.04	746	4353	3831	3743	88.04	43.511		
7500	4923	4764	4764	84	9	-88.03	746	4353	3859	3770	89.75	42.999		
7600	4923	4764	4764	87	9	-88.03	746	4353	3890	3799	91.40	42.565		
7700	4923	4764	4764	89	9	-88.02	746	4353	3924	3831	92.97	42.201		
7800	4922	4764	4764	92	9	-88.01	746	4353	3959	3865	94.48	41.905		
7900	4922	4764	4764	94	9	-88.00	746	4353	3997	3901	95.92	41.670		
8000	4921	4764	4764	96	9	-87.99	746	4353	4037	3939	97.28	41.494		
8100	4921	4764	4764	99	9	-87.98	746	4353	4079	3980	98.58	41.371		
8200	4920	4764	4764	101	9	-87.97	746	4353	4122	4023	99.82	41.300		
8300	4919	4764	4764	104	9	-87.96	746	4353	4168	4067	100.99	41.275		
8400	4919	4764	4764	106	9	-87.95	746	4353	4216	4114	102.09	41.296		
8500	4918	4764	4764	109	9	-87.94	746	4353	4266	4162	103.14	41.358		
8600	4917	4764	4764	111	9	-87.92	746	4353	4317	4213	104.12	41.459		
8700	4917	4764	4764	113	9	-87.91	746	4353	4370	4265	105.05	41.596		
8800	4916	4764	4764	116	9	-87.89	746	4353	4424	4318	105.93	41.769		
8900	4915	4764	4764	118	9	-87.88	746	4353	4481	4374	106.75	41.974		
9000	4914	4764	4764	121	9	-87.86	746	4353	4538	4431	107.51	42.210		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Lybrook A01 2206 1H - OH - OH													Offset Site Error:	0 ft
Survey Program: 555-MWD													Offset Well Error:	0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
9100	4913	4764	4764	123	9	-87.85	746	4353	4597	4489	108.24	42.475		
9200	4912	4764	4764	126	9	-87.83	746	4353	4658	4549	108.91	42.767		
9300	4911	4764	4764	128	9	-87.82	746	4353	4720	4610	109.54	43.085		
9400	4910	4751	4750	131	9	-87.59	746	4353	4783	4673	110.10	43.440		
9500	4909	4750	4750	133	9	-87.56	746	4353	4847	4736	110.65	43.806		
9600	4908	4749	4749	135	9	-87.53	746	4353	4913	4801	111.16	44.194		
9700	4907	4749	4748	138	9	-87.50	746	4353	4979	4868	111.63	44.603		
9800	4906	4748	4748	140	9	-87.47	746	4353	5047	4935	112.08	45.032		
9900	4904	4747	4747	143	9	-87.44	746	4353	5116	5003	112.49	45.480		
10,000	4903	4747	4746	145	9	-87.41	746	4353	5186	5073	112.87	45.945		
10,100	4902	4733	4733	148	9	-87.18	745	4354	5257	5144	113.19	46.443		
10,200	4900	4733	4733	150	9	-87.15	745	4354	5328	5215	113.52	46.940		
10,305	4899	4733	4733	153	9	-87.13	745	4354	5405	5291	113.83	47.478		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Lybrook H01 2206 1H - OH - OH													Offset Site Error:	0 ft
Survey Program: 564-MWD													Offset Well Error:	0 ft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0	0	0	0	0	0	95.84	-447	4376	4399					
100	100	107	107	0	0	95.84	-447	4376	4399	4398	0.28	N/A		
200	200	201	201	1	0	95.84	-448	4376	4399	4398	0.74	5,912.270		
300	300	294	294	1	0	95.85	-449	4376	4399	4398	1.21	3,646.604		
400	400	388	388	1	0	95.87	-450	4377	4400	4398	1.67	2,636.564		
450	450	435	435	1	0	95.87	-450	4377	4400	4398	1.90	2,315.926		
500	500	482	482	2	1	-42.20	-451	4377	4400	4398	2.12	2,072.242		
600	600	575	575	2	1	-42.23	-452	4378	4398	4396	2.57	1,709.390		
700	700	655	655	2	1	-42.32	-454	4378	4394	4391	3.09	1,424.162		
800	799	732	732	3	1	-42.47	-454	4380	4388	4385	3.60	1,219.805		
900	898	931	931	3	1	-42.87	-453	4381	4378	4374	4.36	1,003.814		
1000	997	1057	1056	3	2	-43.28	-450	4380	4365	4360	5.01	871.361		
1100	1094	9547	5395	4	120	175.86	-107	3	4287	4253	34.58	123.983		
1174	1167	9534	5395	4	120	176.76	-107	16	4215	4180	34.50	122.167		
1200	1191	9530	5395	4	119	176.92	-107	20	4190	4156	34.47	121.542		
1300	1288	9514	5395	5	119	177.51	-107	36	4093	4059	34.41	118.945		
1400	1385	9499	5396	6	119	178.11	-108	51	3997	3962	34.37	116.288		
1500	1482	9483	5396	6	118	178.72	-108	67	3900	3866	34.34	113.577		
1600	1579	9467	5396	7	118	179.36	-109	82	3804	3769	34.33	110.813		
1700	1676	9453	5396	7	117	179.95	-109	97	3707	3673	34.34	107.966		
1800	1772	9439	5396	8	117	-179.44	-110	111	3611	3577	34.37	105.063		
1900	1869	9425	5397	8	117	-178.87	-110	125	3515	3481	34.43	102.087		
2000	1966	9411	5397	9	116	-178.28	-110	139	3419	3385	34.52	99.062		
2100	2063	9371	5398	10	115	-176.46	-112	179	3323	3289	34.44	96.498		
2200	2160	9326	5398	10	114	-174.33	-113	224	3228	3193	34.36	93.939		
2300	2257	9309	5398	11	113	-173.51	-114	241	3132	3097	34.51	90.761		
2400	2353	9294	5398	11	113	-172.74	-114	256	3036	3002	34.70	87.496		
2500	2450	9279	5398	12	113	-171.96	-115	271	2941	2906	34.94	84.177		
2600	2547	9264	5398	13	112	-171.17	-115	286	2846	2811	35.22	80.797		
2700	2644	9226	5399	13	111	-169.12	-116	324	2751	2715	35.39	77.719		
2800	2741	9200	5398	14	110	-167.67	-117	350	2656	2620	35.71	74.367		
2900	2837	9181	5398	14	110	-166.60	-118	368	2561	2525	36.15	70.848		
3000	2934	9166	5398	15	109	-165.72	-118	383	2467	2430	36.70	67.231		
3100	3031	9151	5398	16	109	-164.80	-119	399	2373	2336	37.33	63.583		
3200	3128	9137	5398	16	109	-163.96	-120	413	2280	2242	38.07	59.888		
3300	3225	9122	5398	17	108	-163.02	-120	428	2187	2148	38.91	56.193		
3400	3322	9107	5398	17	108	-162.14	-121	442	2094	2054	39.91	52.478		
3500	3418	9093	5398	18	107	-161.22	-122	457	2002	1961	41.05	48.777		
3600	3515	9074	5399	19	107	-160.01	-123	476	1911	1869	42.33	45.141		
3700	3612	9061	5399	19	107	-159.17	-123	488	1821	1777	43.87	41.494		
3800	3709	9044	5399	20	106	-158.02	-124	506	1731	1685	45.61	37.948		
3900	3806	9026	5399	20	106	-156.85	-125	523	1642	1595	47.62	34.485		
4000	3902	9008	5399	21	105	-155.58	-126	542	1555	1505	49.93	31.137		
4100	3999	8979	5399	22	104	-153.58	-127	570	1469	1416	52.51	27.970		
4200	4096	8952	5399	22	103	-151.66	-129	597	1384	1328	55.49	24.940		
4300	4193	8937	5399	23	103	-150.57	-129	612	1301	1242	59.04	22.037		
4400	4290	8924	5399	23	103	-149.60	-130	626	1221	1158	63.13	19.339		
4500	4387	8910	5399	24	102	-148.56	-131	640	1143	1076	67.77	16.872		
4560	4445	8901	5399	24	102	-147.92	-131	648	1099	1028	70.83	15.509		
4600	4483	8894	5399	25	102	-148.99	-132	655	1070	997	73.03	14.652		
4650	4530	8885	5399	25	102	-150.02	-132	664	1038	962	76.01	13.653		
4700	4575	8872	5400	25	101	-150.56	-133	677	1010	930	79.19	12.749		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Lybrook H01 2206 1H - OH - OH													Offset Site Error:	0 ft	
Survey Program:		564-MWD				Rule Assigned:								Offset Well Error:	0 ft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
4750	4619	8858	5400	26	101	-150.80	-134	691	986	903	82.52	11.946			
4800	4660	8842	5400	26	100	-150.69	-134	708	967	881	85.91	11.253			
4850	4700	8822	5401	27	100	-150.18	-135	727	953	864	89.27	10.675			
4900	4736	8802	5402	28	99	-149.46	-137	748	944	852	92.54	10.204			
4950	4770	8779	5403	28	99	-148.39	-138	771	941	845	95.61	9.841			
4957	4775	8775	5403	28	99	-148.22	-138	774	941	845	96.02	9.798	CC		
5000	4801	8753	5404	29	98	-147.00	-139	796	943	844	98.42	9.579	ES		
5050	4829	8721	5405	30	97	-145.10	-140	828	950	849	100.89	9.412			
5100	4853	8687	5406	31	96	-142.84	-141	862	961	858	103.02	9.328			
5150	4874	8644	5407	32	95	-139.93	-142	905	976	872	104.78	9.319	SF		
5200	4891	8614	5406	33	94	-137.34	-142	935	996	889	106.37	9.361			
5250	4905	8589	5406	33	93	-134.62	-143	960	1019	911	107.64	9.465			
5300	4914	8560	5407	34	93	-131.49	-143	989	1045	937	108.58	9.626			
5350	4920	8528	5407	35	92	-127.89	-143	1022	1074	965	109.22	9.835			
5396	4922	8498	5407	36	91	-124.30	-143	1051	1103	993	109.63	10.062			
5400	4922	8496	5407	36	91	-124.23	-143	1053	1106	996	109.66	10.082			
5500	4922	8435	5407	38	89	-122.60	-143	1114	1171	1061	110.25	10.621			
5600	4923	8356	5407	41	87	-120.68	-143	1193	1237	1127	110.60	11.187			
5700	4923	8207	5400	43	83	-117.25	-143	1341	1303	1192	110.49	11.790			
5800	4924	8152	5388	45	82	-115.67	-143	1394	1365	1254	111.14	12.280			
5900	4924	8129	5386	47	81	-115.17	-143	1417	1431	1319	111.61	12.818			
6000	4924	8045	5386	49	79	-113.86	-144	1501	1498	1386	111.53	13.431			
6100	4924	7967	5386	51	77	-112.73	-146	1580	1565	1453	111.44	14.042			
6200	4924	7884	5386	54	74	-111.67	-148	1662	1632	1520	111.29	14.661			
6300	4925	7807	5386	56	72	-110.75	-151	1740	1698	1587	111.15	15.280			
6400	4925	7752	5386	58	71	-110.16	-153	1794	1765	1654	111.12	15.885			
6500	4925	7689	5387	61	69	-109.52	-155	1857	1833	1722	111.03	16.508			
6600	4925	7613	5387	63	67	-108.78	-156	1933	1901	1790	110.85	17.149			
6700	4925	7542	5387	65	65	-108.13	-158	2004	1969	1859	110.70	17.789			
6800	4925	7461	5388	68	63	-107.47	-160	2085	2037	1927	110.49	18.438			
6900	4925	7409	5388	70	61	-107.05	-161	2137	2106	1995	110.40	19.071			
7000	4925	7346	5389	72	60	-106.58	-162	2201	2175	2064	110.26	19.723			
7100	4924	7247	5390	75	57	-105.90	-165	2299	2243	2133	109.97	20.400			
7200	4924	7185	5390	77	55	-105.50	-166	2361	2312	2202	109.83	21.048			
7300	4924	7122	5390	80	54	-105.07	-168	2424	2381	2271	109.69	21.702			
7400	4924	7023	5390	82	51	-104.50	-171	2523	2449	2339	109.40	22.383			
7500	4923	6974	5391	84	50	-104.25	-172	2572	2517	2408	109.31	23.030			
7600	4923	6934	5392	87	48	-104.04	-173	2612	2587	2478	109.24	23.680			
7700	4923	6896	5393	89	47	-103.85	-173	2650	2657	2548	109.16	24.341			
7800	4922	6853	5394	92	46	-103.65	-173	2693	2728	2619	109.06	25.018			
7900	4922	6760	5396	94	44	-103.22	-173	2786	2800	2691	108.84	25.722			
8000	4921	6669	5397	96	41	-102.83	-173	2876	2870	2762	108.64	26.422			
8100	4921	6591	5399	99	39	-102.51	-173	2955	2941	2833	108.47	27.115			
8200	4920	6516	5400	101	37	-102.23	-174	3030	3011	2903	108.32	27.801			
8300	4919	6442	5401	104	35	-101.95	-175	3104	3082	2974	108.18	28.488			
8400	4919	4498	4498	106	9	-81.21	-445	4373	3130	3025	105.75	29.603			
8500	4918	4483	4483	109	9	-80.90	-447	4373	3170	3063	106.67	29.716			
8600	4917	4483	4483	111	9	-80.89	-447	4373	3211	3104	107.58	29.850			
8700	4917	4483	4483	113	9	-80.88	-447	4373	3256	3147	108.40	30.033			
8800	4916	4483	4483	116	9	-80.87	-447	4373	3302	3193	109.13	30.260			
8900	4915	4483	4483	118	9	-80.86	-447	4373	3351	3241	109.77	30.530			
9000	4914	4483	4483	121	9	-80.85	-447	4373	3402	3292	110.32	30.840			



Lonestar Consulting, LLC
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design: E01 2206 Pad - Lybrook H01 2206 1H - OH - OH													Offset Site Error: 0 ft	
Survey Program: 564-MWD													Offset Well Error: 0 ft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
9100	4913	4483	4483	123	9		-80.83	-447	4373	3456				3345
9200	4912	4483	4483	126	9	-80.82	-447	4373	3511	3400	111.22	31.569		
9300	4911	4483	4483	128	9	-80.80	-447	4373	3568	3457	111.56	31.985		
9400	4910	4483	4483	131	9	-80.79	-447	4373	3627	3516	111.85	32.432		
9500	4909	4483	4483	133	9	-80.77	-447	4373	3688	3576	112.08	32.909		
9600	4908	4483	4483	135	9	-80.75	-447	4373	3751	3639	112.26	33.414		
9700	4907	4483	4483	138	9	-80.74	-447	4373	3815	3703	112.39	33.946		
9800	4906	4483	4483	140	9	-80.72	-447	4373	3881	3768	112.48	34.503		
9900	4904	4483	4483	143	9	-80.70	-447	4373	3948	3835	112.53	35.084		
10,000	4903	4483	4483	145	9	-80.68	-447	4373	4016	3904	112.55	35.687		
10,100	4902	4483	4483	148	9	-80.66	-447	4373	4086	3974	112.53	36.312		
10,200	4900	4483	4483	150	9	-80.63	-447	4373	4157	4045	112.49	36.957		
10,305	4899	4483	4483	153	9	-80.61	-447	4373	4233	4120	112.41	37.653		



Lonestar Consulting, LLC

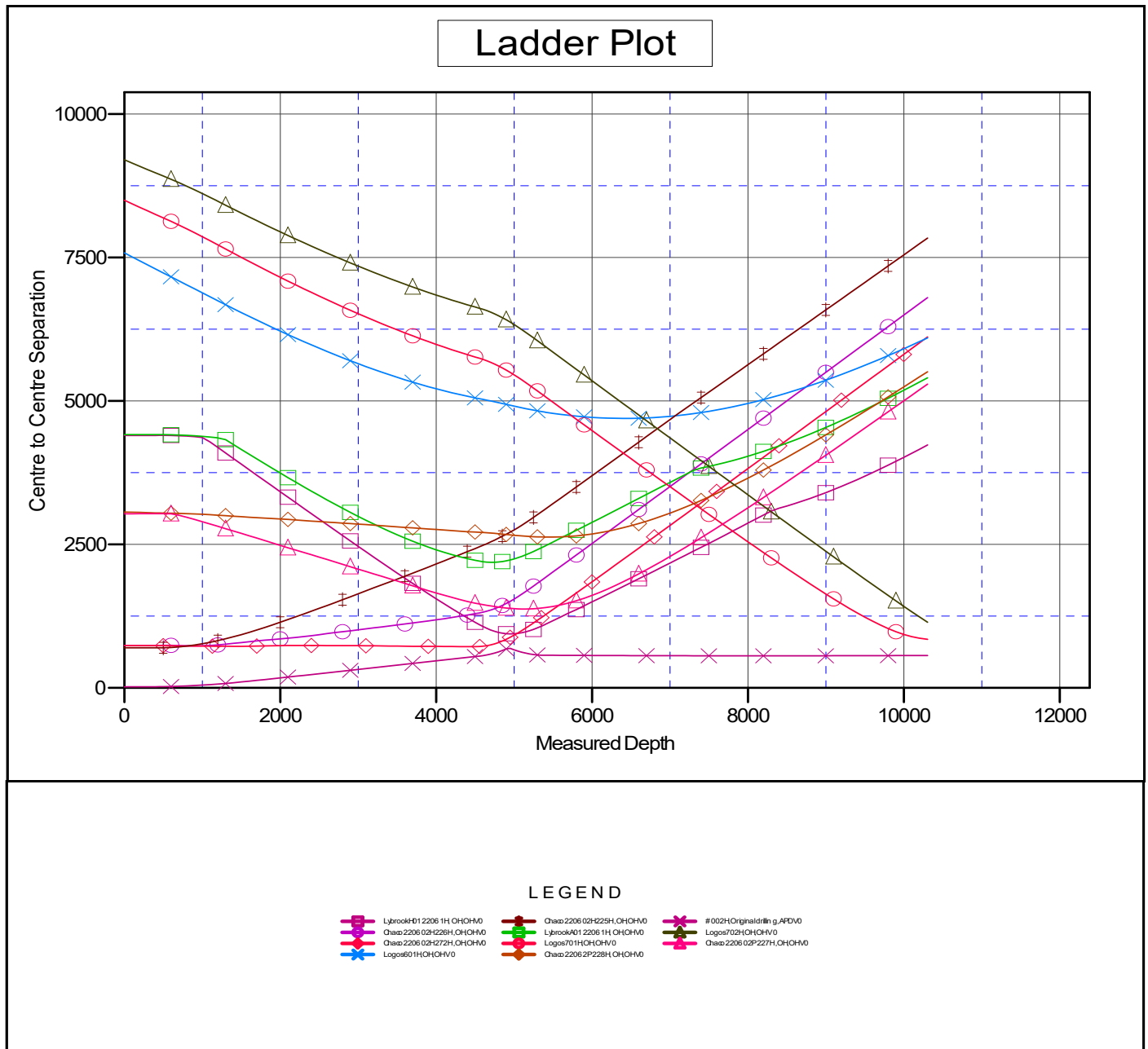
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 6919' & RKB 14' @ 6933ft
 Offset Depths are relative to Offset Datum
 Central Meridian is -107.8333334

Coordinates are relative to: # 515H - Slot 2
 Coordinate System is US State Plane 1983, New Mexico Western Zone
 Grid Convergence at Surface is: 0.24°





Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 515H - Slot 2
Project:	Venado Canyon Unit	TVD Reference:	GL 6919' & RKB 14' @ 6933ft
Reference Site:	E01 2206 Pad	MD Reference:	GL 6919' & RKB 14' @ 6933ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 515H	Survey Calculation Method:	Minimum Curvature
Well Error:	0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	Grand Junction
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 6919' & RKB 14' @ 6933ft

Offset Depths are relative to Offset Datum

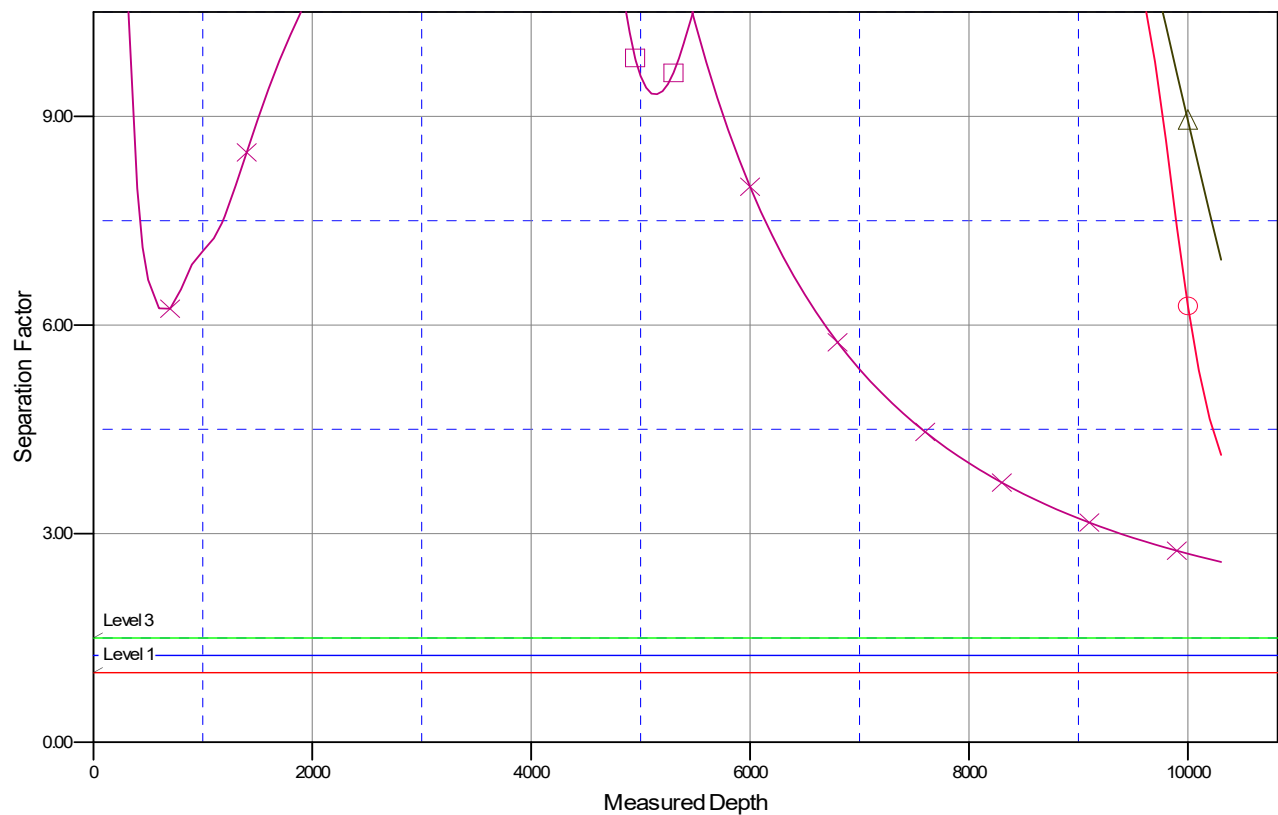
Central Meridian is -107.8333334

Coordinates are relative to: # 515H - Slot 2

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

Grid Convergence at Surface is: 0.24°

Separation Factor Plot



LEGEND

Lybrook#01 2206 1H OHCHV0	Chas# 2206 02H225H OHCHV0	# 002H Original drilling APDV0
Chas# 2206 02H226H OHCHV0	Lybrook#01 2206 1H OHCHV0	Logos#02H OHCHV0
Chas# 2206 02H272H OHCHV0	Logos#01H OHCHV0	Chas# 2206 02P227H OHCHV0
Logos#01H OHCHV0	Chas# 2206 2P228H OHCHV0	



United States Department of the Interior

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



In Reply Refer To:
3162.3-1(NMF0110)

DJR Operating LLC
#515H Venado Canyon Unit
Lease: NMNM109385 Unit: NMNM13567A
SH: SW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 1, T.22 N., R.6 W.
BH: NE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 12, T.22 N., R.6 W.
Sandoval County, New Mexico

***Above Data Required on Well Sign**

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

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

- A. ☒ Note all surface/drilling conditions of approval attached.
- B. ☒ The required wait on cement (WOC) time will be a minimum of 500 psi compressive strength at 60 degrees. Blowout preventor (BOP) nipple-up operations may then be initiated
- C. ☐ Test the surface casing to a minimum of _____ psi for 30 minutes.
- D. ☒ Test all casing strings below the surface casing to .22 psi/ft. of casing string length or 1500 psi, whichever is greater, but not to exceed 70% of the minimum internal yield burst) for a minimum of 30 minutes.
- E. ☐ Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the Bureau of Land Management, New Mexico State Office, Reservoir Management Group, 301 Dinosaur Trail, Santa Fe, New Mexico 87508.
The effective date of the agreement must be **prior** to any sales.

INTERIOR REGION 7 • UPPER COLORADO BASIN

COLORADO, NEW MEXICO, UTAH, WYOMING

- F. ☒ The use of co-flex hose is authorized contingent upon the following:
1. From the BOP to the choke manifold: the co-flex hose must be hobbled on both ends and saddle to prevent whip.
 2. From the choke manifold to the discharge tank: the co-flex hoses must be as straight as practical, hobbled on both ends and anchored to prevent whip.
 3. The co-flex hose pressure rating must be at least commensurate with approved BOPE.

I. GENERAL

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

- J. If for any reason, drilling operations are suspended for more than 90 days, a written notice must be provided to this office outlining your plans for this well.

II. REPORTING REQUIREMENTS

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

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

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

- a. Setting of each string of casing. Show size and depth of hole, grade and weight of casing, depth set, depth of any and all cementing tools that are used, amount (in cubic feet) and types of cement used, whether cement circulated to surface and all cement tops in the casing annulus, casing test method and results, and the date work was done. Show spud date on first report submitted.
- b. Intervals tested, perforated (include; size, number and location of perforations), acidized, or fractured; and results obtained. Provide date work was done on well completion report and completion sundry notice.
- c. Subsequent Report of Abandonment, show the manner in which the well was plugged, including depths where casing was cut and pulled, intervals (by depths) where cement plugs were replaced, and dates of the operations.

2. Well Completion Report (Form 3160-4) will be submitted with 30 days after well has been completed.

- a. Initial Bottom Hole Pressure (BHP) for the producing formations. Show the BHP on the completion report. The pressure may be: 1) measured with a bottom hole bomb, or; 2) calculated based on shut in surface pressures (minimum seven day buildup) and fluid level shot.

3. Submit a cement evaluation log, if cement is not circulated to surface.

III. DRILLER'S LOG

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

IV. GAS FLARING

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

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

V. SAFETY

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

VI. CHANGE OF PLANS OR ABANDONMENT

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

VII. PHONE NUMBERS

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

Virgil Lucero (505) 793-1836
BLM 24 Hour Number (505) 564-7750

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 147408

CONDITIONS

Operator: DJR OPERATING, LLC 1 Road 3263 Aztec, NM 87410	OGRID:
	371838
	Action Number:
	147408
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	10/5/2022
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104	10/5/2022
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing	10/5/2022
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	10/5/2022
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	10/5/2022