

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. 9. API Well No. 30-043-21506
2. Name of Operator		10. Field and Pool, or Exploratory
3a. Address	3b. Phone No. (include area code)	11. Sec., T. R. M. or Blk. and Survey or Area
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		12. County or Parish
14. Distance in miles and direction from nearest town or post office*		13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- | | |
|---|---|
| 1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

25. Signature	Name (Printed/Typed)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
Title		
Office		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)



DISTRICT I1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720**DISTRICT II**811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720**DISTRICT III**1000 Rio Brazos Rd., 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 30-043-21506	² Pool Code 42289	³ Pool Name LYBROOK GALLUP OIL POOL
⁴ Property Code 325271	⁵ Property Name VENADO CANYON UNIT	⁶ Well Number 513H
⁷ OGRID No. 371838	⁸ Operator Name DJR OPERATING, LLC	⁹ Elevation 6941'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	01	22N	06W		922'	SOUTH	352'	WEST	SANDOVAL

¹¹ Bottom Hole Location If Different From Surface

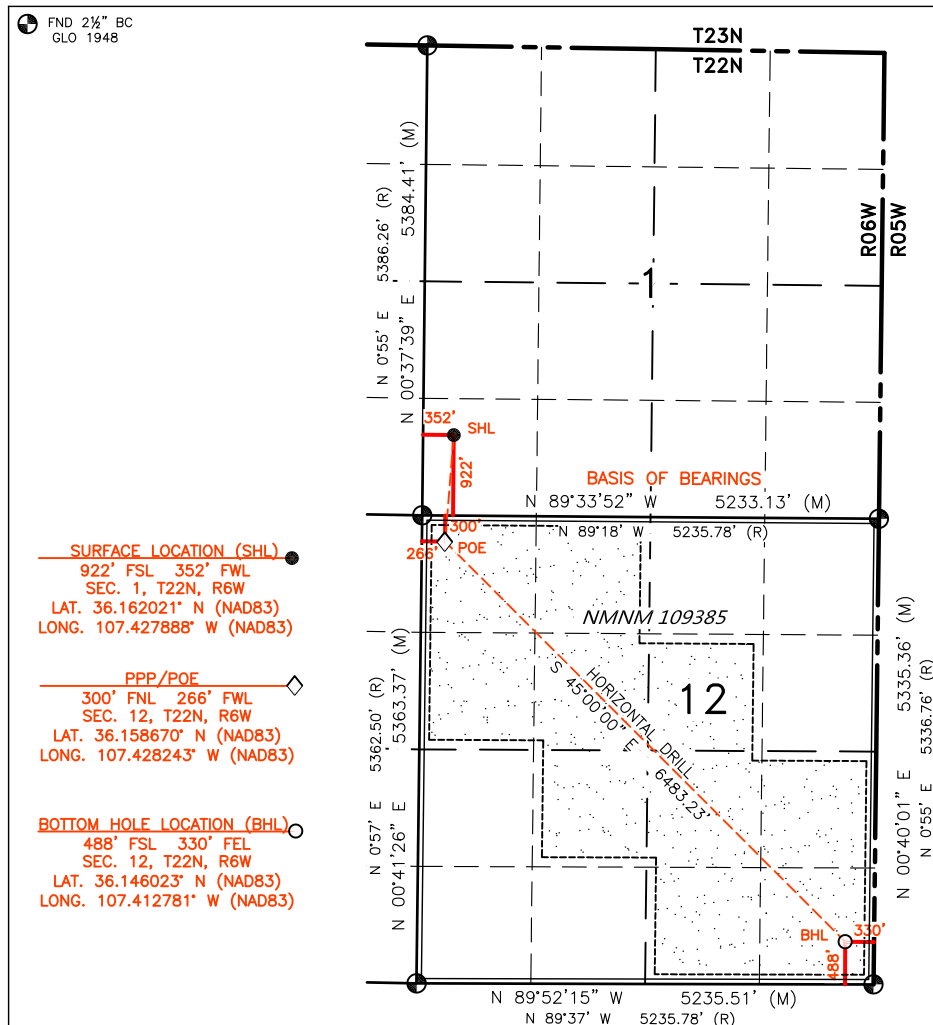
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	12	22N	06W		488'	SOUTH	330'	EAST	SANDOVAL

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

R-14067 R-14067A

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 01/19/22
Signature Date

Shaw-Marie Ford

Printed Name

sford@djrlc.com

E-mail Address

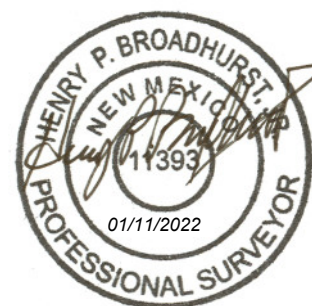
SURVEYOR CERTIFICATION

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 101H	TBD	M-01-22N-06W	930 FSL x 370 FWL	400	590	140
Venado Canyon Unit 513H	TBD	M-01-22N-06W	922 FSL x 352 FWL	340	260	120
Venado Canyon Unit 514H	TBD	M-01-22N-06W	938 FSL x 389 FWL	300	230	110

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 101H	TBD	02/16/2023	02/27/2023	03/17/2023	03/27/2023	03/29/2023
Venado Canyon Unit 513H	TBD	02/17/2023	02/28/2023	03/18/2023	03/28/2023	03/29/2023
Venado Canyon Unit 514H	TBD	02/18/2023	02/29/2023	03/19/2023	03/29/2023	03/29/2023

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 101H, 513H and 514H
SWSW M-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 101H, 513H and 514H
SWSW M-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.
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Venado Canyon Unit 101H, 513H and 514H
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OPERATIONAL PRACTICES

19.15.27.8 A. Venting and Flaring of Natural Gas

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

19.15.27.8 B. Venting and flaring during drilling operations

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

19.15.27.8 E. Venting and flaring during completion or recompletion operations

During Completion Operations, DJR utilizes the following:

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



19.15.27.8 D. Venting and flaring during production operations

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

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

19.15.27.8 E. Performance standards

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



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

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

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



DJR OPERATING, LLC.
OGRID NO: 371838
NATURAL GAS MANAGEMENT PLAN
Venado Canyon Unit 101H, 513H and 514H
SWSW M-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 #513H

Sandoval County, New Mexico

Surface Location

352-ft FWL & 922-ft FSL
 Sec 1 T22N R06W
 Graded Elevation 6941' MSL
 RKB Elevation 6955' (14' KB)

SHL Geographical Coordinates (NAD-83)

Latitude 36.1620210° N
 Longitude 107.4278880° W

Kick Off Point for Horizontal Build Curve

4387-ft MD
 4297-ft TVD

Local Coordinates (from SHL)

672-ft South
 459-ft West

Heel Location (Pay zone entry)

266-ft FWL & 300-ft FNL
 Sec 12 T22N R06W

Heel Geographical Coordinates (NAD-83)

Latitude 36.15866955° N
 Longitude 107.42824313° W

Bottom Hole Location (TD)

330-ft FEL & 488-ft FSL
 Sec 12 T22N R06W

BHL Geographical Coordinates (NAD-83)

Latitude 36.146023° N
 Longitude 107.4127810° W

Well objectives

This well is planned as a 6480-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	1322	1310	Sd	W	8.3	8.4 – 8.8
Kirtland	1422	1408	Sh	-	8.3	8.4 – 8.8
Fruitland	1628	1609	C	G	8.3	9.0 - 9.5
Pictured Cliffs	1835	1810	Sd	W	8.3	9.0 - 9.5
Lewis	1942	1915	Sh	-		9.0 - 9.5
Chacra	2710	2663	Sd	-	8.3	9.0 - 9.5
Menefee	3430	3365	Sd, C	G	8.3	9.0 - 9.5
Point Lookout	4159	4075	Sd	-	8.3	9.0 - 9.5
Mancos	4304	4217	Sh	-		9.0 - 9.5
Mancos Silt	4683	4573	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	5363	4892	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	5303	surf	4890	surface
4-1/2"	6-1/8"	11.6	P-110	BTC	5017	11846	4804	4863	5017

Note: all casing will be new

Rev 0



Casing Design Load Cases

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

Note

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

Casing Design Factors

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

Cement Design

9-5/8" Surface Casing

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

7" Intermediate Casing

	Lead	Tail
	BJ Services	BJ Services
Type	III	Poz/G
Planned top	Surface	3887-ft
Density (ppg)	12.30	13.50
Yield (cf/sx)	2.34	1.50
Mix water (gal/sx)	13.26	7.20
Volume (sx)	377	227
Volume (bbls)	157	60
Volume (cu.ft.)	883	339
Excess %	55	55



Rev 0

4-1/2" Production Liner

	BJ Services
Type	Poz/G
Planned top	5017-ft
Density (ppg)	13.3
Yield (cf/sx)	1.56
Mix water (gal/sx)	7.71
Volume (sx)	573
Volume (bbls)	160
Volume (cu.ft)	896
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 – 5303	9.0 – 9.5	38 – 45	8 – 14	<20
Production	Low solids, non-dispersed	5303 – 11846	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: M01 2206 Pad
Well: # 513H
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: # 513H

GL 6941' & RKB14' @ 6955ft

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0	0	1878522.25	2842771.80	36.16202100	-107.42788800	1

Plan: APD (# 513H/Original drilling)

Created By: Janie Collins Date: 17:40, May 18 2021

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
513H Heel	4892	-1220	-105	1877301.81	2842672.07	36.15866955	-107.42824310
513H Toe	4863	-5823	4460	1872717.62	2847256.35	36.14602300	-107.41278100

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	
430	0.00	0.00	430	0	0	0.00	0.00	0	
1077	12.93	214.35	1071	-60	-41	2.00	214.35	23	
4387	12.93	214.35	4287	-672	-459	0.00	0.00	254	
5363	90.26	135.24	4892	-1220	-105	9.00	-79.33	905	513H Heel
11846	90.26	135.24	4863	-5823	4460	0.00	0.00	7335	513H Toe



Azimuths to True North
Magnetic North: 8

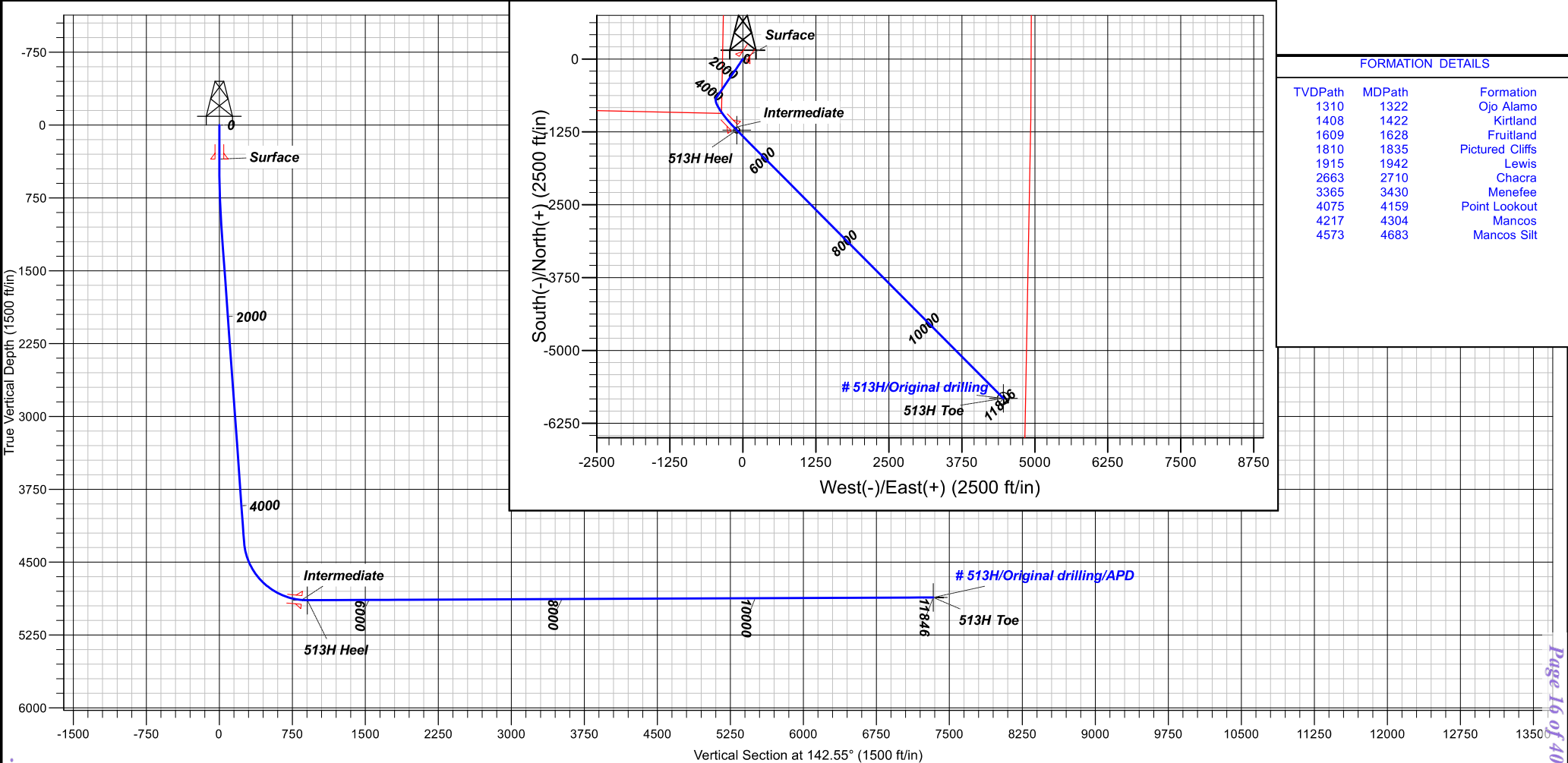
Magnetic Field
Strength: 49355
Dip Angle: 62.8
Date: 2/17/2021
Model: IGRF2015

CASING DETAILS

TVD	MD	Name
350	350	Surface
4890	5303	Intermediate

FORMATION DETAILS

TVDPATH	MDPATH	FORMATION
1310	1322	Ojo Alamo
1408	1422	Kirtland
1609	1628	Fruitland
1810	1835	Pictured Cliffs
1915	1942	Lewis
2663	2710	Chacra
3365	3430	Menefee
4075	4159	Point Lookout
4217	4304	Mancos
4573	4683	Mancos Silt





DJR Operating

Venado Canyon Unit

M01 2206 Pad

513H - Slot 1

Original drilling

Plan: APD

Standard Planning Report

18 May, 2021





Lonestar Consulting, LLC
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well # 513H - Slot 1
Company:	DJR Operating	TVD Reference:	GL 6941' & RKB14' @ 6955ft
Project:	Venado Canyon Unit	MD Reference:	GL 6941' & RKB14' @ 6955ft
Site:	M01 2206 Pad	North Reference:	True
Well:	# 513H	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	M01 2206 Pad				
Site Position:		Northing:	1,878,522.25 usft	Latitude:	36.16202100
From:	Lat/Long	Easting:	2,842,771.80 usft	Longitude:	-107.42788800
Position Uncertainty:	0 ft	Slot Radius:	13.20 in	Grid Convergence:	0.24

Well	# 513H - Slot 1					
Well Position	+N/-S	0 ft	Northing:	1,878,522.25 usft	Latitude:	36.16202100
	+E/-W	0 ft	Easting:	2,842,771.80 usft	Longitude:	-107.42788800
Position Uncertainty		0 ft	Wellhead Elevation:		Ground Level:	6941 ft

Wellbore	Original drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/17/2021	8.68	62.86	49,355.80568832

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	142.55

Plan Survey Tool Program	Date	5/18/2021		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0	11,846 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	
430	0.00	0.00	430	0	0	0.00	0.00	0.00	0.00	
1077	12.93	214.35	1071	-60	-41	2.00	2.00	0.00	214.35	
4387	12.93	214.35	4297	-672	-459	0.00	0.00	0.00	0.00	
5363	90.26	135.24	4892	-1220	-105	9.00	7.92	-8.11	-79.33	513H Heel
11,846	90.26	135.24	4863	-5823	4460	0.00	0.00	0.00	0.00	513H Toe



Lonestar Consulting, LLC
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well # 513H - Slot 1
Company:	DJR Operating	TVD Reference:	GL 6941' & RKB14' @ 6955ft
Project:	Venado Canyon Unit	MD Reference:	GL 6941' & RKB14' @ 6955ft
Site:	M01 2206 Pad	North Reference:	True
Well:	# 513H	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
430	0.00	0.00	430	0	0	0	0.00	0.00	0.00
500	1.40	214.35	500	-1	0	0	2.00	2.00	0.00
600	3.40	214.35	600	-4	-3	2	2.00	2.00	0.00
700	5.40	214.35	700	-10	-7	4	2.00	2.00	0.00
800	7.40	214.35	799	-20	-13	7	2.00	2.00	0.00
900	9.40	214.35	898	-32	-22	12	2.00	2.00	0.00
1000	11.40	214.35	996	-47	-32	18	2.00	2.00	0.00
1077	12.93	214.35	1071	-60	-41	23	2.00	2.00	0.00
1100	12.93	214.35	1094	-64	-44	24	0.00	0.00	0.00
1200	12.93	214.35	1191	-83	-57	31	0.00	0.00	0.00
1300	12.93	214.35	1289	-101	-69	38	0.00	0.00	0.00
1400	12.93	214.35	1386	-120	-82	45	0.00	0.00	0.00
1500	12.93	214.35	1484	-138	-94	52	0.00	0.00	0.00
1600	12.93	214.35	1581	-157	-107	59	0.00	0.00	0.00
1700	12.93	214.35	1679	-175	-120	66	0.00	0.00	0.00
1800	12.93	214.35	1776	-194	-132	73	0.00	0.00	0.00
1900	12.93	214.35	1874	-212	-145	80	0.00	0.00	0.00
2000	12.93	214.35	1971	-231	-158	87	0.00	0.00	0.00
2100	12.93	214.35	2069	-249	-170	94	0.00	0.00	0.00
2200	12.93	214.35	2166	-268	-183	101	0.00	0.00	0.00
2300	12.93	214.35	2264	-286	-195	108	0.00	0.00	0.00
2400	12.93	214.35	2361	-304	-208	115	0.00	0.00	0.00
2500	12.93	214.35	2458	-323	-221	122	0.00	0.00	0.00
2600	12.93	214.35	2556	-341	-233	129	0.00	0.00	0.00
2700	12.93	214.35	2653	-360	-246	136	0.00	0.00	0.00
2800	12.93	214.35	2751	-378	-259	143	0.00	0.00	0.00
2900	12.93	214.35	2848	-397	-271	150	0.00	0.00	0.00
3000	12.93	214.35	2946	-415	-284	157	0.00	0.00	0.00
3100	12.93	214.35	3043	-434	-297	164	0.00	0.00	0.00
3200	12.93	214.35	3141	-452	-309	171	0.00	0.00	0.00
3300	12.93	214.35	3238	-471	-322	178	0.00	0.00	0.00
3400	12.93	214.35	3336	-489	-334	185	0.00	0.00	0.00
3500	12.93	214.35	3433	-508	-347	192	0.00	0.00	0.00
3600	12.93	214.35	3531	-526	-360	199	0.00	0.00	0.00
3700	12.93	214.35	3628	-545	-372	206	0.00	0.00	0.00
3800	12.93	214.35	3725	-563	-385	213	0.00	0.00	0.00
3900	12.93	214.35	3823	-582	-398	220	0.00	0.00	0.00
4000	12.93	214.35	3920	-600	-410	227	0.00	0.00	0.00
4100	12.93	214.35	4018	-619	-423	234	0.00	0.00	0.00
4200	12.93	214.35	4115	-637	-435	241	0.00	0.00	0.00
4300	12.93	214.35	4213	-656	-448	248	0.00	0.00	0.00
4387	12.93	214.35	4297	-672	-459	254	0.00	0.00	0.00
4400	13.20	209.23	4310	-674	-461	255	8.99	2.05	-38.75
4500	17.84	179.77	4407	-699	-466	272	9.00	4.63	-29.45
4600	24.93	164.32	4500	-735	-460	304	9.00	7.09	-15.46
4700	32.92	155.68	4587	-780	-443	350	9.00	7.99	-8.64
4800	41.29	150.17	4667	-834	-416	409	9.00	8.37	-5.51
4900	49.85	146.26	4737	-894	-378	480	9.00	8.56	-3.91
5000	58.51	143.23	4795	-960	-331	561	9.00	8.66	-3.03



Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well # 513H - Slot 1
Company:	DJR Operating	TVD Reference:	GL 6941' & RKB14' @ 6955ft
Project:	Venado Canyon Unit	MD Reference:	GL 6941' & RKB14' @ 6955ft
Site:	M01 2206 Pad	North Reference:	True
Well:	# 513H	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	67.23	140.73	4841	-1030	-276	650	9.00	8.72	-2.51
5200	75.98	138.52	4873	-1103	-215	745	9.00	8.75	-2.20
5300	84.76	136.48	4889	-1175	-148	843	9.00	8.77	-2.04
5363	90.26	135.24	4892	-1220	-105	905	9.00	8.78	-1.98
5400	90.26	135.24	4892	-1247	-79	942	0.00	0.00	0.00
5500	90.26	135.24	4891	-1318	-8	1041	0.00	0.00	0.00
5600	90.26	135.24	4891	-1389	62	1140	0.00	0.00	0.00
5700	90.26	135.24	4890	-1460	133	1239	0.00	0.00	0.00
5800	90.26	135.24	4890	-1531	203	1339	0.00	0.00	0.00
5900	90.26	135.24	4890	-1602	274	1438	0.00	0.00	0.00
6000	90.26	135.24	4889	-1673	344	1537	0.00	0.00	0.00
6100	90.26	135.24	4889	-1744	414	1636	0.00	0.00	0.00
6200	90.26	135.24	4888	-1815	485	1735	0.00	0.00	0.00
6300	90.26	135.24	4888	-1886	555	1835	0.00	0.00	0.00
6400	90.26	135.24	4887	-1957	626	1934	0.00	0.00	0.00
6500	90.26	135.24	4887	-2028	696	2033	0.00	0.00	0.00
6600	90.26	135.24	4886	-2099	766	2132	0.00	0.00	0.00
6700	90.26	135.24	4886	-2170	837	2231	0.00	0.00	0.00
6800	90.26	135.24	4886	-2241	907	2330	0.00	0.00	0.00
6900	90.26	135.24	4885	-2312	978	2430	0.00	0.00	0.00
7000	90.26	135.24	4885	-2383	1048	2529	0.00	0.00	0.00
7100	90.26	135.24	4884	-2454	1119	2628	0.00	0.00	0.00
7200	90.26	135.24	4884	-2525	1189	2727	0.00	0.00	0.00
7300	90.26	135.24	4883	-2596	1259	2826	0.00	0.00	0.00
7400	90.26	135.24	4883	-2667	1330	2926	0.00	0.00	0.00
7500	90.26	135.24	4882	-2738	1400	3025	0.00	0.00	0.00
7600	90.26	135.24	4882	-2809	1471	3124	0.00	0.00	0.00
7700	90.26	135.24	4882	-2880	1541	3223	0.00	0.00	0.00
7800	90.26	135.24	4881	-2951	1611	3322	0.00	0.00	0.00
7900	90.26	135.24	4881	-3022	1682	3422	0.00	0.00	0.00
8000	90.26	135.24	4880	-3093	1752	3521	0.00	0.00	0.00
8100	90.26	135.24	4880	-3164	1823	3620	0.00	0.00	0.00
8200	90.26	135.24	4879	-3235	1893	3719	0.00	0.00	0.00
8300	90.26	135.24	4879	-3306	1964	3818	0.00	0.00	0.00
8400	90.26	135.24	4878	-3377	2034	3917	0.00	0.00	0.00
8500	90.26	135.24	4878	-3448	2104	4017	0.00	0.00	0.00
8600	90.26	135.24	4878	-3519	2175	4116	0.00	0.00	0.00
8700	90.26	135.24	4877	-3590	2245	4215	0.00	0.00	0.00
8800	90.26	135.24	4877	-3661	2316	4314	0.00	0.00	0.00
8900	90.26	135.24	4876	-3732	2386	4413	0.00	0.00	0.00
9000	90.26	135.24	4876	-3803	2456	4513	0.00	0.00	0.00
9100	90.26	135.24	4875	-3874	2527	4612	0.00	0.00	0.00
9200	90.26	135.24	4875	-3945	2597	4711	0.00	0.00	0.00
9300	90.26	135.24	4874	-4016	2668	4810	0.00	0.00	0.00
9400	90.26	135.24	4874	-4087	2738	4909	0.00	0.00	0.00
9500	90.26	135.24	4873	-4158	2808	5009	0.00	0.00	0.00
9600	90.26	135.24	4873	-4229	2879	5108	0.00	0.00	0.00
9700	90.26	135.24	4873	-4300	2949	5207	0.00	0.00	0.00
9800	90.26	135.24	4872	-4371	3020	5306	0.00	0.00	0.00
9900	90.26	135.24	4872	-4442	3090	5405	0.00	0.00	0.00
10,000	90.26	135.24	4871	-4513	3161	5504	0.00	0.00	0.00
10,100	90.26	135.24	4871	-4584	3231	5604	0.00	0.00	0.00
10,200	90.26	135.24	4870	-4655	3301	5703	0.00	0.00	0.00
10,300	90.26	135.24	4870	-4726	3372	5802	0.00	0.00	0.00



Lonestar Consulting, LLC
Planning Report



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Company:	DJR Operating	TVD Reference:	GL 6941' & RKB14' @ 6955ft
Project:	Venado Canyon Unit	MD Reference:	GL 6941' & RKB14' @ 6955ft
Site:	M01 2206 Pad	North Reference:	True
Well:	# 513H	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)	
10,400	90.26	135.24	4869	-4797	3442	5901	0.00	0.00	0.00	
10,500	90.26	135.24	4869	-4868	3513	6000	0.00	0.00	0.00	
10,600	90.26	135.24	4869	-4939	3583	6100	0.00	0.00	0.00	
10,700	90.26	135.24	4868	-5010	3653	6199	0.00	0.00	0.00	
10,800	90.26	135.24	4868	-5081	3724	6298	0.00	0.00	0.00	
10,900	90.26	135.24	4867	-5152	3794	6397	0.00	0.00	0.00	
11,000	90.26	135.24	4867	-5223	3865	6496	0.00	0.00	0.00	
11,100	90.26	135.24	4866	-5294	3935	6595	0.00	0.00	0.00	
11,200	90.26	135.24	4866	-5365	4006	6695	0.00	0.00	0.00	
11,300	90.26	135.24	4865	-5436	4076	6794	0.00	0.00	0.00	
11,400	90.26	135.24	4865	-5507	4146	6893	0.00	0.00	0.00	
11,500	90.26	135.24	4865	-5578	4217	6992	0.00	0.00	0.00	
11,600	90.26	135.24	4864	-5649	4287	7091	0.00	0.00	0.00	
11,700	90.26	135.24	4864	-5720	4358	7191	0.00	0.00	0.00	
11,800	90.26	135.24	4863	-5791	4428	7290	0.00	0.00	0.00	
11,846	90.26	135.24	4863	-5823	4460	7335	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude		Longitude
- hit/miss target										
- Shape										
513H Toe	0.00	0.00	4863	-5823	4460	1,872,717.62	2,847,256.36	36.14602300		-107.41278100
- plan hits target center										
- Circle (radius 100)										
513H Heel	0.00	0.00	4892	-1220	-105	1,877,301.82	2,842,672.07	36.15866955		-107.42824310
- plan hits target center										
- Circle (radius 50)										

Casing Points						Casing Diameter (in)	Hole Diameter (in)
Measured Depth (ft)	Vertical Depth (ft)	Name					
350	350	Surface				9.63	12.25
5303	4890	Intermediate				7.00	8.75



Lonestar Consulting, LLC
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well # 513H - Slot 1
Company:	DJR Operating	TVD Reference:	GL 6941' & RKB14' @ 6955ft
Project:	Venado Canyon Unit	MD Reference:	GL 6941' & RKB14' @ 6955ft
Site:	M01 2206 Pad	North Reference:	True
Well:	# 513H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original drilling		
Design:	APD		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1322	1310	Ojo Alamo		0.00	0.00	
1422	1408	Kirtland		0.00	0.00	
1628	1609	Fruitland		0.00	0.00	
1835	1810	Pictured Cliffs		0.00	0.00	
1942	1915	Lewis		0.00	0.00	
2710	2663	Chacra		0.00	0.00	
3430	3365	Menefee		0.00	0.00	
4159	4075	Point Lookout		0.00	0.00	
4304	4217	Mancos		0.00	0.00	
4683	4573	Mancos Silt		0.00	0.00	



DJR Operating

Venado Canyon Unit

M01 2206 Pad

513H

Original drilling

APD

Anticollision Report

18 May, 2021





Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 1
Project:	Venado Canyon Unit	TVD Reference:	GL 6941' & RKB14' @ 6955ft
Reference Site:	M01 2206 Pad	MD Reference:	GL 6941' & RKB14' @ 6955ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 513H	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	5/18/2021		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0	11,846	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						
Chaco 2206 2P 228H - OH - OH	4412	4386	322	290	10.297	CC, ES
Chaco 2206 2P 228H - OH - OH	4450	4421	323	291	10.233	SF
M01 2206 Pad						
# 101H - Original drilling - APD	454	454	20	17	6.989	CC
# 101H - Original drilling - APD	500	500	20	17	6.353	ES
# 101H - Original drilling - APD	11,063	11,938	911	621	3.142	SF
# 514H - Original drilling - APD	430	430	40	37	14.988	CC, ES
# 514H - Original drilling - APD	10,600	11,039	1313	1013	4.373	SF

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		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)				
0	0	0	0	0	0	-105.52	-323	-1162	1206					
100	100	98	98	0	0	-105.48	-322	-1162	1206	1206	0.28	4,237.684		
200	200	194	194	1	0	-105.35	-319	-1163	1206	1206	0.77	1,568.568		
300	300	289	289	1	0	-105.15	-316	-1165	1207	1206	1.25	963.303		
400	400	384	384	1	1	-104.87	-310	-1168	1209	1207	1.74	695.805		
430	430	412	412	1	1	-104.77	-308	-1169	1209	1207	1.88	642.449		
500	500	479	479	2	1	41.15	-303	-1172	1210	1208	2.22	544.887		
600	600	582	581	2	1	41.59	-298	-1175	1209	1206	2.78	435.089		
700	700	684	683	2	1	42.00	-296	-1178	1205	1202	3.32	362.743		
800	799	792	791	3	1	42.50	-296	-1179	1198	1194	3.89	308.028		
900	898	893	892	3	1	43.10	-297	-1180	1188	1183	4.46	266.227		
1000	996	990	989	3	2	43.86	-297	-1180	1175	1170	5.05	232.847		
1077	1071	1062	1061	4	2	44.53	-297	-1181	1165	1159	5.51	211.327		
1100	1094	1084	1083	4	2	44.70	-297	-1181	1161	1155	5.66	205.289		
1200	1191	1184	1183	4	2	45.49	-298	-1182	1146	1140	6.29	182.136		
1300	1289	1284	1283	5	2	46.31	-298	-1183	1131	1124	6.94	162.875		
1400	1386	1384	1383	5	2	47.16	-298	-1184	1116	1109	7.61	146.665		
1500	1484	1502	1501	6	3	48.13	-299	-1184	1101	1093	8.32	132.361		
1600	1581	1639	1637	7	3	49.10	-303	-1179	1083	1074	9.05	119.648		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 1
Project:	Venado Canyon Unit	TVD Reference:	GL 6941' & RKB14' @ 6955ft
Reference Site:	M01 2206 Pad	MD Reference:	GL 6941' & RKB14' @ 6955ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 513H	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		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	
1700	1679	1760	1758	7	3	49.87	-308	-1171	1062	1052	9.76	108.870	
1800	1776	1888	1885	8	3	50.58	-316	-1159	1039	1029	10.47	99.201	
1900	1874	2004	2001	8	4	51.17	-325	-1144	1013	1002	11.19	90.583	
2000	1971	2129	2123	9	4	51.79	-335	-1126	986	974	11.91	82.792	
2100	2069	2244	2237	9	4	52.37	-344	-1106	955	943	12.63	75.670	
2200	2166	2364	2354	10	5	52.92	-355	-1083	923	910	13.35	69.158	
2300	2263	2478	2464	10	5	53.32	-368	-1058	888	874	14.08	63.109	
2400	2361	2571	2554	11	6	53.58	-379	-1036	853	838	14.82	57.541	
2500	2458	2662	2642	11	6	53.89	-390	-1015	817	802	15.54	52.582	
2600	2556	2764	2740	12	6	54.24	-403	-991	781	765	16.29	47.972	
2700	2653	2853	2826	13	7	54.55	-414	-970	745	728	17.04	43.719	
2800	2751	2943	2913	13	7	54.95	-425	-949	710	692	17.81	39.862	
2900	2848	3038	3004	14	8	55.42	-436	-927	674	656	18.58	36.302	
3000	2946	3137	3100	14	8	55.97	-448	-903	638	619	19.33	33.012	
3100	3043	3226	3186	15	8	56.57	-458	-882	602	582	20.12	29.930	
3200	3141	3312	3269	15	9	57.29	-467	-862	567	546	20.93	27.094	
3300	3238	3397	3352	16	9	58.15	-475	-844	534	512	21.76	24.537	
3400	3336	3484	3436	16	10	59.19	-484	-827	502	479	22.58	22.226	
3500	3433	3570	3521	17	10	60.40	-491	-811	472	448	23.42	20.144	
3600	3531	3655	3604	18	10	61.80	-498	-797	444	419	24.27	18.272	
3700	3628	3740	3688	18	11	63.42	-504	-785	418	393	25.14	16.636	
3800	3725	3825	3772	19	11	65.40	-509	-775	396	370	26.00	15.226	
3900	3823	3912	3859	19	11	67.76	-513	-766	377	350	26.85	14.027	
4000	3920	4005	3951	20	11	70.60	-516	-759	360	332	27.70	13.000	
4100	4018	4096	4042	20	11	73.82	-518	-753	346	317	28.56	12.115	
4200	4115	4186	4132	21	12	77.37	-518	-748	335	306	29.42	11.384	
4300	4213	4280	4226	21	12	81.18	-518	-745	327	297	30.28	10.803	
4387	4297	4362	4308	22	12	84.52	-518	-742	322	291	31.02	10.387	
4400	4310	4374	4320	22	12	90.02	-518	-742	322	291	31.13	10.335	
4412	4322	4386	4332	22	12	94.90	-518	-742	322	290	31.23	10.297 CC, ES	
4450	4359	4421	4367	22	12	108.38	-519	-741	323	291	31.55	10.233 SF	
4500	4407	4468	4413	23	12	122.37	-519	-741	329	297	31.97	10.276	
4550	4454	4514	4460	23	12	132.76	-520	-741	339	306	32.38	10.459	
4600	4500	4560	4506	23	12	140.62	-520	-740	353	320	32.77	10.773	
4650	4544	4605	4551	24	12	146.77	-521	-740	371	338	33.13	11.213	
4700	4587	4649	4595	24	12	151.69	-521	-740	394	360	33.46	11.770	
4750	4628	4690	4636	24	12	155.71	-521	-740	420	386	33.76	12.438	
4800	4667	4729	4675	24	13	159.04	-522	-739	449	415	34.03	13.209	
4850	4703	4766	4711	25	13	161.84	-522	-739	482	448	34.26	14.076	
4900	4737	4799	4745	25	13	164.26	-523	-739	518	484	34.47	15.032	
4950	4768	4819	4765	25	13	166.03	-523	-739	557	522	34.60	16.101	
5000	4795	4835	4781	26	13	167.52	-523	-740	599	564	34.68	17.269	
5050	4820	4848	4793	26	13	168.89	-523	-741	643	608	34.73	18.516	
5100	4841	4867	4813	27	13	170.44	-523	-743	690	655	34.84	19.789	
5150	4859	4867	4813	27	13	172.05	-523	-743	737	702	34.81	21.177	
5200	4873	4867	4813	28	13	174.81	-523	-743	786	751	34.78	22.600	
5250	4883	4867	4813	28	13	-177.56	-523	-743	836	801	34.76	24.040	
5300	4889	4867	4813	29	13	-94.51	-523	-743	886	851	34.76	25.480	
5350	4892	4867	4813	29	13	-26.23	-523	-743	936	901	34.76	26.911	
5363	4892	4867	4813	29	13	-23.58	-523	-743	948	913	34.77	27.271	
5400	4892	4867	4813	30	13	-23.58	-523	-743	985	951	34.78	28.330	
5500	4891	4867	4813	31	13	-23.58	-523	-743	1085	1050	34.81	31.168	



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 1
Project:	Venado Canyon Unit	TVD Reference:	GL 6941' & RKB14' @ 6955ft
Reference Site:	M01 2206 Pad	MD Reference:	GL 6941' & RKB14' @ 6955ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 513H	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		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	
5600	4891	4867	4813	33	13	-23.58	-523	-743	1185	1150	34.83	34.008	
5700	4890	4867	4813	34	13	-23.58	-523	-743	1284	1249	34.85	36.848	
5800	4890	4867	4813	36	13	-23.58	-523	-743	1384	1349	34.87	39.688	
5900	4890	4867	4813	38	13	-23.58	-523	-743	1484	1449	34.89	42.527	
6000	4889	4867	4813	40	13	-23.58	-523	-743	1584	1549	34.91	45.366	
6100	4889	4867	4813	42	13	-23.58	-523	-743	1683	1648	34.92	48.202	
6200	4888	4867	4813	44	13	-23.58	-523	-743	1783	1748	34.94	51.037	
6300	4888	4867	4813	46	13	-23.58	-523	-743	1883	1848	34.96	53.869	
6400	4887	4867	4813	48	13	-23.58	-523	-743	1983	1948	34.97	56.699	
6500	4887	4867	4813	50	13	-23.58	-523	-743	2083	2048	34.99	59.526	
6600	4886	4867	4813	52	13	-23.58	-523	-743	2183	2148	35.01	62.350	
6700	4886	4867	4813	54	13	-23.58	-523	-743	2283	2248	35.03	65.171	
6800	4886	4867	4813	57	13	-23.58	-523	-743	2383	2348	35.05	67.988	
6900	4885	4842	4788	59	13	-19.64	-523	-740	2482	2447	34.96	70.998	
7000	4885	4841	4787	61	13	-19.49	-523	-740	2582	2547	34.98	73.820	
7100	4884	4840	4786	64	13	-19.36	-523	-740	2682	2647	34.99	76.638	
7200	4884	4839	4785	66	13	-19.24	-523	-740	2782	2747	35.01	79.451	
7300	4883	4838	4784	68	13	-19.12	-523	-740	2882	2847	35.03	82.260	
7400	4883	4837	4783	71	13	-19.02	-523	-740	2982	2947	35.05	85.064	
7500	4882	4837	4783	73	13	-18.91	-523	-740	3081	3046	35.07	87.863	
7600	4882	4836	4782	75	13	-18.82	-523	-740	3181	3146	35.09	90.657	
7700	4882	4835	4781	78	13	-18.73	-523	-740	3281	3246	35.11	93.446	
7800	4881	4835	4780	80	13	-18.64	-523	-740	3381	3346	35.14	96.229	
7900	4881	4834	4780	82	13	-18.56	-523	-740	3481	3446	35.16	99.006	
8000	4880	4833	4779	85	13	-18.49	-523	-740	3581	3546	35.19	101.778	
8100	4880	4833	4779	87	13	-18.41	-523	-740	3681	3646	35.21	104.544	
8200	4879	4832	4778	90	13	-18.34	-523	-740	3781	3746	35.24	107.304	
8300	4879	4832	4777	92	13	-18.28	-523	-740	3881	3846	35.26	110.058	
8400	4878	4831	4777	94	13	-18.22	-523	-740	3981	3946	35.29	112.805	
8500	4878	4831	4776	97	13	-18.16	-523	-740	4081	4046	35.32	115.546	
8600	4878	4804	4750	99	13	-15.31	-523	-739	4181	4146	35.27	118.557	
8700	4877	4804	4750	102	13	-15.31	-523	-739	4281	4246	35.30	121.283	
8800	4877	4804	4750	104	13	-15.31	-523	-739	4381	4346	35.33	124.001	
8900	4876	4804	4750	106	13	-15.31	-523	-739	4481	4446	35.36	126.714	
9000	4876	4804	4750	109	13	-15.31	-523	-739	4581	4546	35.40	129.418	
9100	4875	4804	4750	111	13	-15.31	-523	-739	4681	4646	35.43	132.116	
9200	4875	4804	4750	114	13	-15.31	-523	-739	4781	4745	35.47	134.806	
9300	4874	4804	4750	116	13	-15.31	-523	-739	4881	4845	35.50	137.489	
9400	4874	4804	4750	119	13	-15.31	-523	-739	4981	4945	35.54	140.165	
9500	4873	4804	4750	121	13	-15.31	-523	-739	5081	5045	35.57	142.832	
9600	4873	4804	4750	124	13	-15.31	-523	-739	5181	5145	35.61	145.492	
9700	4873	4804	4750	126	13	-15.31	-523	-739	5281	5245	35.65	148.143	
9800	4872	4804	4750	128	13	-15.31	-523	-739	5381	5345	35.68	150.787	
9900	4872	4804	4750	131	13	-15.31	-523	-739	5481	5445	35.72	153.422	
10,000	4871	4804	4750	133	13	-15.31	-523	-739	5581	5545	35.76	156.049	
10,100	4871	4804	4750	136	13	-15.31	-523	-739	5681	5645	35.80	158.668	
10,200	4870	4804	4750	138	13	-15.31	-523	-739	5781	5745	35.84	161.278	
10,300	4870	4804	4750	141	13	-15.31	-523	-739	5880	5845	35.88	163.879	
10,400	4869	4804	4750	143	13	-15.31	-523	-739	5980	5945	35.92	166.472	
10,500	4869	4804	4750	146	13	-15.31	-523	-739	6080	6044	35.97	169.056	
10,600	4869	4804	4750	148	13	-15.31	-523	-739	6180	6144	36.01	171.631	
10,700	4868	4804	4750	151	13	-15.31	-523	-739	6280	6244	36.05	174.197	



Lonestar Consulting, LLC
Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 1
Project:	Venado Canyon Unit	TVD Reference:	GL 6941' & RKB14' @ 6955ft
Reference Site:	M01 2206 Pad	MD Reference:	GL 6941' & RKB14' @ 6955ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 513H	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	
10,800	4868	4804	4750	153	13	-15.31	-523	-739	6380	6344	36.10	176.754		
10,900	4867	4804	4750	155	13	-15.31	-523	-739	6480	6444	36.14	179.302		
11,000	4867	4804	4750	158	13	-15.31	-523	-739	6580	6544	36.19	181.840		
11,100	4866	4804	4750	160	13	-15.31	-523	-739	6680	6644	36.23	184.370		
11,200	4866	4804	4750	163	13	-15.31	-523	-739	6780	6744	36.28	186.889		
11,300	4865	4804	4750	165	13	-15.31	-523	-739	6880	6844	36.33	189.400		
11,400	4865	4804	4750	168	13	-15.31	-523	-739	6980	6944	36.37	191.900		
11,500	4865	4804	4750	170	13	-15.31	-523	-739	7080	7044	36.42	194.392		
11,600	4864	4804	4750	173	13	-15.31	-523	-739	7180	7144	36.47	196.873		
11,700	4864	4804	4750	175	13	-15.31	-523	-739	7280	7244	36.52	199.345		
11,800	4863	4804	4750	178	13	-15.31	-523	-739	7380	7344	36.57	201.807		
11,846	4863	4804	4750	179	13	-15.31	-523	-739	7426	7389	36.59	202.931		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 1
Project:	Venado Canyon Unit	TVD Reference:	GL 6941' & RKB14' @ 6955ft
Reference Site:	M01 2206 Pad	MD Reference:	GL 6941' & RKB14' @ 6955ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 513H	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: M01 2206 Pad - # 101H - Original drilling - APD													Offset Site Error:	0 ft
Survey Program: 0-MWD+IGRF													Offset Well Error:	0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
							+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0	0	0	0	0	0	66.37	8	18	20					
100	100	100	100	0	0	66.37	8	18	20	20	0.31	64.801		
200	200	200	200	1	1	66.37	8	18	20	19	1.03	19.485		
300	300	300	300	1	1	66.37	8	18	20	18	1.74	11.467		
400	400	400	400	1	1	66.37	8	18	20	18	2.46	8.124		
430	430	430	430	1	1	65.95	8	18	20	17	2.67	7.448		
454	454	454	454	1	1	-149.49	8	18	20	17	2.84	6.989 CC		
500	500	500	500	2	2	-153.86	9	17	20	17	3.16	6.353 ES		
600	600	600	600	2	2	-170.89	13	13	23	19	3.86	6.024		
700	700	699	699	2	2	171.66	18	7	32	28	4.58	7.024		
800	799	798	797	3	3	162.74	24	0	46	41	5.30	8.725		
900	898	896	895	3	3	159.13	30	-6	64	58	6.04	10.631		
1000	996	994	992	3	3	157.92	36	-13	85	79	6.78	12.596		
1077	1071	1068	1066	4	4	157.79	41	-18	104	96	7.35	14.113		
1100	1094	1091	1089	4	4	157.86	42	-19	110	102	7.53	14.563		
1200	1191	1188	1185	4	4	158.07	48	-26	135	127	8.27	16.299		
1300	1289	1285	1282	5	5	158.22	54	-32	160	151	9.02	17.736		
1400	1386	1381	1378	5	5	158.33	60	-39	185	175	9.78	18.943		
1500	1484	1478	1474	6	5	158.41	66	-45	210	200	10.54	19.969		
1600	1581	1575	1571	7	6	158.47	72	-52	236	224	11.30	20.851		
1700	1679	1672	1667	7	6	158.52	78	-59	261	249	12.07	21.618		
1800	1776	1769	1764	8	6	158.57	84	-65	286	273	12.83	22.289		
1900	1874	1865	1860	8	7	158.60	90	-72	311	298	13.60	22.882		
2000	1971	1962	1956	9	7	158.63	96	-78	336	322	14.37	23.409		
2100	2069	2059	2053	9	8	158.66	102	-85	362	347	15.14	23.880		
2200	2166	2156	2149	10	8	158.68	108	-91	387	371	15.92	24.304		
2300	2263	2252	2245	10	8	158.70	114	-98	412	395	16.69	24.688		
2400	2361	2349	2342	11	9	158.72	120	-104	437	420	17.47	25.036		
2500	2458	2446	2438	11	9	158.74	126	-111	462	444	18.24	25.354		
2600	2556	2543	2535	12	10	158.75	132	-117	488	469	19.02	25.645		
2700	2653	2640	2631	13	10	158.76	138	-124	513	493	19.79	25.913		
2800	2751	2736	2727	13	10	158.78	144	-130	538	517	20.57	26.160		
2900	2848	2833	2824	14	11	158.79	150	-137	563	542	21.35	26.388		
3000	2946	2930	2920	14	11	158.80	155	-143	588	566	22.12	26.600		
3100	3043	3027	3016	15	11	158.80	161	-150	614	591	22.90	26.797		
3200	3141	3123	3113	15	12	158.81	167	-156	639	615	23.68	26.980		
3300	3238	3220	3209	16	12	158.82	173	-163	664	640	24.46	27.152		
3400	3336	3317	3305	16	13	158.83	179	-169	689	664	25.24	27.313		
3500	3433	3414	3402	17	13	158.83	185	-176	714	688	26.02	27.464		
3600	3531	3510	3498	18	13	158.84	191	-182	740	713	26.79	27.605		
3700	3628	3607	3595	18	14	158.84	197	-189	765	737	27.57	27.739		
3800	3725	3704	3691	19	14	158.85	203	-195	790	762	28.35	27.865		
3900	3823	3801	3787	19	14	158.86	209	-202	815	786	29.13	27.984		
4000	3920	3898	3884	20	15	158.86	215	-208	840	811	29.91	28.097		
4100	4018	3994	3980	20	15	158.86	221	-215	866	835	30.69	28.204		
4200	4115	4091	4076	21	16	158.87	227	-221	891	859	31.47	28.305		
4300	4213	4188	4173	21	16	158.87	233	-228	916	884	32.25	28.401		
4387	4297	4272	4256	22	16	158.88	238	-234	938	905	32.93	28.481		
4400	4310	4285	4269	22	16	164.13	239	-234	941	908	33.04	28.495		
4450	4359	4333	4317	22	17	-178.47	242	-238	955	922	33.42	28.590		
4500	4407	4380	4364	23	17	-165.48	245	-241	971	938	33.79	28.748		
4550	4454	4425	4409	23	17	-156.07	247	-244	989	955	34.15	28.970		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 1
Project:	Venado Canyon Unit	TVD Reference:	GL 6941' & RKB14' @ 6955ft
Reference Site:	M01 2206 Pad	MD Reference:	GL 6941' & RKB14' @ 6955ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 513H	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: M01 2206 Pad - # 101H - Original drilling - APD												Offset Site Error:	0 ft
Survey Program: 0-MWD+IGRF												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)			
4600	4500	4470	4453	23	17	-149.10	250	-247	1009	975	34.50	29.255	
4650	4544	4512	4496	24	17	-143.70	253	-250	1031	996	34.82	29.603	
4700	4587	4553	4536	24	17	-139.31	255	-253	1054	1019	35.13	30.011	
4750	4628	4591	4575	24	18	-135.54	258	-255	1079	1044	35.41	30.482	
4800	4667	5760	5327	24	22	-125.02	-238	212	1088	1052	35.59	30.574	
4850	4703	5793	5327	25	23	-123.59	-262	235	1072	1036	36.80	29.145	
4900	4737	5829	5327	25	23	-122.25	-288	260	1059	1021	38.07	27.813	
4950	4768	5868	5326	25	24	-121.00	-316	287	1047	1008	39.39	26.587	
5000	4795	5909	5326	26	24	-119.83	-346	315	1037	997	40.75	25.457	
5050	4820	5952	5326	26	25	-118.75	-378	345	1029	987	42.18	24.399	
5100	4841	5997	5326	27	26	-117.79	-410	376	1022	979	43.64	23.427	
5150	4859	6044	5326	27	27	-116.97	-444	408	1017	972	45.17	22.513	
5200	4873	6092	5326	28	27	-116.31	-478	441	1012	966	46.72	21.673	
5250	4883	6141	5325	28	28	-115.84	-514	475	1009	961	48.31	20.890	
5300	4889	6190	5325	29	29	-115.57	-550	509	1007	957	49.91	20.173	
5350	4892	6240	5325	29	30	-115.50	-586	544	1005	954	51.51	19.514	
5363	4892	6253	5325	29	30	-115.52	-595	552	1005	953	51.92	19.358	
5400	4892	6290	5325	30	31	-115.54	-622	578	1004	951	53.12	18.909	
5500	4891	6390	5324	31	33	-115.59	-694	647	1003	946	56.47	17.758	
5600	4891	6490	5324	33	35	-115.64	-767	716	1001	941	59.97	16.693	
5700	4890	6590	5324	34	37	-115.69	-839	785	999	936	63.59	15.714	
5800	4890	6690	5323	36	39	-115.74	-911	854	998	930	67.33	14.818	
5900	4890	6790	5323	38	41	-115.79	-983	923	996	925	71.15	13.999	
6000	4889	6890	5322	40	44	-115.84	-1056	992	994	919	75.04	13.250	
6100	4889	6990	5322	42	46	-115.90	-1128	1061	993	914	78.99	12.566	
6200	4888	7090	5322	44	48	-115.95	-1200	1130	991	908	83.00	11.939	
6300	4888	7190	5321	46	50	-116.00	-1273	1200	989	902	87.05	11.364	
6400	4887	7290	5321	48	53	-116.05	-1345	1269	988	896	91.14	10.836	
6500	4887	7390	5321	50	55	-116.10	-1417	1338	986	891	95.27	10.349	
6600	4886	7490	5320	52	57	-116.15	-1490	1407	984	885	99.42	9.900	
6700	4886	7590	5320	54	60	-116.20	-1562	1476	983	879	103.59	9.485	
6800	4886	7690	5319	57	62	-116.26	-1634	1545	981	873	107.78	9.101	
6900	4885	7790	5319	59	64	-116.31	-1707	1614	979	867	112.00	8.743	
7000	4885	7890	5319	61	67	-116.36	-1779	1683	978	861	116.23	8.411	
7100	4884	7990	5318	64	69	-116.41	-1851	1752	976	855	120.47	8.101	
7200	4884	8090	5318	66	71	-116.47	-1924	1821	974	849	124.72	7.811	
7300	4883	8190	5317	68	74	-116.52	-1996	1890	973	844	128.98	7.540	
7400	4883	8290	5317	71	76	-116.57	-2068	1959	971	838	133.25	7.286	
7500	4882	8390	5317	73	79	-116.63	-2140	2028	969	832	137.53	7.047	
7600	4882	8490	5316	75	81	-116.68	-2213	2097	968	826	141.82	6.823	
7700	4882	8590	5316	78	83	-116.73	-2285	2166	966	820	146.11	6.611	
7800	4881	8690	5316	80	86	-116.79	-2357	2235	964	814	150.40	6.411	
7900	4881	8790	5315	82	88	-116.84	-2430	2304	963	808	154.70	6.222	
8000	4880	8890	5315	85	91	-116.90	-2502	2373	961	802	159.00	6.043	
8100	4880	8990	5314	87	93	-116.95	-2574	2442	959	796	163.30	5.874	
8200	4879	9090	5314	90	96	-117.00	-2647	2511	958	790	167.61	5.713	
8300	4879	9190	5314	92	98	-117.06	-2719	2580	956	784	171.92	5.560	
8400	4878	9290	5313	94	100	-117.11	-2791	2649	954	778	176.23	5.415	
8500	4878	9390	5313	97	103	-117.17	-2864	2718	953	772	180.53	5.277	
8600	4878	9490	5312	99	105	-117.23	-2936	2788	951	766	184.84	5.145	
8700	4877	9590	5312	102	108	-117.28	-3008	2857	949	760	189.15	5.019	
8800	4877	9690	5312	104	110	-117.34	-3081	2926	948	754	193.46	4.898	



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 1
Project:	Venado Canyon Unit	TVD Reference:	GL 6941' & RKB14' @ 6955ft
Reference Site:	M01 2206 Pad	MD Reference:	GL 6941' & RKB14' @ 6955ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 513H	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: M01 2206 Pad - # 101H - Original drilling - APD												Offset Site Error:	0 ft
Survey Program: 0-MWD+IGRF												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
8900	4876	9790	5311	106	113	-117.39	-3153	2995	946	748	197.77	4.783	
9000	4876	9890	5311	109	115	-117.45	-3225	3064	944	742	202.07	4.673	
9100	4875	9990	5310	111	117	-117.51	-3297	3133	943	736	206.38	4.568	
9200	4875	10,090	5310	114	120	-117.56	-3370	3202	941	730	210.68	4.467	
9300	4874	10,190	5310	116	122	-117.62	-3442	3271	939	724	214.98	4.370	
9400	4874	10,290	5309	119	125	-117.68	-3514	3340	938	718	219.28	4.276	
9500	4873	10,390	5309	121	127	-117.73	-3587	3409	936	712	223.58	4.187	
9600	4873	10,489	5309	124	130	-117.79	-3659	3478	934	707	227.87	4.101	
9700	4873	10,589	5308	126	132	-117.85	-3731	3547	933	701	232.16	4.018	
9800	4872	10,689	5308	128	135	-117.91	-3804	3616	931	695	236.45	3.938	
9900	4872	10,789	5307	131	137	-117.96	-3876	3685	929	689	240.74	3.861	
10,000	4871	10,889	5307	133	139	-118.02	-3948	3754	928	683	245.03	3.787	
10,100	4871	10,989	5307	136	142	-118.08	-4021	3823	926	677	249.31	3.715	
10,200	4870	11,089	5306	138	144	-118.14	-4093	3892	925	671	253.58	3.646	
10,300	4870	11,189	5306	141	147	-118.20	-4165	3961	923	665	257.86	3.579	
10,400	4869	11,289	5305	143	149	-118.26	-4238	4030	921	659	262.13	3.515	
10,500	4869	11,389	5305	146	152	-118.32	-4310	4099	920	653	266.40	3.452	
10,600	4869	11,489	5305	148	154	-118.38	-4382	4168	918	647	270.66	3.392	
10,700	4868	11,589	5304	151	157	-118.44	-4454	4237	916	641	274.92	3.333	
10,800	4868	11,689	5304	153	159	-118.50	-4527	4307	915	636	279.17	3.277	
10,900	4867	11,789	5304	155	162	-118.56	-4599	4376	913	630	283.43	3.222	
11,000	4867	11,889	5303	158	164	-118.62	-4671	4445	911	624	287.67	3.168	
11,063	4866	11,938	5303	160	165	-118.65	-4706	4478	911	621	289.84	3.142 SF	
11,100	4866	11,938	5303	160	165	-118.65	-4706	4478	911	621	289.78	3.145	
11,200	4866	11,938	5303	163	165	-118.65	-4706	4478	921	633	287.34	3.204	
11,300	4865	11,938	5303	165	165	-118.65	-4706	4478	941	659	281.81	3.338	
11,400	4865	11,938	5303	168	165	-118.65	-4706	4478	971	697	273.76	3.546	
11,500	4865	11,938	5303	170	165	-118.65	-4706	4478	1010	746	263.88	3.827	
11,600	4864	11,938	5303	173	165	-118.65	-4706	4478	1057	804	252.86	4.180	
11,700	4864	11,938	5303	175	165	-118.65	-4706	4478	1111	870	241.32	4.604	
11,800	4863	11,938	5303	178	165	-118.65	-4706	4478	1171	941	229.71	5.098	
11,846	4863	11,938	5303	179	165	-118.65	-4706	4478	1201	976	224.47	5.348	



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 1
Project:	Venado Canyon Unit	TVD Reference:	GL 6941' & RKB14' @ 6955ft
Reference Site:	M01 2206 Pad	MD Reference:	GL 6941' & RKB14' @ 6955ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 513H	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: M01 2206 Pad - # 514H - 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		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	67.01	16	37	40					
100	100	100	100	0	0	67.01	16	37	40	40	0.31	130.013		
200	200	200	200	1	1	67.01	16	37	40	39	1.03	39.095		
300	300	300	300	1	1	67.01	16	37	40	38	1.74	23.006		
400	400	400	400	1	1	67.01	16	37	40	38	2.46	16.299		
430	430	430	430	1	1	67.01	16	37	40	37	2.67	14.988 CC, ES		
500	500	500	500	2	2	-148.34	16	37	41	38	3.16	12.925		
600	600	599	599	2	2	-154.63	19	37	46	42	3.86	11.889		
700	700	697	697	2	2	-163.70	25	36	57	52	4.57	12.392		
800	799	794	793	3	3	-172.11	35	36	74	69	5.27	14.033		
900	898	888	887	3	3	-178.55	48	35	98	92	5.98	16.449		
1000	996	984	981	3	3	177.27	61	35	128	121	6.69	19.073		
1077	1071	1056	1053	4	4	175.21	71	34	152	145	7.24	21.070		
1100	1094	1078	1075	4	4	174.73	74	34	160	153	7.40	21.665		
1200	1191	1172	1168	4	4	173.12	88	33	194	186	8.10	23.992		
1300	1289	1266	1261	5	5	171.98	101	33	228	220	8.81	25.935		
1400	1386	1360	1353	5	5	171.14	114	32	263	253	9.52	27.580		
1500	1484	1454	1446	6	5	170.49	128	32	297	287	10.24	28.988		
1600	1581	1548	1539	7	6	169.98	141	31	331	320	10.96	30.205		
1700	1679	1642	1632	7	6	169.56	155	30	365	353	11.68	31.265		
1800	1776	1736	1725	8	7	169.22	168	30	399	387	12.40	32.197		
1900	1874	1830	1818	8	7	168.92	181	29	434	421	13.13	33.021		
2000	1971	1923	1911	9	7	168.68	195	28	468	454	13.86	33.756		
2100	2069	2017	2004	9	8	168.46	208	28	502	488	14.59	34.414		
2200	2166	2111	2097	10	8	168.27	221	27	536	521	15.32	35.006		
2300	2263	2205	2190	10	9	168.11	235	27	571	555	16.06	35.543		
2400	2361	2299	2283	11	9	167.96	248	26	605	588	16.79	36.030		
2500	2458	2393	2376	11	9	167.83	261	25	639	622	17.52	36.476		
2600	2556	2487	2469	12	10	167.71	275	25	673	655	18.26	36.884		
2700	2653	2581	2562	13	10	167.61	288	24	708	689	19.00	37.259		
2800	2751	2675	2655	13	11	167.51	301	23	742	722	19.73	37.605		
2900	2848	2769	2748	14	11	167.43	315	23	776	756	20.47	37.926		
3000	2946	2863	2841	14	12	167.35	328	22	811	789	21.21	38.223		
3100	3043	2957	2934	15	12	167.27	341	21	845	823	21.95	38.499		
3200	3141	3051	3027	15	12	167.20	355	21	879	856	22.68	38.757		
3300	3238	3145	3120	16	13	167.14	368	20	913	890	23.42	38.998		
3400	3336	3239	3213	16	13	167.08	381	20	948	924	24.16	39.224		
3500	3433	3332	3306	17	14	167.03	395	19	982	957	24.90	39.436		
3600	3531	3426	3399	18	14	166.98	408	18	1016	991	25.64	39.635		
3700	3628	3520	3492	18	14	166.93	421	18	1051	1024	26.38	39.822		
3800	3725	3614	3585	19	15	166.89	435	17	1085	1058	27.12	39.999		
3900	3823	3708	3678	19	15	166.84	448	16	1119	1091	27.86	40.166		
4000	3920	3802	3771	20	16	166.81	461	16	1153	1125	28.61	40.324		
4100	4018	3896	3864	20	16	166.77	475	15	1188	1158	29.35	40.474		
4200	4115	3990	3957	21	17	166.73	488	15	1222	1192	30.09	40.616		
4300	4213	4084	4050	21	17	166.70	501	14	1256	1226	30.83	40.751		
4387	4297	4165	4131	22	17	166.67	513	13	1286	1255	31.47	40.863		
4400	4310	4178	4143	22	17	172.06	515	13	1291	1259	31.57	40.881		
4450	4359	4224	4189	22	18	-170.04	521	13	1309	1277	31.93	40.989		
4500	4407	4408	4371	23	18	-156.82	533	26	1327	1294	33.06	40.159		
4550	4454	4735	4668	23	19	-143.98	462	134	1339	1305	33.68	39.738		
4600	4500	4985	4829	23	18	-131.87	338	276	1343	1308	34.32	39.126		



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 1
Project:	Venado Canyon Unit	TVD Reference:	GL 6941' & RKB14' @ 6955ft
Reference Site:	M01 2206 Pad	MD Reference:	GL 6941' & RKB14' @ 6955ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 513H	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: M01 2206 Pad - # 514H - Original drilling - APD											Offset Site Error:	0 ft
Survey Program: 0-MWD+IGRF											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
4650	4544	5151	4892	24	19	-122.44	233	387	1343	1308	35.69	37.645
4700	4587	5237	4908	24	20	-116.32	173	447	1343	1306	36.97	36.332
4722	4606	5305	4913	24	21	-112.79	125	494	1343	1305	37.98	35.355
4748	4627	5328	4913	24	21	-110.77	108	511	1343	1304	38.52	34.861
4750	4628	5329	4913	24	21	-110.66	107	511	1343	1304	38.55	34.835
4800	4667	5359	4913	24	22	-107.65	86	532	1343	1304	39.40	34.100
4850	4703	5393	4913	25	22	-104.92	62	556	1345	1305	40.29	33.385
4900	4737	5429	4913	25	23	-102.43	36	581	1347	1306	41.26	32.656
4950	4768	5467	4912	25	23	-100.15	8	608	1350	1308	42.30	31.921
5000	4795	5509	4912	26	24	-98.09	-21	636	1353	1310	43.41	31.173
5050	4820	5552	4912	26	24	-96.25	-52	666	1356	1312	44.63	30.393
5100	4841	5597	4912	27	25	-94.65	-85	698	1360	1314	45.93	29.602
5150	4859	5643	4912	27	26	-93.31	-118	730	1362	1315	47.34	28.778
5200	4873	5691	4912	28	27	-92.24	-152	764	1364	1316	48.82	27.946
5250	4883	5740	4911	28	28	-91.46	-187	798	1366	1316	50.41	27.097
5300	4889	5790	4911	29	29	-90.98	-223	832	1367	1315	52.07	26.251
5350	4892	5840	4911	29	30	-90.80	-259	867	1367	1313	53.81	25.405
5363	4892	5852	4911	29	30	-90.80	-268	876	1367	1313	54.25	25.194
5400	4892	5890	4911	30	31	-90.80	-295	902	1366	1311	55.59	24.580
5500	4891	5990	4911	31	33	-90.81	-366	971	1365	1306	59.33	23.013
5600	4891	6090	4910	33	35	-90.81	-438	1041	1364	1301	63.24	21.573
5700	4890	6190	4910	34	37	-90.81	-510	1111	1363	1296	67.30	20.258
5800	4890	6290	4909	36	39	-90.82	-582	1180	1362	1291	71.47	19.060
5900	4890	6390	4909	38	41	-90.82	-653	1250	1361	1285	75.74	17.972
6000	4889	6490	4909	40	43	-90.83	-725	1320	1360	1280	80.10	16.982
6100	4889	6589	4908	42	46	-90.83	-797	1389	1359	1275	84.52	16.080
6200	4888	6689	4908	44	48	-90.83	-869	1459	1358	1269	89.00	15.259
6300	4888	6789	4908	46	50	-90.84	-940	1529	1357	1264	93.54	14.508
6400	4887	6889	4907	48	52	-90.84	-1012	1598	1356	1258	98.11	13.821
6500	4887	6989	4907	50	55	-90.85	-1084	1668	1355	1252	102.73	13.190
6600	4886	7089	4906	52	57	-90.85	-1156	1738	1354	1247	107.37	12.609
6700	4886	7189	4906	54	59	-90.85	-1227	1807	1353	1241	112.05	12.074
6800	4886	7289	4906	57	62	-90.86	-1299	1877	1352	1235	116.75	11.579
6900	4885	7389	4905	59	64	-90.86	-1371	1947	1351	1229	121.47	11.120
7000	4885	7489	4905	61	67	-90.87	-1442	2016	1350	1223	126.21	10.694
7100	4884	7589	4905	64	69	-90.87	-1514	2086	1349	1218	130.97	10.298
7200	4884	7689	4904	66	71	-90.87	-1586	2156	1348	1212	135.74	9.928
7300	4883	7789	4904	68	74	-90.88	-1658	2225	1347	1206	140.53	9.582
7400	4883	7889	4904	71	76	-90.88	-1729	2295	1346	1200	145.33	9.258
7500	4882	7989	4903	73	79	-90.89	-1801	2365	1344	1194	150.14	8.955
7600	4882	8089	4903	75	81	-90.89	-1873	2434	1343	1188	154.96	8.669
7700	4882	8189	4902	78	83	-90.90	-1945	2504	1342	1183	159.79	8.401
7800	4881	8289	4902	80	86	-90.90	-2016	2574	1341	1177	164.63	8.147
7900	4881	8389	4902	82	88	-90.90	-2088	2643	1340	1171	169.48	7.908
8000	4880	8489	4901	85	91	-90.91	-2160	2713	1339	1165	174.34	7.682
8100	4880	8589	4901	87	93	-90.91	-2232	2783	1338	1159	179.20	7.468
8200	4879	8689	4901	90	96	-90.92	-2303	2852	1337	1153	184.06	7.264
8300	4879	8789	4900	92	98	-90.92	-2375	2922	1336	1147	188.94	7.072
8400	4878	8889	4900	94	100	-90.92	-2447	2992	1335	1141	193.81	6.888
8500	4878	8989	4900	97	103	-90.93	-2519	3061	1334	1135	198.70	6.714
8600	4878	9089	4899	99	105	-90.93	-2590	3131	1333	1129	203.58	6.547
8700	4877	9189	4899	102	108	-90.94	-2662	3201	1332	1123	208.47	6.389



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 1
Project:	Venado Canyon Unit	TVD Reference:	GL 6941' & RKB14' @ 6955ft
Reference Site:	M01 2206 Pad	MD Reference:	GL 6941' & RKB14' @ 6955ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 513H	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: M01 2206 Pad - # 514H - Original drilling - APD											Offset Site Error:	0 ft
Survey Program: 0-MWD+IGRF											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
8800	4877	9289	4898	104	110	-90.94	-2734	3270	1331	1117	213.37	6.237
8900	4876	9389	4898	106	113	-90.95	-2805	3340	1330	1112	218.27	6.092
9000	4876	9489	4898	109	115	-90.95	-2877	3410	1329	1106	223.17	5.954
9100	4875	9589	4897	111	117	-90.95	-2949	3479	1328	1100	228.07	5.821
9200	4875	9689	4897	114	120	-90.96	-3021	3549	1327	1094	232.98	5.694
9300	4874	9789	4897	116	122	-90.96	-3092	3619	1326	1088	237.89	5.572
9400	4874	9889	4896	119	125	-90.97	-3164	3688	1325	1082	242.80	5.455
9500	4873	9989	4896	121	127	-90.97	-3236	3758	1323	1076	247.72	5.343
9600	4873	10,089	4895	124	130	-90.98	-3308	3828	1322	1070	252.64	5.235
9700	4873	10,189	4895	126	132	-90.98	-3379	3897	1321	1064	257.56	5.131
9800	4872	10,289	4895	128	135	-90.98	-3451	3967	1320	1058	262.48	5.030
9900	4872	10,389	4894	131	137	-90.99	-3523	4037	1319	1052	267.40	4.934
10,000	4871	10,489	4894	133	140	-90.99	-3595	4106	1318	1046	272.33	4.841
10,100	4871	10,589	4894	136	142	-91.00	-3666	4176	1317	1040	277.25	4.751
10,200	4870	10,689	4893	138	145	-91.00	-3738	4246	1316	1034	282.18	4.664
10,300	4870	10,789	4893	141	147	-91.00	-3810	4315	1315	1028	287.11	4.580
10,400	4869	10,889	4893	143	149	-91.01	-3881	4385	1314	1022	292.04	4.500
10,500	4869	10,989	4892	146	152	-91.01	-3953	4454	1313	1016	296.98	4.421
10,564	4869	11,039	4892	147	153	-91.02	-3989	4489	1312	1013	299.70	4.379
10,600	4869	11,039	4892	148	153	-91.02	-3989	4489	1313	1013	300.22	4.373 SF
10,700	4868	11,039	4892	151	153	-91.02	-3989	4489	1319	1019	300.51	4.391
10,800	4868	11,039	4892	153	153	-91.02	-3989	4489	1334	1034	299.14	4.458
10,900	4867	11,039	4892	155	153	-91.02	-3989	4489	1355	1059	296.24	4.573
11,000	4867	11,039	4892	158	153	-91.02	-3989	4489	1383	1091	291.99	4.737
11,100	4866	11,039	4892	160	153	-91.02	-3989	4489	1418	1131	286.62	4.946
11,200	4866	11,039	4892	163	153	-91.02	-3989	4489	1459	1178	280.38	5.202
11,300	4865	11,039	4892	165	153	-91.02	-3989	4489	1505	1231	273.49	5.503
11,400	4865	11,039	4892	168	153	-91.02	-3989	4489	1556	1290	266.17	5.847
11,500	4865	11,039	4892	170	153	-91.02	-3989	4489	1612	1354	258.61	6.234
11,600	4864	11,039	4892	173	153	-91.02	-3989	4489	1672	1421	250.97	6.663
11,700	4864	11,039	4892	175	153	-91.02	-3989	4489	1736	1493	243.36	7.134
11,800	4863	11,039	4892	178	153	-91.02	-3989	4489	1803	1567	235.88	7.644
11,846	4863	11,039	4892	179	153	-91.02	-3989	4489	1835	1602	232.51	7.891



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 1
Project:	Venado Canyon Unit	TVD Reference:	GL 6941' & RKB14' @ 6955ft
Reference Site:	M01 2206 Pad	MD Reference:	GL 6941' & RKB14' @ 6955ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 513H	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 6941' & RKB14' @ 6955ft

Coordinates are relative to: # 513H - Slot 1

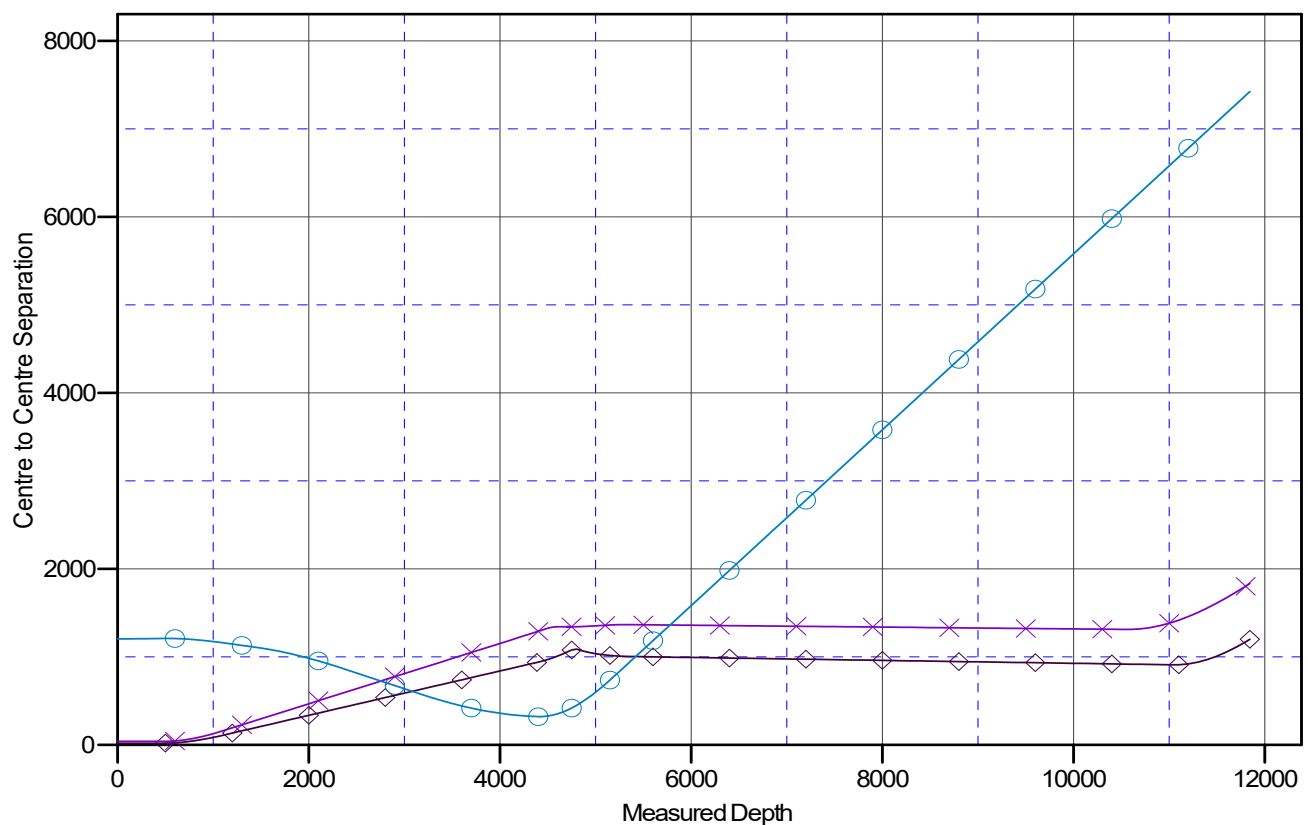
Offset Depths are relative to Offset Datum

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

Central Meridian is -107.83333333

Grid Convergence at Surface is: 0.24°

Ladder Plot



LEGEND

◆ #101H Original drilling g.APDV0
 ✕ #514H Original drilling g.APDV0
 ○ Chaco 2206 2P228H OHOHV0



Lonestar Consulting, LLC

Anticollision Report



Company:	DJR Operating	Local Co-ordinate Reference:	Well # 513H - Slot 1
Project:	Venado Canyon Unit	TVD Reference:	GL 6941' & RKB14' @ 6955ft
Reference Site:	M01 2206 Pad	MD Reference:	GL 6941' & RKB14' @ 6955ft
Site Error:	0 ft	North Reference:	True
Reference Well:	# 513H	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 6941' & RKB14' @ 6955ft

Offset Depths are relative to Offset Datum

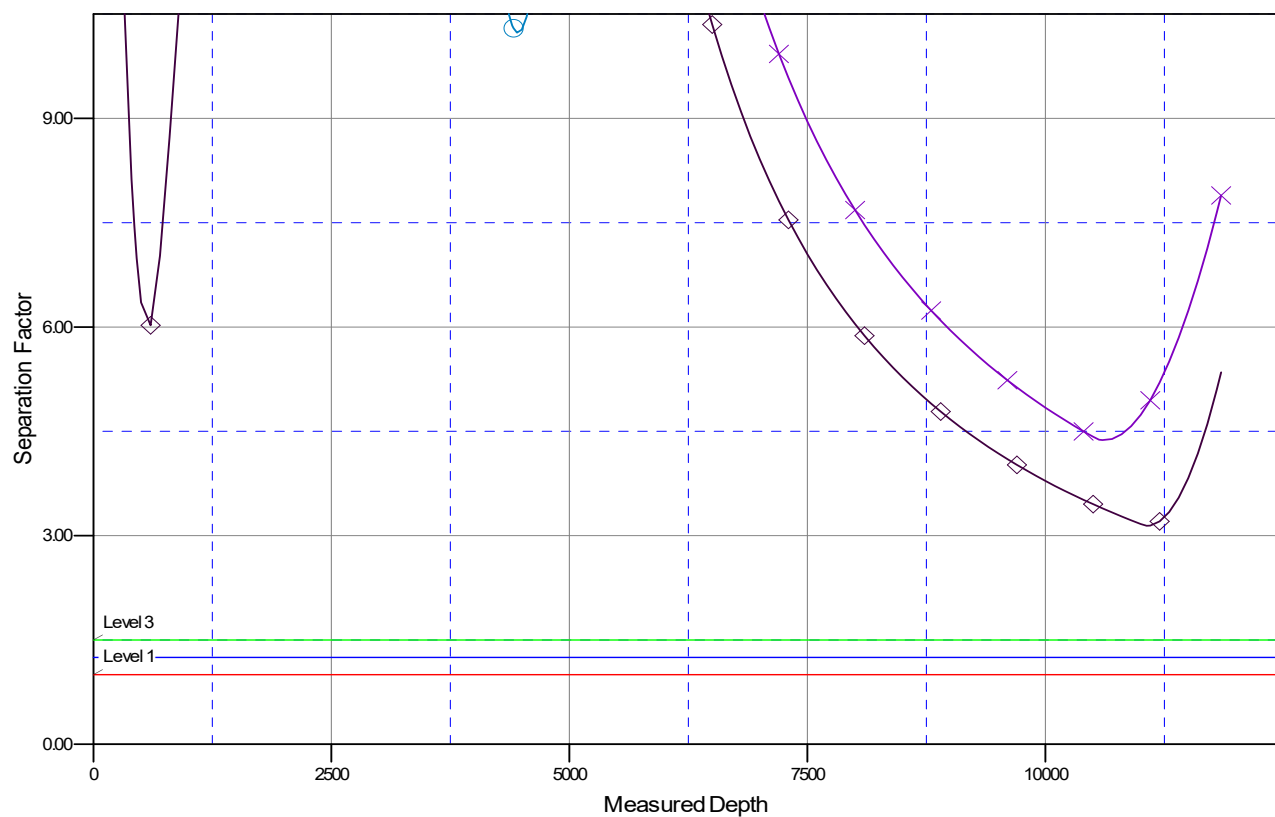
Central Meridian is -107.8333333

Coordinates are relative to: # 513H - Slot 1

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

Grid Convergence at Surface is: 0.24°

Separation Factor Plot



LEGEND

◆ # 101H Original drilling g.APDV0
 ✕ # 514H Original drilling g.APDV0
 ⊕ Chasq 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
#513H Venado Canyon Unit
Lease: NMNM109385 Unit: NMNM13567A
SH: SW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 1, T.22 N., R.6 W.
BH: SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 12, T.22 N., R.6 W.
San Doval 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 148646

CONDITIONS

Operator: DJR OPERATING, LLC 1 Road 3263 Aztec, NM 87410	OGRID:
	371838
	Action Number:
	148646
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	10/7/2022
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104	10/7/2022
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	10/7/2022
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing	10/7/2022
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	10/7/2022