

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd E. Leahy, JD, PhD
Deputy Secretary

Adrienne Sandoval, Division Director
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-5 form.

Operator Signature Date: **Original APD 9/20/2017**
Sundry Date 7/30/2019

WELL INFORMATION:
DJR OPERATING, LLC
30-043-21289 VENADO CANYON UNIT #203H

Conditions of Approval:
(See the below checked and handwritten conditions)

- ✓ Notify Aztec OCD 24hrs prior to casing & cement.
- ✓ Hold C-104 for directional survey & "As Drilled" Plat
- ☐ Hold C-104 for NSL, NSP, DHC,
- ☐ Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- ✓ Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
 - ✓ A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
 - ✓ A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
 - ✓ A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- ✓ 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
- ✓ Submit Gas Capture Plan form prior to spudding or initiating recompletions operations.
- ✓ Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84

28

August 22, 2019

Page 2

- ✓ 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.
- ✓ Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.
- ✓ Comply with current regulations at time of spud
Prior to production operator needs to be in compliance with RULE 19.15.5.9


NMOCD Approved by Signature

8/22/19
Date

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Farmington Field Office
Bureau of Land Management

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2014

SUNDRY NOTICES AND REPORTS ON WELLS
**Do not use this form for proposals to drill or to re-enter an
abandoned well. Use Form 3160-3 (APD) for such proposals.**

5. Lease Serial No.
NMNM 109385

6. If Indian, Allottee or Tribe Name
N/A

SUBMIT IN TRIPLICATE – Other instructions on page 2.

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator
DJR Operating LLC.

3a. Address
1 Road 3263
Aztec, New Mexico 87410

3b. Phone No. (include area code)
505-632-3476

7. If Unit of CA/Agreement, Name and/or No.
VENADO CANYON UNIT / NMNM 135367A

8. Well Name and No.
VENADO CANYON UNIT #203H

9. API Well No.
30-043-21289

10. Field and Pool or Exploratory Area
LYBROOK GALLUP

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SHL: 1320' FSL and 137' FWL Section 12, T22N, R6W
BHL: 359' FNL and 715' FWL Section 11, T22N, R6W

11. County or Parish, State
Sandoval County, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other BHL Change & New Drilling Plan
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

DJR Operating LLC. has an approved APD for the proposed well, Venado Canyon Unit 203H (API 30-043-21289) which is part of the VENADO CANYON UNIT. DJR Operating is submitting this sundry to change the BHL and the Drilling Plan.

Please find attached an updated C-102 package reflecting the BHL change and the new drilling plan.

NMOC
AUG 22 2019
DISTRICT III

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)

Steven Merrell

Title Regulatory Specialist

Signature

Date 07/30/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Petroleum Engineer
Title

AUG 21 2019
Date

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

Office

FARMINGTON FIELD OFFICE
By:

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.

NMOC

DISTRICT I
1885 N. French Dr., Hobbs, N.M. 88240
Phone: (505) 393-8181 Fax: (505) 393-0720

DISTRICT II
811 S. First St., Artesia, N.M. 88210
Phone: (505) 748-1888 Fax: (505) 748-0780

DISTRICT III
1000 Rio Grande Rd., Aztec, N.M. 87410
Phone: (505) 384-6178 Fax: (505) 384-6170

DISTRICT IV
1280 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3480 Fax: (505) 476-3482

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-043-21289		*Pool Code 42289	*Pool Name LYBROOK GALLUP OIL POOL
*Property Code 325271	*Property Name VENADO CANYON UNIT		*Well Number 203H
*OGRD No. 371838	*Operator Name DJR OPERATING, LTD		*Elevation 7042.3'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	WEST/Weat line	County
M	12	22N	6W		1320'	SOUTH	137'	WEST	SANDOVAL

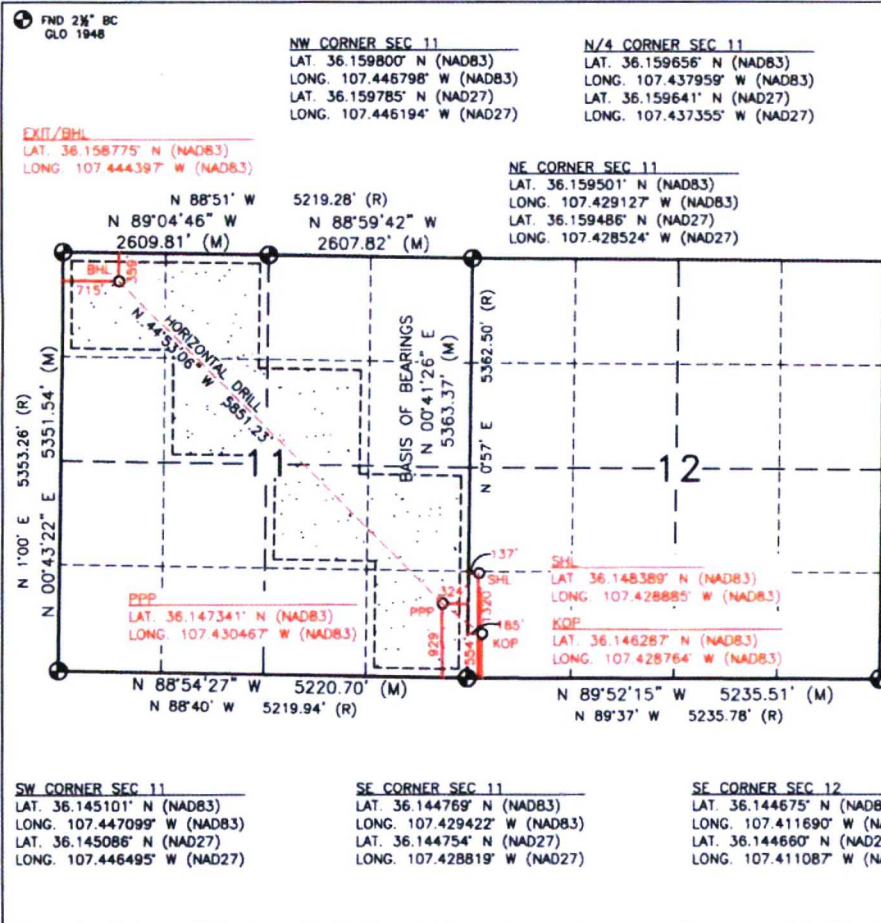
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	WEST/Weat line	County
D	11	22N	6W		359'	NORTH	715'	WEST	SANDOVAL

¹² Dedicated Acreage PENETRATED SPACED UNIT: N2/4 NW, SE/4 NW, SW/4 NE, N2/4 SE & SE/4 NE SEC 11 (280 ACRES) 4320.00 ACRES - 5/2 SEC 1, 5/2 & NE/4 SEC 10, ALL SEC 11-15, N/2 SEC 22, ALL SEC 23, N/2 SEC 24, T22N R6W - UNDEVELOPED UNIT		¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-14067, R-14067A
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16



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.

Signature: *Steven Merrell* Date: 7/30/2019

Printed Name: Steven Merrell

E-mail Address: Smerrell@djrlc.com

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.
MARCH 30, 2018

Date of Survey
Signature and Seal of Professional Surveyor:



Certificate Number: 11393

DISTRICT I

1025 N. French Dr., Hobbs, N.M. 88240
Phone: (505) 390-8101 Fax: (505) 390-0780

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State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, NM 87505

DJR OPERATING, LTD
VENADO CANYON UNIT #203H

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

☐ AMENDED REPORT

SHL

LAT. 36.148389° N (NAD83)
LONG. 107.428885° W (NAD83)

KOP

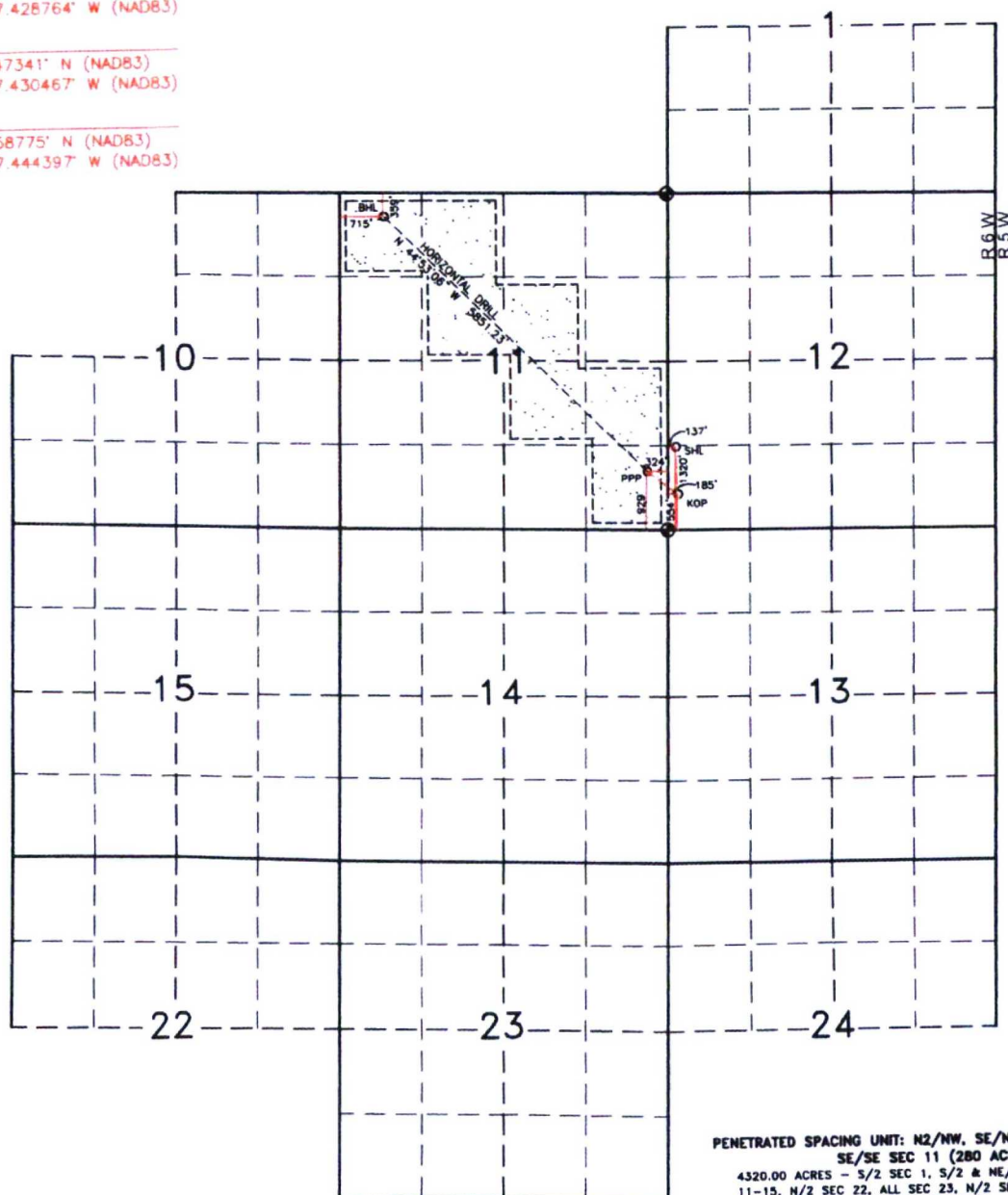
LAT. 36.146287° N (NAD83)
LONG. 107.428764° W (NAD83)

PPP

LAT. 36.147341° N (NAD83)
LONG. 107.430467° W (NAD83)

EXIT/SHL

LAT. 36.158775° N (NAD83)
LONG. 107.444397° W (NAD83)



PENETRATED SPACING UNIT: N2/NW, SE/NW, SW/NE, N2/SE &
SE/SE SEC 11 (280 ACRES)
4320.00 ACRES - 5/2 SEC 1, 5/2 & NE/4 SEC 10, ALL SEC
11-15, N/2 SEC 22, ALL SEC 23, N/2 SEC 24, T22N R6W -
UNDIVIDED UNIT

DRILLING PLAN

Venado Canyon Unit 203H

Sandoval County, New Mexico

Surface Location
 137-ft FWL & 1319-ft FSL
 Sec 12 T22N R6W
 Graded Elevation 7040' MSL
 RKB Elevation 7065' (25' KB)

SHL Geographical Coordinates (NAD-83)
 Latitude 36.1483890° N
 Longitude 107.4288850° W

Kick Off Point for Horizontal Build Curve
 4744-ft MD
 4673-ft TVD

Local Coordinates (from SHL)
 765-ft South
 39-ft East

First Take Point (Heel target)
 5566-ft MD
 324-ft FEL & 929-ft FSL
 Sec 11 T22N R6W

FTP Geographical Coordinates (NAD-83)
 Latitude 36.14734062° N
 Longitude 107.43046740° W

Last Take Point (Toe target & BHL)
 11683-ft MD
 715-ft FWL & 359-ft FNL
 Sec 11 T22N R6W

LTP Geographical Coordinates (NAD-83)
 Latitude 36.15877545° N
 Longitude 107.4443967° W

Well objectives

This well is planned as a 5850-ft lateral in the Gallup CR4 sand.

Bottom Hole temperature and pressure

The temperature in the Gallup CR4 horizontal objective is 143.0°F. Bottom hole pressure in the Gallup CR4 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	877	875	Sd	W	8.3	8.4 - 8.8
Kirtland	1492	1479	Sh	-	8.3	8.4 - 8.8
Fruitland	1705	1688	C	G	8.3	9.0 - 9.5
Picture Cliffs	1898	1877	Sd	W	8.3	9.0 - 9.5
Lewis	1993	1971	Sh	-		9.0 - 9.5
Chacra	2750	2714	Sd	-	8.3	9.0 - 9.5
Menefee	3445	3397	Sd, C	G	8.3	9.0 - 9.5
Point Lookout	4201	4139	Sd	-	8.3	9.0 - 9.5
Mancos	4343	4279	Sh	-		9.0 - 9.5
Mancos Silt	4747	4676	Slt	O/G	6.6	9.0 - 9.5
Gallup A	5257	5151	Slt	O/G	6.6	9.0 - 9.5
Gallup B	5315	5195	Sd	O/G	6.6	8.8 - 9.0
Gallup C	5450	5282	Sd	O/G	6.6	8.8 - 9.0
Target	5382	5393	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	5720	surf	5383	surface
4-1/2"	6-1/8"	11.6	P-110	BTC	5520	11683	5318	5411	5520

Note: all casing will be new

Casing Design Load Cases

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

Note

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

Casing Design Factors

		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

Additives: A=Accelerator; B=Bond Enhancer; De=Defoamer; Di=Dispersant; Ex=Extender; FI=Fluid Loss L=Lost Circulation; R=Retarder; SA=Suspending Agent; THX=Thixotropic Additive; V=Viscosifier

9-5/8" Surface Casing

	Lead
Name	Redi-Mix
Type	I-II
Additives	20% Fly Ash
Planned top	Surface
Density (ppg)	14.50
Yield (cf/sx)	1.61
Mix water (gal/sx)	7.41
Volume (sx)	114
Volume (bbls)	33

7" Intermediate Casing

	Lead	Tail
Halliburton Name	HALCEM	VARICEM
Type	Poz/G	Poz/G
Additives	Ex, L, SA	Ex, FI, SA, L, THX
Planned top	Surface	3843-ft
Density (ppg)	12.30	13.50
Yield (cf/sx)	1.92	1.31
Mix water (gal/sx)	10.03	5.81
Volume (sx)	495	373
Volume (bbls)	169	87

4-1/2" Production Liner	Lead
Halliburton Name	EXTENDACEM
Type	Poz/G
Additives	B, De, Di, Fl, Re, V
Planned top	5520-ft
Density (ppg)	13.3
Yield (cf/sx)	1.36
Mix water (gal/sx)	5.94
Volume (sx)	640
Volume (bbls)	155

Wellhead & Pressure Control

The well head will be an 11" 5M multi-bowl system. A 2M 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 geograph 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 – 5720	9.0 – 9.5	38 – 45	8 – 14	<20
Production	Low solids, non-dispersed	5720 – 11683	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.



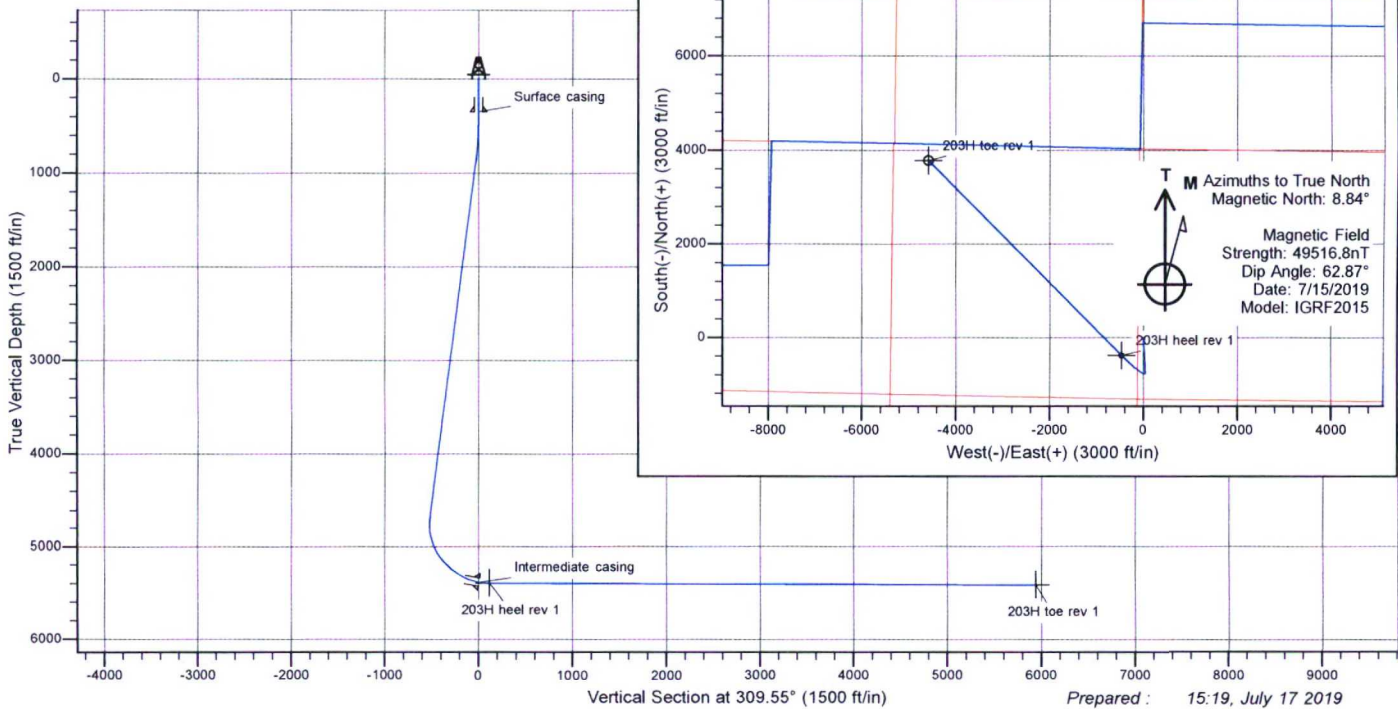
Pad name : L12 2206 Pad
Well name : Venado Canyon #203H

SHL Latitude : 36.14838900
SHL Longitude : -107.42888500

US State Plane 1983
North American Datum 1983
New Mexico Western Zone

TRAJECTORY DETAILS									
Pad elevation : 7040 RIG @ 7065ft (AD #1000)									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
0	0.00	0.00	0	0	0	0.00	0.00	0	
450	0.00	0.00	450	0	0	0.00	0.00	0	
883	10.82	177.05	880	-41	2	2.50	177.05	-28	
4744	10.82	177.05	4673	-765	39	0.00	0.00	-517	
5832	89.82	315.35	5393	-382	-467	9.00	137.81	117	203H heel rev 1
11683	89.82	315.35	5411	3781	-4579	0.00	0.00	5938	203H toe rev 1

TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
203H heel rev 1	5393	-382	-467	1873175	2842033	36.14734062	-107.43046740
203H toe rev 1	5411	3781	-4579	1877321	2837903	36.15877545	-107.44439670



DJR Operating

**Venado Canyon Unit
L12 2206 Pad
203H**

Original drilling

Plan: APD

Standard Planning Report

17 July, 2019

Planning Report

Database: EDM
Company: DJR Operating
Project: Venado Canyon Unit
Site: L12 2206 Pad
Well: 203H
Wellbore: Original drilling
Design: APD

Local Co-ordinate Reference: Well 203H
TVD Reference: RIG @ 7065ft (AD #1000)
MD Reference: RIG @ 7065ft (AD #1000)
North Reference: True
Survey Calculation Method: Minimum Curvature

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	L12 2206 Pad				
Site Position:		Northing:	1,873,559 usft	Latitude:	36.14838900
From:	Lat/Long	Easting:	2,842,498 usft	Longitude:	-107.42888500
Position Uncertainty:	0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.24 °

Well	203H					
Well Position	+N/-S	0 ft	Northing:	1,873,559 usft	Latitude:	36.14838900
	+E/-W	0 ft	Easting:	2,842,498 usft	Longitude:	-107.42888500
Position Uncertainty	0 ft	Wellhead Elevation:		Ground Level:	7040 ft	

Wellbore	Original drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/15/2019	8.84	62.87	49,516.79551745

Design	APD			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0	0	0	309.55

Plan Survey Tool Program		Date	7/17/2019		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0	11,683	APD (Original drilling)	MWD+IGRF	
				OWSG MWD + IGRF or W	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0	0.00	0.00	0	0	0	0.00	0.00	0.00	0.00	
450	0.00	0.00	450	0	0	0.00	0.00	0.00	0.00	
883	10.82	177.05	880	-41	2	2.50	2.50	0.00	177.05	
4744	10.82	177.05	4673	-765	39	0.00	0.00	0.00	0.00	
5832	89.82	315.35	5393	-382	-467	9.00	7.26	12.72	137.81	203H heel rev 1
11,683	89.82	315.35	5411	3781	-4579	0.00	0.00	0.00	0.00	203H toe rev 1

Planning Report

Database: EDM
Company: DJR Operating
Project: Venado Canyon Unit
Site: L12 2206 Pad
Well: 203H
Wellbore: Original drilling
Design: APD

Local Co-ordinate Reference: Well 203H
TVD Reference: RIG @ 7065ft (AD #1000)
MD Reference: RIG @ 7065ft (AD #1000)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
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
350	0.00	0.00	350	0	0	0	0.00	0.00	0.00
Surface casing									
400	0.00	0.00	400	0	0	0	0.00	0.00	0.00
450	0.00	0.00	450	0	0	0	0.00	0.00	0.00
500	1.25	177.05	500	-1	0	0	2.50	2.50	0.00
600	3.75	177.05	600	-5	0	-3	2.50	2.50	0.00
700	6.25	177.05	700	-14	1	-9	2.50	2.50	0.00
800	8.75	177.05	799	-27	1	-18	2.50	2.50	0.00
883	10.82	177.05	880	-41	2	-28	2.50	2.50	0.00
900	10.82	177.05	897	-44	2	-30	0.00	0.00	0.00
1000	10.82	177.05	995	-63	3	-42	0.00	0.00	0.00
1100	10.82	177.05	1094	-81	4	-55	0.00	0.00	0.00
1200	10.82	177.05	1192	-100	5	-68	0.00	0.00	0.00
1300	10.82	177.05	1290	-119	6	-80	0.00	0.00	0.00
1392	10.82	177.05	1380	-136	7	-92	0.00	0.00	0.00
Ojo Alamo									
1400	10.82	177.05	1388	-138	7	-93	0.00	0.00	0.00
1492	10.82	177.05	1479	-155	8	-105	0.00	0.00	0.00
Kirtland									
1500	10.82	177.05	1486	-156	8	-106	0.00	0.00	0.00
1600	10.82	177.05	1585	-175	9	-118	0.00	0.00	0.00
1700	10.82	177.05	1683	-194	10	-131	0.00	0.00	0.00
1705	10.82	177.05	1688	-195	10	-132	0.00	0.00	0.00
Fruitland									
1800	10.82	177.05	1781	-213	11	-144	0.00	0.00	0.00
1898	10.82	177.05	1877	-231	12	-156	0.00	0.00	0.00
Pictured Cliffs									
1900	10.82	177.05	1879	-231	12	-157	0.00	0.00	0.00
1993	10.82	177.05	1971	-249	13	-168	0.00	0.00	0.00
Lewis									
2000	10.82	177.05	1978	-250	13	-169	0.00	0.00	0.00
2100	10.82	177.05	2076	-269	14	-182	0.00	0.00	0.00
2200	10.82	177.05	2174	-288	15	-195	0.00	0.00	0.00
2300	10.82	177.05	2272	-306	16	-207	0.00	0.00	0.00
2400	10.82	177.05	2370	-325	17	-220	0.00	0.00	0.00
2500	10.82	177.05	2469	-344	18	-233	0.00	0.00	0.00
2600	10.82	177.05	2567	-363	19	-245	0.00	0.00	0.00
2700	10.82	177.05	2665	-381	20	-258	0.00	0.00	0.00
2750	10.82	177.05	2714	-391	20	-264	0.00	0.00	0.00
Chacra									
2800	10.82	177.05	2763	-400	21	-271	0.00	0.00	0.00
2900	10.82	177.05	2862	-419	22	-283	0.00	0.00	0.00
3000	10.82	177.05	2960	-438	23	-296	0.00	0.00	0.00
3100	10.82	177.05	3058	-456	23	-309	0.00	0.00	0.00
3200	10.82	177.05	3156	-475	24	-321	0.00	0.00	0.00
3300	10.82	177.05	3254	-494	25	-334	0.00	0.00	0.00
3393	10.82	177.05	3346	-511	26	-346	0.00	0.00	0.00
Cliff House									
3400	10.82	177.05	3353	-513	26	-347	0.00	0.00	0.00

Planning Report

Database: EDM
Company: DJR Operating
Project: Venado Canyon Unit
Site: L12 2206 Pad
Well: 203H
Wellbore: Original drilling
Design: APD

Local Co-ordinate Reference: Well 203H
TVD Reference: RIG @ 7065ft (AD #1000)
MD Reference: RIG @ 7065ft (AD #1000)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3445	10.82	177.05	3397	-521	27	-352	0.00	0.00	0.00
Menefee									
3500	10.82	177.05	3451	-531	27	-359	0.00	0.00	0.00
3600	10.82	177.05	3549	-550	28	-372	0.00	0.00	0.00
3700	10.82	177.05	3647	-569	29	-385	0.00	0.00	0.00
3800	10.82	177.05	3746	-588	30	-397	0.00	0.00	0.00
3900	10.82	177.05	3844	-606	31	-410	0.00	0.00	0.00
4000	10.82	177.05	3942	-625	32	-423	0.00	0.00	0.00
4100	10.82	177.05	4040	-644	33	-435	0.00	0.00	0.00
4200	10.82	177.05	4138	-663	34	-448	0.00	0.00	0.00
4201	10.82	177.05	4139	-663	34	-448	0.00	0.00	0.00
Point Lookout									
4300	10.82	177.05	4237	-681	35	-461	0.00	0.00	0.00
4343	10.82	177.05	4279	-689	35	-466	0.00	0.00	0.00
Mancos									
4400	10.82	177.05	4335	-700	36	-474	0.00	0.00	0.00
4500	10.82	177.05	4433	-719	37	-486	0.00	0.00	0.00
4600	10.82	177.05	4531	-738	38	-499	0.00	0.00	0.00
4700	10.82	177.05	4630	-756	39	-512	0.00	0.00	0.00
4744	10.82	177.05	4673	-765	39	-517	0.00	0.00	0.00
4747	10.61	178.08	4676	-765	39	-518	9.00	-6.61	32.82
Mancos Silt									
4750	10.43	179.01	4679	-766	39	-518	9.00	-6.51	34.02
4800	7.85	202.59	4728	-773	38	-522	9.00	-5.17	47.15
4850	7.39	236.87	4778	-778	34	-522	9.00	-0.92	68.56
4900	9.37	265.05	4827	-780	27	-518	9.00	3.97	56.35
4950	12.71	281.07	4876	-780	18	-510	9.00	6.66	32.05
5000	16.59	290.13	4925	-776	6	-499	9.00	7.77	18.12
5050	20.72	295.75	4972	-770	-9	-483	9.00	8.26	11.23
5100	24.98	299.54	5018	-761	-26	-464	9.00	8.51	7.59
5150	29.30	302.29	5063	-749	-46	-442	9.00	8.65	5.49
5200	33.67	304.38	5105	-735	-67	-416	9.00	8.73	4.18
5250	38.06	306.04	5146	-718	-91	-387	9.00	8.79	3.32
5257	38.66	306.24	5151	-715	-95	-382	9.00	8.81	2.95
Gallup A									
5300	42.47	307.40	5184	-698	-117	-354	9.00	8.83	2.69
5315	43.83	307.77	5195	-692	-125	-344	9.00	8.85	2.43
Gallup B									
5350	46.90	308.55	5219	-677	-145	-319	9.00	8.86	2.24
5400	51.34	309.54	5252	-653	-174	-281	9.00	8.87	1.99
5450	55.78	310.42	5282	-627	-205	-241	8.92	8.81	1.74
Gallup C									
5500	60.23	311.21	5308	-599	-237	-199	9.09	8.98	1.59
5550	64.69	311.93	5331	-570	-270	-155	9.00	8.91	1.44
5600	69.14	312.60	5351	-539	-304	-109	9.00	8.92	1.34
5650	73.60	313.23	5367	-507	-339	-61	9.00	8.92	1.26
5700	78.07	313.84	5379	-473	-374	-13	9.00	8.92	1.21
5720	79.87	314.07	5383	-460	-388	7	9.00	8.93	1.18
Intermediate casing									
5750	82.53	314.42	5388	-439	-409	36	9.00	8.93	1.16
5800	86.99	314.99	5392	-404	-445	86	9.00	8.93	1.14
5832	89.82	315.35	5393	-382	-467	117	9.00	8.93	1.14
Target - 203H heel rev 1									

Planning Report

Database: EDM
Company: DJR Operating
Project: Venado Canyon Unit
Site: L12 2206 Pad
Well: 203H
Wellbore: Original drilling
Design: APD

Local Co-ordinate Reference: Well 203H
TVD Reference: RIG @ 7065ft (AD #1000)
MD Reference: RIG @ 7065ft (AD #1000)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5900	89.82	315.35	5393	-333	-515	185	0.00	0.00	0.00
6000	89.82	315.35	5394	-262	-585	285	0.00	0.00	0.00
6100	89.82	315.35	5394	-191	-656	384	0.00	0.00	0.00
6200	89.82	315.35	5394	-120	-726	484	0.00	0.00	0.00
6300	89.82	315.35	5394	-48	-796	583	0.00	0.00	0.00
6400	89.82	315.35	5395	23	-867	683	0.00	0.00	0.00
6500	89.82	315.35	5395	94	-937	782	0.00	0.00	0.00
6600	89.82	315.35	5395	165	-1007	882	0.00	0.00	0.00
6700	89.82	315.35	5396	236	-1077	981	0.00	0.00	0.00
6800	89.82	315.35	5396	307	-1148	1081	0.00	0.00	0.00
6900	89.82	315.35	5396	378	-1218	1180	0.00	0.00	0.00
7000	89.82	315.35	5397	450	-1288	1280	0.00	0.00	0.00
7100	89.82	315.35	5397	521	-1358	1379	0.00	0.00	0.00
7200	89.82	315.35	5397	592	-1429	1478	0.00	0.00	0.00
7300	89.82	315.35	5397	663	-1499	1578	0.00	0.00	0.00
7400	89.82	315.35	5398	734	-1569	1677	0.00	0.00	0.00
7500	89.82	315.35	5398	805	-1640	1777	0.00	0.00	0.00
7600	89.82	315.35	5398	876	-1710	1876	0.00	0.00	0.00
7700	89.82	315.35	5399	948	-1780	1976	0.00	0.00	0.00
7800	89.82	315.35	5399	1019	-1850	2075	0.00	0.00	0.00
7900	89.82	315.35	5399	1090	-1921	2175	0.00	0.00	0.00
8000	89.82	315.35	5400	1161	-1991	2274	0.00	0.00	0.00
8100	89.82	315.35	5400	1232	-2061	2374	0.00	0.00	0.00
8200	89.82	315.35	5400	1303	-2131	2473	0.00	0.00	0.00
8300	89.82	315.35	5401	1374	-2202	2573	0.00	0.00	0.00
8400	89.82	315.35	5401	1446	-2272	2672	0.00	0.00	0.00
8500	89.82	315.35	5401	1517	-2342	2772	0.00	0.00	0.00
8600	89.82	315.35	5401	1588	-2413	2871	0.00	0.00	0.00
8700	89.82	315.35	5402	1659	-2483	2971	0.00	0.00	0.00
8800	89.82	315.35	5402	1730	-2553	3070	0.00	0.00	0.00
8900	89.82	315.35	5402	1801	-2623	3170	0.00	0.00	0.00
9000	89.82	315.35	5403	1872	-2694	3269	0.00	0.00	0.00
9100	89.82	315.35	5403	1944	-2764	3369	0.00	0.00	0.00
9200	89.82	315.35	5403	2015	-2834	3468	0.00	0.00	0.00
9300	89.82	315.35	5404	2086	-2904	3568	0.00	0.00	0.00
9400	89.82	315.35	5404	2157	-2975	3667	0.00	0.00	0.00
9500	89.82	315.35	5404	2228	-3045	3767	0.00	0.00	0.00
9600	89.82	315.35	5405	2299	-3115	3866	0.00	0.00	0.00
9700	89.82	315.35	5405	2370	-3186	3966	0.00	0.00	0.00
9800	89.82	315.35	5405	2442	-3256	4065	0.00	0.00	0.00
9900	89.82	315.35	5405	2513	-3326	4165	0.00	0.00	0.00
10,000	89.82	315.35	5406	2584	-3396	4264	0.00	0.00	0.00
10,100	89.82	315.35	5406	2655	-3467	4364	0.00	0.00	0.00
10,200	89.82	315.35	5406	2726	-3537	4463	0.00	0.00	0.00
10,300	89.82	315.35	5407	2797	-3607	4563	0.00	0.00	0.00
10,400	89.82	315.35	5407	2868	-3677	4662	0.00	0.00	0.00
10,500	89.82	315.35	5407	2940	-3748	4762	0.00	0.00	0.00
10,600	89.82	315.35	5408	3011	-3818	4861	0.00	0.00	0.00
10,700	89.82	315.35	5408	3082	-3888	4961	0.00	0.00	0.00
10,800	89.82	315.35	5408	3153	-3959	5060	0.00	0.00	0.00
10,900	89.82	315.35	5408	3224	-4029	5160	0.00	0.00	0.00
11,000	89.82	315.35	5409	3295	-4099	5259	0.00	0.00	0.00
11,100	89.82	315.35	5409	3367	-4169	5358	0.00	0.00	0.00
11,200	89.82	315.35	5409	3438	-4240	5458	0.00	0.00	0.00

Planning Report

Database: EDM
Company: DJR Operating
Project: Venado Canyon Unit
Site: L12 2206 Pad
Well: 203H
Wellbore: Original drilling
Design: APD

Local Co-ordinate Reference: Well 203H
TVD Reference: RIG @ 7065ft (AD #1000)
MD Reference: RIG @ 7065ft (AD #1000)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11,300	89.82	315.35	5410	3509	-4310	5557	0.00	0.00	0.00
11,400	89.82	315.35	5410	3580	-4380	5657	0.00	0.00	0.00
11,500	89.82	315.35	5410	3651	-4450	5756	0.00	0.00	0.00
11,600	89.82	315.35	5411	3722	-4521	5856	0.00	0.00	0.00
11,683	89.82	315.35	5411	3781	-4579	5938	0.00	0.00	0.00

203H toe rev 1

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
203H heel rev 1 - plan hits target center - Circle (radius 50)	0.00	0.00	5393	-382	-467	1,873,175	2,842,033	36.14734062	-107.43046740
203H toe rev 1 - plan hits target center - Circle (radius 100)	0.00	0.00	5411	3781	-4579	1,877,321	2,837,903	36.15877544	-107.44439670

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
350	350	Surface casing	9.625	12.250
5720	5383	Intermediate casing	7.000	8.750

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1392	1380	Ojo Alamo		0.00	
1492	1479	Kirtland		0.00	
1705	1688	Fruitland		0.00	
1898	1877	Pictured Cliffs		0.00	
1993	1971	Lewis		0.00	
2750	2714	Chacra		0.00	
3393	3346	Cliff House		0.00	
3445	3397	Menefee		0.00	
4201	4139	Point Lookout		0.00	
4343	4279	Mancos		0.00	
4747	4676	Mancos Silt		0.00	
5257	5151	Gallup A		0.00	
5315	5195	Gallup B		0.00	
5450	5282	Gallup C		0.00	
5832	5393	Target		0.00	

Planning Report

Database: EDM
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Project: Venado Canyon Unit
Site: L12 2206 Pad
Well: 203H
Wellbore: Original drilling
Design: APD

Local Co-ordinate Reference: Well 203H
TVD Reference: RIG @ 7065ft (AD #1000)
MD Reference: RIG @ 7065ft (AD #1000)
North Reference: True
Survey Calculation Method: Minimum Curvature

DJR Operating

Venado Canyon Unit

L12 2206 Pad

203H

Original drilling

APD

Anticollision Report

17 July, 2019

Anticollision Report

Company: DJR Operating	Local Co-ordinate Reference: Well 203H
Project: Venado Canyon Unit	TVD Reference: RIG @ 7065ft (AD #1000)
Reference Site: L12 2206 Pad	MD Reference: RIG @ 7065ft (AD #1000)
Site Error: 0 ft	North Reference: True
Reference Well: 203H	Survey Calculation Method: Minimum Curvature
Well Error: 0 ft	Output errors are at 2.00 sigma
Reference Wellbore Original drilling	Database: EDM
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 center-center distance of 10,000 ft	Error Surface: Pedal Curve
Warning Levels Evaluated at: 2.00 Sigma	Casing Method: Not applied

Survey Tool Program	Date 7/17/2019
From (ft)	To (ft)
0	11,683
Survey (Wellbore)	Tool Name
APD (Original drilling)	MWD+IGRF
Description	Description
OWSG MWD + IGRF or WMM	

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						
A11 2206 Pad						
# 206H - Original drilling - APD	5250	9543	1381	1257	11.170	SF
# 206H - Original drilling - APD	5350	9476	1377	1254	11.216	ES
# 206H - Original drilling - APD	5396	9442	1377	1255	11.268	CC
# 207H - Original drilling - APD	5150	9294	2768	2645	22.518	ES
# 207H - Original drilling - APD	9351	5141	2762	2646	23.844	CC
# 207H - Original drilling - APD	10,100	4923	2844	2716	22.197	SF
L12 2206 Pad						
204H - Original drilling - APD	654	655	25	21	6.039	CC, ES
204H - Original drilling - APD	700	701	26	21	5.755	SF

Offset Design A11 2206 Pad - # 206H - Original drilling - APD												Offset Site Error:		0 ft
Survey Program: 0-MWD+IGRF												Offset Well Error:		0 ft
Reference		Offset		Semi Major Axis			Distance					Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)		Separation Factor	
0	0	0	0	0	0	-17.57	3807	-1206	3994					
100	100	12	12	0	0	-17.57	3807	-1206	3993	3993	0.15	N/A		
200	200	112	112	0	0	-17.57	3807	-1206	3993	3993	0.69	5,786.156		
300	300	212	212	1	1	-17.57	3807	-1206	3993	3992	1.41	2,837.993		
400	400	312	312	1	1	-17.57	3807	-1206	3993	3991	2.12	1,880.063		
450	450	362	362	1	1	-17.57	3807	-1206	3993	3991	2.48	1,608.584		
500	500	412	412	2	1	165.37	3807	-1206	3994	3991	2.83	1,409.999		
600	600	522	522	2	2	165.35	3807	-1206	3998	3994	3.55	1,126.027		
700	700	637	637	2	2	165.26	3805	-1211	4006	4002	4.30	932.422		
800	799	752	751	3	2	165.10	3801	-1220	4018	4013	5.07	792.914		
883	880	846	845	3	3	164.91	3796	-1231	4030	4025	5.73	703.424		
900	897	866	864	3	3	164.89	3795	-1233	4033	4027	5.87	686.758		
1000	995	978	975	3	3	164.70	3788	-1250	4050	4043	6.70	604.292		
1100	1094	1090	1085	4	4	164.46	3779	-1271	4066	4059	7.58	536.573		
1200	1192	1191	1183	4	4	164.20	3770	-1293	4082	4074	8.45	482.940		
1300	1290	1288	1278	5	5	163.94	3761	-1313	4099	4089	9.33	439.299		
1400	1388	1386	1372	5	5	163.70	3752	-1334	4115	4105	10.22	402.584		
1500	1486	9212	5341	6	97	-153.22	465	642	4041	3998	43.47	92.963		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company: DJR Operating
Project: Venado Canyon Unit
Reference Site: L12 2206 Pad
Site Error: 0 ft
Reference Well: 203H
Well Error: 0 ft
Reference Wellbore: Original drilling
Reference Design: APD

Local Co-ordinate Reference: Well 203H
TVD Reference: RIG @ 7065ft (AD #1000)
MD Reference: RIG @ 7065ft (AD #1000)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM
Offset TVD Reference: Offset Datum

Offset Design A11 2206 Pad - # 206H - Original drilling - APD														Offset Site Error: 0 ft	
Survey Program: 0-MWD+IGRF														Offset Well Error: 0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
1600	1585	9226	5341	6	97	-152.71	455	652	3948	3904	44.18	89.363			
1700	1683	9240	5341	7	98	-152.20	445	662	3856	3811	44.94	85.798			
1800	1781	9254	5341	7	98	-151.69	435	671	3763	3718	45.74	82.273			
1900	1879	9268	5341	8	98	-151.18	425	681	3671	3625	46.60	78.791			
2000	1978	9282	5341	8	99	-150.66	415	691	3580	3532	47.50	75.357			
2100	2076	9296	5341	9	99	-150.14	405	701	3489	3440	48.47	71.975			
2200	2174	9310	5341	9	99	-149.61	395	711	3398	3348	49.50	68.647			
2300	2272	9324	5341	10	100	-149.08	385	721	3307	3257	50.59	65.378			
2400	2370	9338	5341	10	100	-148.55	374	731	3218	3166	51.76	62.171			
2500	2469	9352	5341	11	100	-148.02	364	740	3128	3075	53.00	59.031			
2600	2567	9367	5341	11	101	-147.48	354	750	3040	2986	54.32	55.960			
2700	2665	9381	5341	12	101	-146.94	344	760	2952	2896	55.74	52.962			
2800	2763	9395	5341	12	101	-146.40	334	770	2865	2807	57.25	50.041			
2900	2862	9409	5341	13	102	-145.85	324	780	2778	2719	58.86	47.201			
3000	2960	9423	5341	13	102	-145.30	314	790	2693	2632	60.59	44.444			
3100	3058	9437	5341	14	102	-144.75	304	799	2608	2546	62.43	41.776			
3200	3156	9451	5341	14	103	-144.20	294	809	2525	2460	64.40	39.198			
3300	3254	9465	5341	15	103	-143.65	284	819	2442	2376	66.51	36.716			
3400	3353	9479	5341	15	103	-143.09	274	829	2361	2292	68.77	34.331			
3500	3451	9493	5341	16	104	-142.53	264	839	2281	2210	71.18	32.048			
3600	3549	9507	5341	16	104	-141.97	254	849	2203	2129	73.75	29.870			
3700	3647	9521	5341	17	104	-141.40	244	859	2127	2050	76.50	27.799			
3800	3746	9535	5341	17	105	-140.84	234	868	2052	1973	79.42	25.838			
3900	3844	9549	5341	18	105	-140.27	224	878	1980	1897	82.53	23.990			
4000	3942	9563	5341	18	105	-139.70	214	888	1910	1824	85.81	22.256			
4100	4040	9578	5341	19	106	-139.13	204	898	1843	1753	89.27	20.640			
4200	4138	9592	5341	19	106	-138.56	194	908	1778	1685	92.90	19.141			
4300	4237	9606	5341	20	106	-137.99	184	918	1717	1620	96.68	17.762			
4400	4335	9620	5341	20	107	-137.41	174	927	1660	1559	100.58	16.503			
4500	4433	9634	5341	21	107	-136.84	164	937	1606	1502	104.56	15.364			
4600	4531	9648	5341	21	107	-136.26	154	947	1558	1449	108.58	14.345			
4700	4630	9662	5341	22	108	-135.68	143	957	1514	1401	112.58	13.446			
4744	4673	9668	5341	22	108	-135.43	139	961	1496	1382	114.31	13.088			
4750	4679	9669	5341	22	108	-137.10	138	962	1494	1379	114.54	13.042			
4800	4728	9674	5341	22	108	-158.39	135	965	1475	1359	116.40	12.673			
4850	4778	9674	5341	23	108	169.30	135	966	1458	1340	118.09	12.345			
4900	4827	9671	5341	23	108	142.77	137	963	1442	1323	119.59	12.059			
4950	4876	9664	5341	23	108	128.05	142	958	1428	1307	120.88	11.815			
5000	4925	9653	5341	23	108	119.97	150	951	1416	1294	121.94	11.612			
5050	4972	9638	5341	23	107	115.01	160	940	1405	1283	122.76	11.449			
5100	5018	9620	5341	23	107	111.59	174	927	1397	1273	123.33	11.326			
5150	5063	9598	5341	23	106	108.95	189	912	1390	1266	123.66	11.240			
5200	5105	9572	5341	23	106	106.74	208	894	1385	1261	123.75	11.189			
5250	5146	9543	5341	23	105	104.76	228	874	1381	1257	123.62	11.170 SF			
5300	5184	9511	5341	23	104	102.92	251	852	1378	1255	123.29	11.180			
5350	5219	9476	5341	23	103	101.18	276	827	1377	1254	122.78	11.216 ES			
5396	5250	9442	5341	23	102	99.65	301	803	1377	1255	122.19	11.268 CC			
5400	5252	9439	5341	23	102	99.53	303	801	1377	1255	122.13	11.273			
5450	5282	9399	5341	23	101	97.97	331	773	1377	1256	121.37	11.347			
5500	5308	9357	5341	23	100	96.53	361	743	1378	1258	120.52	11.434			
5550	5331	9312	5341	23	99	95.23	393	712	1379	1260	119.62	11.531			
5600	5351	9267	5341	22	98	94.09	426	680	1381	1262	118.70	11.632			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company: DJR Operating
Project: Venado Canyon Unit
Reference Site: L12 2206 Pad
Site Error: 0 ft
Reference Well: 203H
Well Error: 0 ft
Reference Wellbore: Original drilling
Reference Design: APD

Local Co-ordinate Reference: Well 203H
TVD Reference: RIG @ 7065ft (AD #1000)
MD Reference: RIG @ 7065ft (AD #1000)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM
Offset TVD Reference: Offset Datum

Offset Design A11 2206 Pad - # 206H - Original drilling - APD														Offset Site Error:	0 ft
Survey Program: 0-MWD+IGRF														Offset Well Error:	0 ft
Reference		Offset		Semi Major Axis			Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
5650	5367	9219	5341	22	97	93.13	460	647	1382	1264	117.78	11.735			
5700	5379	9171	5341	22	96	92.38	494	613	1383	1266	116.87	11.836			
5750	5388	9122	5341	22	95	91.85	529	579	1384	1268	116.01	11.933			
5800	5392	9072	5341	22	94	91.55	565	544	1385	1270	115.18	12.023			
5832	5393	9040	5341	23	93	91.49	588	522	1385	1270	114.69	12.077			
5900	5393	8972	5341	23	91	91.48	636	474	1385	1272	113.70	12.185			
6000	5394	8872	5341	24	89	91.47	708	404	1386	1273	112.44	12.325			
6100	5394	8772	5341	26	86	91.45	779	334	1386	1275	111.37	12.447			
6200	5394	8672	5341	27	84	91.44	851	264	1387	1276	110.46	12.552			
6300	5394	8572	5341	29	82	91.43	922	194	1387	1277	109.70	12.643			
6400	5395	8472	5341	31	79	91.42	993	124	1387	1278	109.05	12.721			
6500	5395	8372	5341	33	77	91.40	1065	54	1388	1279	108.50	12.789			
6600	5395	8272	5341	35	74	91.39	1136	-16	1388	1280	108.05	12.847			
6700	5396	8172	5341	37	72	91.38	1208	-86	1388	1281	107.66	12.896			
6800	5396	8072	5341	39	70	91.36	1279	-156	1389	1281	107.34	12.938			
6900	5396	7972	5341	41	67	91.35	1351	-226	1389	1282	107.07	12.974			
7000	5397	7872	5341	43	65	91.34	1422	-296	1390	1283	106.86	13.004			
7100	5397	7772	5341	45	63	91.32	1493	-366	1390	1283	106.69	13.028			
7200	5397	7672	5341	47	61	91.31	1565	-436	1390	1284	106.56	13.047			
7300	5397	7572	5341	50	58	91.30	1636	-506	1391	1284	106.47	13.062			
7400	5398	7472	5341	52	56	91.29	1708	-576	1391	1285	106.42	13.072			
7500	5398	7372	5341	54	54	91.27	1779	-646	1391	1285	106.40	13.078			
7600	5398	7272	5341	57	51	91.26	1850	-716	1392	1285	106.42	13.079			
7700	5399	7172	5341	59	49	91.25	1922	-786	1392	1286	106.47	13.076			
7800	5399	7072	5341	61	47	91.23	1993	-856	1393	1286	106.56	13.069			
7900	5399	6972	5341	63	45	91.22	2065	-926	1393	1286	106.69	13.056			
8000	5400	6872	5341	66	43	91.21	2136	-996	1393	1286	106.86	13.039			
8100	5400	6772	5341	68	41	91.20	2207	-1066	1394	1287	107.08	13.016			
8200	5400	6672	5341	71	39	91.18	2279	-1136	1394	1287	107.35	12.987			
8300	5401	6572	5341	73	37	91.17	2350	-1206	1394	1287	107.67	12.951			
8400	5401	6472	5341	75	35	91.16	2422	-1276	1395	1287	108.06	12.908			
8500	5401	6372	5341	78	33	91.14	2493	-1346	1395	1287	108.53	12.856			
8600	5401	6272	5341	80	32	91.13	2565	-1416	1396	1287	109.07	12.796			
8700	5402	6172	5341	82	30	91.12	2636	-1486	1396	1286	109.69	12.727			
8800	5402	6072	5341	85	29	91.11	2707	-1556	1396	1286	110.63	12.622			
8900	5402	5972	5341	87	28	91.09	2779	-1626	1397	1285	111.56	12.521			
9000	5403	5872	5341	90	28	91.08	2850	-1696	1397	1284	112.67	12.401			
9100	5403	5789	5340	92	27	91.02	2909	-1754	1398	1284	114.10	12.251			
9200	5403	5721	5332	94	27	90.70	2959	-1800	1401	1285	115.68	12.108			
9300	5404	5650	5317	97	27	90.06	3011	-1846	1406	1289	117.23	11.992			
9400	5404	5600	5301	99	27	89.43	3047	-1877	1414	1295	118.74	11.905			
9500	5404	5535	5276	102	27	88.39	3094	-1914	1425	1304	120.15	11.856			
9600	5405	5482	5251	104	27	87.39	3131	-1943	1439	1317	121.38	11.854			
9700	5405	5434	5225	107	27	86.36	3164	-1967	1457	1335	122.39	11.904			
9800	5405	5400	5206	109	27	85.58	3186	-1982	1479	1356	123.09	12.017			
9900	5405	5350	5174	112	27	84.33	3218	-2004	1505	1382	123.64	12.176			
10,000	5406	5316	5150	114	27	83.44	3239	-2017	1536	1412	123.85	12.402			
10,100	5406	5285	5128	116	26	82.58	3257	-2028	1571	1447	123.81	12.689			
10,200	5406	5250	5102	119	26	81.59	3277	-2039	1610	1487	123.57	13.032			
10,300	5407	5231	5087	121	26	81.05	3288	-2045	1654	1531	123.03	13.440			
10,400	5407	5200	5062	124	26	80.13	3304	-2054	1701	1578	122.41	13.895			
10,500	5407	5200	5062	126	26	80.13	3304	-2054	1752	1631	121.45	14.426			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company: DJR Operating
Project: Venado Canyon Unit
Reference Site: L12 2206 Pad
Site Error: 0 ft
Reference Well: 203H
Well Error: 0 ft
Reference Wellbore: Original drilling
Reference Design: APD

Local Co-ordinate Reference: Well 203H
TVD Reference: RIG @ 7065ft (AD #1000)
MD Reference: RIG @ 7065ft (AD #1000)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM
Offset TVD Reference: Offset Datum

Offset Design A11 2206 Pad - # 206H - Original drilling - APD													Offset Site Error:	0 ft
Survey Program: 0-MWD+IGRF													Offset Well Error:	0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
10,600	5408	5169	5037	129	26	79.20	3320	-2061	1806	1686	120.58	14.981		
10,700	5408	5150	5020	131	26	78.62	3329	-2065	1864	1745	119.54	15.594		
10,800	5408	5150	5020	134	26	78.62	3329	-2065	1925	1807	118.32	16.271		
10,900	5408	5122	4997	136	26	77.77	3342	-2070	1989	1872	117.24	16.963		
11,000	5409	5100	4977	138	26	77.08	3352	-2074	2055	1939	116.09	17.703		
11,100	5409	5100	4977	141	26	77.08	3352	-2074	2124	2009	114.79	18.501		
11,200	5409	5100	4977	143	26	77.08	3352	-2074	2195	2081	113.49	19.339		
11,300	5410	5076	4955	146	26	76.34	3362	-2077	2268	2155	112.36	20.182		
11,400	5410	5050	4932	148	26	75.52	3373	-2080	2343	2231	111.24	21.059		
11,500	5410	5050	4932	151	26	75.52	3373	-2080	2419	2309	110.00	21.989		
11,600	5411	5050	4932	153	26	75.52	3373	-2080	2497	2388	108.79	22.950		
11,683	5411	5050	4932	155	26	75.52	3373	-2080	2563	2455	107.80	23.771		

Anticollision Report

Company: DJR Operating
Project: Venado Canyon Unit
Reference Site: L12 2206 Pad
Site Error: 0 ft
Reference Well: 203H
Well Error: 0 ft
Reference Wellbore: Original drilling
Reference Design: APD

Local Co-ordinate Reference: Well 203H
TVD Reference: RIG @ 7065ft (AD #1000)
MD Reference: RIG @ 7065ft (AD #1000)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM
Offset TVD Reference: Offset Datum

Offset Design A11 2206 Pad - # 207H - Original drilling - APD													Offset Site Error: 0 ft
Survey Program: 0-MWD+IGRF													Offset Well Error: 0 ft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0	0	0	0	0	0	-17.85	3807	-1226	4000				
100	100	12	12	0	0	-17.85	3807	-1226	3999	3999	0.15	N/A	
200	200	112	112	0	0	-17.85	3807	-1226	3999	3999	0.69	5,795.011	
300	300	212	212	1	1	-17.85	3807	-1226	3999	3998	1.41	2,842.334	
400	400	312	312	1	1	-17.85	3807	-1226	3999	3997	2.12	1,882.938	
450	450	362	362	1	1	-17.85	3807	-1226	3999	3997	2.48	1,611.044	
500	500	412	412	2	1	165.10	3807	-1226	4000	3997	2.83	1,412.155	
600	600	480	480	2	2	165.08	3807	-1226	4004	4001	3.41	1,173.718	
700	700	528	528	2	2	165.04	3808	-1225	4014	4010	3.93	1,020.260	
800	799	600	600	3	2	165.00	3811	-1224	4030	4025	4.55	885.919	
883	880	600	600	3	2	164.89	3811	-1224	4046	4042	4.85	833.871	
900	897	623	623	3	2	164.92	3812	-1224	4050	4045	5.00	809.669	
1000	995	688	688	3	2	165.01	3816	-1222	4074	4068	5.59	728.768	
1100	1094	746	745	4	2	165.10	3821	-1220	4098	4092	6.15	665.980	
1200	1192	842	841	4	3	165.24	3828	-1217	4122	4115	6.87	600.328	
1300	1290	939	937	5	3	165.38	3835	-1214	4147	4139	7.58	546.703	
1400	1388	1035	1034	5	4	165.52	3843	-1211	4171	4163	8.31	502.162	
1500	1486	1132	1130	6	4	165.65	3850	-1208	4195	4186	9.03	464.589	
1600	1585	1228	1226	6	4	165.79	3857	-1204	4220	4210	9.76	432.508	
1700	1683	1325	1322	7	5	165.92	3865	-1201	4244	4234	10.48	404.817	
1800	1781	1421	1418	7	5	166.05	3872	-1198	4269	4258	11.21	380.684	
1900	1879	8967	5355	8	95	-141.66	1415	1670	4261	4199	62.22	68.483	
2000	1978	8981	5355	8	96	-141.38	1405	1680	4186	4123	63.77	65.649	
2100	2076	8995	5355	9	96	-141.10	1395	1689	4113	4047	65.37	62.914	
2200	2174	9009	5355	9	96	-140.82	1385	1699	4040	3973	67.03	60.276	
2300	2272	9023	5355	10	97	-140.54	1375	1709	3968	3900	68.74	57.735	
2400	2370	9037	5355	10	97	-140.25	1365	1719	3898	3828	70.50	55.292	
2500	2469	9051	5355	11	97	-139.97	1355	1729	3829	3757	72.32	52.945	
2600	2567	9065	5355	11	98	-139.69	1345	1739	3761	3687	74.20	50.694	
2700	2665	9079	5355	12	98	-139.41	1335	1749	3695	3619	76.12	48.539	
2800	2763	9093	5355	12	98	-139.13	1325	1758	3630	3552	78.11	46.477	
2900	2862	9107	5355	13	99	-138.84	1316	1768	3567	3487	80.14	44.508	
3000	2960	9121	5355	13	99	-138.56	1306	1778	3505	3423	82.22	42.632	
3100	3058	9135	5355	14	99	-138.28	1296	1788	3445	3361	84.35	40.845	
3200	3156	9149	5355	14	100	-137.99	1286	1798	3387	3301	86.53	39.148	
3300	3254	9163	5355	15	100	-137.71	1276	1808	3331	3243	88.74	37.540	
3400	3353	9177	5355	15	100	-137.43	1266	1818	3277	3186	90.99	36.017	
3500	3451	9191	5355	16	101	-137.14	1256	1827	3225	3132	93.27	34.580	
3600	3549	9205	5355	16	101	-136.86	1246	1837	3176	3080	95.58	33.227	
3700	3647	9219	5355	17	101	-136.57	1236	1847	3128	3030	97.90	31.955	
3800	3746	9233	5355	17	102	-136.29	1226	1857	3084	2983	100.23	30.764	
3900	3844	9247	5355	18	102	-136.00	1216	1867	3041	2939	102.56	29.653	
4000	3942	9261	5355	18	102	-135.72	1206	1877	3002	2897	104.88	28.618	
4100	4040	9275	5355	19	103	-135.43	1196	1887	2965	2857	107.18	27.660	
4200	4138	9289	5355	19	103	-135.14	1187	1896	2931	2821	109.46	26.775	
4300	4237	9303	5355	20	103	-134.86	1177	1906	2900	2788	111.68	25.963	
4400	4335	9317	5355	20	104	-134.57	1167	1916	2872	2758	113.86	25.222	
4500	4433	9331	5355	21	104	-134.29	1157	1926	2847	2731	115.97	24.551	
4600	4531	9345	5355	21	105	-134.00	1147	1936	2826	2708	117.99	23.946	
4700	4630	9359	5355	22	105	-133.71	1137	1946	2807	2687	119.93	23.408	
4744	4673	9365	5355	22	105	-133.59	1133	1950	2800	2680	120.76	23.191	
4750	4679	9366	5355	22	105	-135.42	1132	1951	2800	2679	120.86	23.163	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company: DJR Operating
Project: Venado Canyon Unit
Reference Site: L12 2206 Pad
Site Error: 0 ft
Reference Well: 203H
Well Error: 0 ft
Reference Wellbore: Original drilling
Reference Design: APD

Local Co-ordinate Reference: Well 203H
TVD Reference: RIG @ 7065ft (AD #1000)
MD Reference: RIG @ 7065ft (AD #1000)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM
Offset TVD Reference: Offset Datum

Offset Design A11 2206 Pad - # 207H - 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)					
4800	4728	9370	5355	22	105	-157.98	1129	1954	2793	2671	121.69	22.949			
4850	4778	9371	5355	23	105	168.60	1128	1954	2786	2664	122.35	22.774			
4900	4827	9368	5355	23	105	141.12	1131	1952	2781	2658	122.85	22.638			
4950	4876	9360	5355	23	105	125.63	1136	1947	2777	2654	123.18	22.542			
5000	4925	9349	5355	23	105	116.95	1143	1939	2773	2650	123.35	22.483			
5050	4972	9335	5355	23	104	111.56	1154	1929	2771	2647	123.36	22.460			
5100	5018	9316	5355	23	104	107.86	1167	1916	2769	2646	123.22	22.472			
5150	5063	9294	5355	23	103	105.09	1183	1900	2768	2645	122.93	22.518 ES			
5193	5099	9272	5355	23	103	103.16	1198	1885	2768	2645	122.57	22.582			
5200	5105	9268	5355	23	103	102.88	1201	1882	2768	2645	122.50	22.595			
5250	5146	9240	5355	23	102	101.01	1221	1862	2768	2646	121.94	22.701			
5300	5184	9208	5355	23	101	99.38	1244	1839	2769	2648	121.28	22.832			
5350	5219	9173	5355	23	100	97.93	1269	1815	2770	2650	120.53	22.965			
5400	5252	9135	5355	23	99	96.62	1295	1788	2772	2652	119.71	23.157			
5450	5282	9095	5355	23	98	95.45	1324	1760	2774	2655	118.83	23.343			
5500	5308	9053	5355	23	97	94.40	1354	1730	2776	2658	117.91	23.539			
5550	5331	9009	5355	23	96	93.48	1385	1699	2777	2660	116.98	23.742			
5600	5351	8963	5355	22	95	92.70	1418	1667	2779	2663	116.05	23.946			
5650	5367	8915	5355	22	94	92.06	1451	1633	2780	2665	115.14	24.148			
5700	5379	8867	5355	22	93	91.57	1486	1599	2781	2667	114.25	24.346			
5750	5388	8818	5355	22	92	91.23	1521	1564	2782	2669	113.39	24.536			
5800	5392	8768	5355	22	90	91.06	1556	1529	2783	2670	112.58	24.717			
5832	5393	8736	5355	23	90	91.03	1579	1507	2783	2670	112.08	24.826			
5900	5393	8668	5355	23	88	91.02	1627	1459	2782	2671	111.09	25.046			
6000	5394	8568	5355	24	86	91.02	1698	1388	2782	2672	109.82	25.332			
6100	5394	8468	5355	26	83	91.01	1769	1318	2782	2673	108.75	25.580			
6200	5394	8368	5355	27	81	91.01	1840	1248	2782	2674	107.84	25.793			
6300	5394	8268	5355	29	78	91.00	1911	1177	2781	2674	107.07	25.976			
6400	5395	8168	5355	31	76	90.99	1982	1107	2781	2675	106.42	26.133			
6500	5395	8068	5355	33	74	90.99	2053	1036	2781	2675	105.87	26.266			
6600	5395	7968	5355	35	71	90.98	2124	966	2781	2675	105.41	26.379			
6700	5396	7868	5355	37	69	90.98	2195	895	2780	2675	105.01	26.475			
6800	5396	7768	5355	39	66	90.97	2266	825	2780	2675	104.69	26.555			
6900	5396	7668	5355	41	64	90.96	2337	754	2780	2675	104.42	26.621			
7000	5397	7568	5355	43	62	90.96	2408	684	2779	2675	104.19	26.675			
7100	5397	7468	5355	45	59	90.95	2479	613	2779	2675	104.02	26.718			
7200	5397	7368	5355	47	57	90.94	2550	543	2779	2675	103.88	26.750			
7300	5397	7268	5355	50	55	90.94	2621	473	2779	2675	103.79	26.773			
7400	5398	7168	5355	52	52	90.93	2691	402	2778	2675	103.73	26.785			
7500	5398	7068	5355	54	50	90.93	2762	332	2778	2674	103.70	26.789			
7600	5398	6968	5355	57	48	90.92	2833	261	2778	2674	103.72	26.783			
7700	5399	6868	5355	59	46	90.91	2904	191	2778	2674	103.77	26.767			
7800	5399	6768	5355	61	43	90.91	2975	120	2777	2673	103.86	26.742			
7900	5399	6668	5355	63	41	90.90	3046	50	2777	2673	103.99	26.706			
8000	5400	6568	5355	66	39	90.89	3117	-21	2777	2673	104.16	26.659			
8100	5400	6468	5355	68	37	90.89	3188	-91	2777	2672	104.39	26.599			
8200	5400	6368	5355	71	35	90.88	3259	-162	2776	2672	104.67	26.525			
8300	5401	6268	5355	73	33	90.88	3330	-232	2776	2671	105.01	26.435			
8400	5401	6168	5355	75	31	90.87	3401	-303	2776	2670	105.43	26.327			
8500	5401	6068	5355	78	29	90.86	3472	-373	2775	2670	105.94	26.198			
8600	5401	5968	5355	80	27	90.86	3543	-443	2775	2669	106.55	26.045			
8700	5402	5868	5355	82	26	90.85	3614	-514	2775	2668	107.29	25.863			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company: DJR Operating
Project: Venado Canyon Unit
Reference Site: L12 2206 Pad
Site Error: 0 ft
Reference Well: 203H
Well Error: 0 ft
Reference Wellbore: Original drilling
Reference Design: APD

Local Co-ordinate Reference: Well 203H
TVD Reference: RIG @ 7065ft (AD #1000)
MD Reference: RIG @ 7065ft (AD #1000)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM
Offset TVD Reference: Offset Datum

Offset Design A11 2206 Pad - # 207H - Original drilling - APD														Offset Site Error: 0 ft	
Survey Program: 0-MWD+IGRF														Offset Well Error: 0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
8800	5402	5768	5355	85	24	90.84	3685	-584	2775	2666	108.18	25.649			
8900	5402	5625	5346	87	22	90.64	3786	-685	2774	2665	108.83	25.488			
9000	5403	5473	5302	90	21	89.74	3886	-790	2771	2661	109.75	25.250			
9100	5403	5348	5241	92	20	88.47	3960	-870	2767	2656	111.19	24.889			
9200	5403	5249	5179	94	19	87.17	4011	-927	2764	2651	112.95	24.472			
9300	5404	5173	5124	97	19	86.01	4045	-967	2762	2647	114.84	24.050			
9351	5404	5141	5099	98	19	85.49	4057	-982	2762	2646	115.83	23.844 CC			
9400	5404	5114	5077	99	19	85.03	4067	-994	2762	2645	116.77	23.654			
9500	5404	5068	5038	102	19	84.22	4083	-1014	2765	2646	118.66	23.297			
9600	5405	5031	5005	104	19	83.54	4093	-1028	2770	2649	120.50	22.987			
9700	5405	5000	4977	107	19	82.96	4101	-1039	2778	2656	122.25	22.728			
9800	5405	4976	4956	109	19	82.51	4107	-1046	2790	2666	123.90	22.518			
9900	5405	4950	4931	112	19	82.00	4112	-1054	2805	2679	125.41	22.366			
10,000	5406	4950	4931	114	19	82.00	4112	-1054	2823	2696	126.91	22.244			
10,100	5406	4923	4906	116	18	81.47	4116	-1062	2844	2716	128.14	22.197 SF			
10,200	5406	4900	4883	119	18	81.01	4120	-1067	2869	2740	129.24	22.198			
10,300	5407	4900	4883	121	18	81.01	4120	-1067	2896	2766	130.33	22.224			
10,400	5407	4900	4883	124	18	81.01	4120	-1067	2927	2796	131.28	22.297			
10,500	5407	4880	4864	126	18	80.62	4122	-1072	2961	2829	132.00	22.431			
10,600	5408	4872	4857	129	18	80.46	4123	-1073	2997	2865	132.65	22.596			
10,700	5408	4850	4835	131	18	80.01	4125	-1078	3037	2904	133.10	22.817			
10,800	5408	4850	4835	134	18	80.01	4125	-1078	3079	2945	133.57	23.051			
10,900	5408	4850	4835	136	18	80.01	4125	-1078	3124	2990	133.93	23.322			
11,000	5409	4850	4835	138	18	80.01	4125	-1078	3171	3037	134.20	23.628			
11,100	5409	4850	4835	141	18	80.01	4125	-1078	3220	3086	134.37	23.967			
11,200	5409	4850	4835	143	18	80.01	4125	-1078	3272	3138	134.45	24.337			
11,300	5410	4850	4835	146	18	80.01	4125	-1078	3326	3192	134.46	24.738			
11,400	5410	4831	4816	148	18	79.62	4126	-1081	3382	3248	134.30	25.185			
11,500	5410	4827	4812	151	18	79.55	4126	-1081	3440	3306	134.15	25.645			
11,600	5411	4824	4809	153	18	79.48	4126	-1082	3500	3366	133.96	26.130			
11,683	5411	4822	4807	155	18	79.43	4126	-1082	3551	3418	133.76	26.551			

Anticollision Report

Company: DJR Operating
Project: Venado Canyon Unit
Reference Site: L12 2206 Pad
Site Error: 0 ft
Reference Well: 203H
Well Error: 0 ft
Reference Wellbore: Original drilling
Reference Design: APD

Local Co-ordinate Reference: Well 203H
TVD Reference: RIG @ 7065ft (AD #1000)
MD Reference: RIG @ 7065ft (AD #1000)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM
Offset TVD Reference: Offset Datum

Offset Design L12 2206 Pad - 204H - Original drilling - APD													Offset Site Error:
Survey Program: 0-MWD+IGRF													0 ft
Reference		Offset		Semi Major Axis			Distance						Offset Well Error:
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0	0	0	0	0	0	60.12	15	26	30				
100	100	100	100	0	0	60.12	15	26	30	30	0.27	111.446	
200	200	200	200	0	0	60.12	15	26	30	29	0.99	30.394	
300	300	300	300	1	1	60.12	15	26	30	28	1.70	17.597	
400	400	400	400	1	1	60.12	15	26	30	28	2.42	12.383	
450	450	450	450	1	1	60.13	15	26	30	27	2.78	10.742	
500	500	501	501	2	2	-117.86	14	25	29	26	3.12	9.279	
600	600	602	602	2	2	-126.45	11	20	26	22	3.79	6.830	
654	654	655	655	2	2	-135.21	10	17	25	21	4.17	6.039 CC, ES	
700	700	701	701	2	2	-144.30	8	15	26	21	4.49	5.755 SF	
800	799	801	800	3	3	-163.17	5	9	32	27	5.20	6.207	
883	880	883	882	3	3	-173.80	2	4	43	37	5.80	7.354	
900	897	900	899	3	3	-175.42	1	4	45	39	5.93	7.633	
1000	995	998	997	3	3	177.95	-2	-2	61	54	6.65	9.150	
1100	1094	1097	1096	4	4	174.05	-5	-8	77	70	7.38	10.423	
1200	1192	1195	1194	4	4	171.51	-9	-13	93	85	8.11	11.485	
1300	1290	1294	1292	5	4	169.72	-12	-19	110	101	8.86	12.376	
1400	1388	1393	1391	5	5	168.40	-16	-24	126	116	9.60	13.132	
1500	1486	1491	1489	6	5	167.38	-19	-30	143	132	10.35	13.779	
1600	1585	1590	1587	6	6	166.58	-22	-35	159	148	11.10	14.338	
1700	1683	1688	1686	7	6	165.92	-26	-41	176	164	11.86	14.825	
1800	1781	1787	1784	7	6	165.38	-29	-46	192	180	12.62	15.253	
1900	1879	1886	1883	8	7	164.93	-32	-52	209	196	13.37	15.632	
2000	1978	1984	1981	8	7	164.54	-36	-58	226	212	14.13	15.970	
2100	2076	2083	2079	9	7	164.21	-39	-63	242	227	14.89	16.272	
2200	2174	2181	2178	9	8	163.92	-42	-69	259	243	15.66	16.545	
2300	2272	2280	2276	10	8	163.66	-46	-74	276	259	16.42	16.791	
2400	2370	2378	2374	10	9	163.43	-49	-80	292	275	17.18	17.016	
2500	2469	2477	2473	11	9	163.23	-53	-85	309	291	17.94	17.221	
2600	2567	2576	2571	11	9	163.05	-56	-91	326	307	18.71	17.409	
2700	2665	2674	2670	12	10	162.89	-59	-96	342	323	19.47	17.581	
2800	2763	2773	2768	12	10	162.74	-63	-102	359	339	20.24	17.741	
2900	2862	2871	2866	13	10	162.60	-66	-108	376	355	21.00	17.889	
3000	2960	2970	2965	13	11	162.48	-69	-113	392	371	21.77	18.026	
3100	3058	3069	3063	14	11	162.36	-73	-119	409	387	22.54	18.153	
3200	3156	3167	3162	14	12	162.26	-76	-124	426	402	23.30	18.272	
3300	3254	3266	3260	15	12	162.16	-79	-130	442	418	24.07	18.384	
3400	3353	3364	3358	15	12	162.07	-83	-135	459	434	24.84	18.488	
3500	3451	3463	3457	16	13	161.99	-86	-141	476	450	25.60	18.586	
3600	3549	3562	3555	16	13	161.91	-90	-146	493	466	26.37	18.678	
3700	3647	3660	3653	17	13	161.84	-93	-152	509	482	27.14	18.765	
3800	3746	3759	3752	17	14	161.77	-96	-157	526	498	27.91	18.847	
3900	3844	3857	3850	18	14	161.71	-100	-163	543	514	28.67	18.924	
4000	3942	3956	3949	18	15	161.65	-103	-169	559	530	29.44	18.998	
4100	4040	4055	4047	19	15	161.59	-106	-174	576	546	30.21	19.067	
4200	4138	4153	4145	19	15	161.54	-110	-180	593	562	30.98	19.133	
4300	4237	4252	4244	20	16	161.48	-113	-185	609	578	31.75	19.196	
4400	4335	4350	4342	20	16	161.44	-117	-191	626	594	32.52	19.256	
4500	4433	4449	4440	21	16	161.39	-120	-196	643	610	33.28	19.313	
4600	4531	4548	4539	21	17	161.35	-123	-202	660	625	34.05	19.367	
4700	4630	4646	4637	22	17	161.31	-127	-207	676	641	34.82	19.419	
4744	4673	4690	4681	22	17	161.29	-128	-210	684	648	35.16	19.441	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company: DJR Operating
Project: Venado Canyon Unit
Reference Site: L12 2206 Pad
Site Error: 0 ft
Reference Well: 203H
Well Error: 0 ft
Reference Wellbore: Original drilling
Reference Design: APD

Local Co-ordinate Reference: Well 203H
TVD Reference: RIG @ 7065ft (AD #1000)
MD Reference: RIG @ 7065ft (AD #1000)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM
Offset TVD Reference: Offset Datum

Offset Design L12 2206 Pad - 204H - Original drilling - APD														Offset Site Error:	0 ft
Survey Program: 0-MWD+IGRF														Offset Well Error:	0 ft
Reference		Offset		Semi Major Axis			Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (ft)	+E/W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
4750	4679	4695	4686	22	17	159.33	-128	-210	685	649	35.21	19.443			
4800	4728	4745	4736	22	18	135.88	-130	-213	691	655	35.59	19.409			
4850	4778	5778	5398	23	24	172.72	-620	205	663	639	23.23	28.521			
4900	4827	5752	5398	23	23	148.04	-601	186	619	595	24.18	25.595			
4950	4876	5685	5392	23	23	127.50	-553	141	576	551	25.32	22.760			
5000	4925	5699	5394	23	23	127.81	-563	150	535	508	26.61	20.107			
5050	4972	5674	5390	23	22	123.69	-545	132	496	468	28.09	17.643			
5100	5018	5648	5386	23	22	120.75	-527	115	458	429	29.73	15.416			
5150	5063	5623	5381	23	22	118.22	-509	98	424	392	31.51	13.447			
5200	5105	5598	5374	23	22	115.73	-491	82	392	359	33.38	11.753			
5250	5146	5573	5367	23	21	113.07	-474	65	365	330	35.27	10.343			
5300	5184	5548	5359	23	21	110.10	-456	49	342	305	37.06	9.224			
5350	5219	5523	5350	23	21	106.75	-439	33	324	286	38.61	8.396			
5400	5252	5497	5340	23	21	103.00	-422	17	312	273	39.78	7.856			
5450	5282	5472	5329	23	20	98.83	-406	2	307	267	40.44	7.590			
5470	5293	5462	5324	23	20	97.07	-399	-4	306	266	40.56	7.555			
5500	5308	5447	5317	23	20	94.28	-389	-13	308	267	40.59	7.577			
5550	5331	5422	5305	23	20	89.42	-373	-27	314	274	40.34	7.781			
5600	5351	5400	5293	22	20	84.78	-359	-40	325	285	39.87	8.155			
5650	5367	5372	5277	22	20	79.22	-342	-55	340	301	39.13	8.699			
5700	5379	5350	5264	22	20	74.50	-329	-67	359	320	38.60	9.296			
5750	5388	5322	5246	22	20	69.23	-313	-81	379	341	37.97	9.994			
5800	5392	5300	5231	22	19	64.90	-300	-92	402	364	37.69	10.657			
5832	5393	5281	5218	23	19	61.85	-290	-101	416	379	37.40	11.126			
5900	5393	5250	5196	23	19	59.02	-273	-115	450	413	37.23	12.090			
6000	5394	5200	5158	24	19	54.60	-248	-136	507	470	36.88	13.759			
6100	5394	5171	5135	26	19	52.15	-234	-147	572	535	37.21	15.373			
6200	5394	5150	5118	27	19	50.45	-225	-155	643	605	37.67	17.069			
6300	5394	5113	5087	29	19	47.56	-209	-167	718	681	37.67	19.070			
6400	5395	5100	5076	31	19	46.61	-204	-171	798	760	38.12	20.933			
6500	5395	5068	5048	33	19	44.36	-192	-180	880	842	38.16	23.064			
6600	5395	5050	5031	35	19	43.11	-186	-185	965	927	38.37	25.145			
6700	5396	5034	5017	37	19	42.05	-180	-189	1052	1013	38.57	27.270			
6800	5396	5019	5003	39	18	41.12	-176	-192	1140	1101	38.73	29.433			
6900	5396	5000	4985	41	18	39.96	-170	-197	1230	1191	38.83	31.676			
7000	5397	5000	4985	43	18	39.96	-170	-197	1321	1282	39.06	33.813			
7100	5397	5000	4985	45	18	39.96	-170	-197	1413	1374	39.25	35.999			
7200	5397	4974	4961	47	18	38.44	-163	-201	1505	1466	39.23	38.369			
7300	5397	4950	4938	50	18	37.14	-157	-205	1599	1560	39.23	40.752			
7400	5398	4950	4938	52	18	37.14	-157	-205	1693	1653	39.37	42.996			
7500	5398	4950	4938	54	18	37.14	-157	-205	1787	1748	39.48	45.264			
7600	5398	4950	4938	57	18	37.14	-157	-205	1882	1843	39.58	47.554			
7700	5399	4950	4938	59	18	37.14	-157	-205	1978	1938	39.66	49.861			
7800	5399	4930	4919	61	18	36.09	-152	-208	2073	2034	39.66	52.271			
7900	5399	4924	4913	63	18	35.82	-151	-209	2169	2130	39.72	54.621			
8000	5400	4900	4890	66	18	34.64	-146	-211	2266	2226	39.70	57.076			
8100	5400	4900	4890	68	18	34.64	-146	-211	2362	2323	39.77	59.406			
8200	5400	4900	4890	71	18	34.64	-146	-211	2459	2419	39.83	61.745			
8300	5401	4900	4890	73	18	34.64	-146	-211	2556	2516	39.88	64.090			
8400	5401	4900	4890	75	18	34.64	-146	-211	2653	2613	39.94	66.440			
8500	5401	4900	4890	78	18	34.64	-146	-211	2751	2711	39.98	68.795			
8600	5401	4900	4890	80	18	34.64	-146	-211	2848	2808	40.03	71.152			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company: DJR Operating
Project: Venado Canyon Unit
Reference Site: L12 2206 Pad
Site Error: 0 ft
Reference Well: 203H
Well Error: 0 ft
Reference Wellbore: Original drilling
Reference Design: APD

Local Co-ordinate Reference: Well 203H
TVD Reference: RIG @ 7065ft (AD #1000)
MD Reference: RIG @ 7065ft (AD #1000)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM
Offset TVD Reference: Offset Datum

Offset Design														Offset Site Error:	
Survey Program: L12 2206 Pad - 204H - Original drilling - APD														Offset Well Error:	
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
8700	5402	4900	4890	82	18	34.64	-146	-211	2946	2906	40.08	73.512			
8800	5402	4900	4890	85	18	34.64	-146	-211	3044	3004	40.12	75.873			
8900	5402	4900	4890	87	18	34.64	-146	-211	3142	3102	40.16	78.235			
9000	5403	4900	4890	90	18	34.64	-146	-211	3240	3200	40.20	80.597			
9100	5403	4900	4890	92	18	34.64	-146	-211	3338	3298	40.24	82.959			
9200	5403	4877	4867	94	18	33.56	-142	-213	3436	3396	40.24	85.394			
9300	5404	4874	4864	97	18	33.45	-141	-213	3535	3494	40.28	87.758			
9400	5404	4872	4862	99	18	33.35	-141	-214	3633	3593	40.31	90.119			
9500	5404	4850	4840	102	18	32.42	-138	-215	3732	3691	40.32	92.557			
9600	5405	4850	4840	104	18	32.42	-138	-215	3830	3790	40.36	94.902			
9700	5405	4850	4840	107	18	32.42	-138	-215	3929	3888	40.40	97.245			
9800	5405	4850	4840	109	18	32.42	-138	-215	4028	3987	40.44	99.585			
9900	5405	4850	4840	112	18	32.42	-138	-215	4126	4086	40.48	101.922			
10,000	5406	4850	4840	114	18	32.42	-138	-215	4225	4184	40.53	104.254			
10,100	5406	4850	4840	116	18	32.42	-138	-215	4324	4283	40.57	106.583			
10,200	5406	4850	4840	119	18	32.42	-138	-215	4423	4382	40.61	108.908			
10,300	5407	4850	4840	121	18	32.42	-138	-215	4522	4481	40.65	111.228			
10,400	5407	4850	4840	124	18	32.42	-138	-215	4621	4580	40.69	113.543			
10,500	5407	4850	4840	126	18	32.42	-138	-215	4720	4679	40.74	115.854			
10,600	5408	4850	4840	129	18	32.42	-138	-215	4819	4778	40.78	118.159			
10,700	5408	4850	4840	131	18	32.42	-138	-215	4918	4877	40.82	120.458			
10,800	5408	4850	4840	134	18	32.42	-138	-215	5017	4976	40.87	122.753			
10,900	5408	4850	4840	136	18	32.42	-138	-215	5116	5075	40.91	125.041			
11,000	5409	4850	4840	138	18	32.42	-138	-215	5215	5174	40.96	127.323			
11,100	5409	4850	4840	141	18	32.42	-138	-215	5314	5273	41.01	129.599			
11,200	5409	4850	4840	143	18	32.42	-138	-215	5414	5373	41.05	131.869			
11,300	5410	4850	4840	146	18	32.42	-138	-215	5513	5472	41.10	134.133			
11,400	5410	4850	4840	148	18	32.42	-138	-215	5612	5571	41.15	136.390			
11,500	5410	4850	4840	151	18	32.42	-138	-215	5712	5670	41.20	138.640			
11,600	5411	4850	4840	153	18	32.42	-138	-215	5811	5770	41.25	140.883			
11,683	5411	4850	4840	155	18	32.42	-138	-215	5893	5852	41.29	142.740			

Anticollision Report

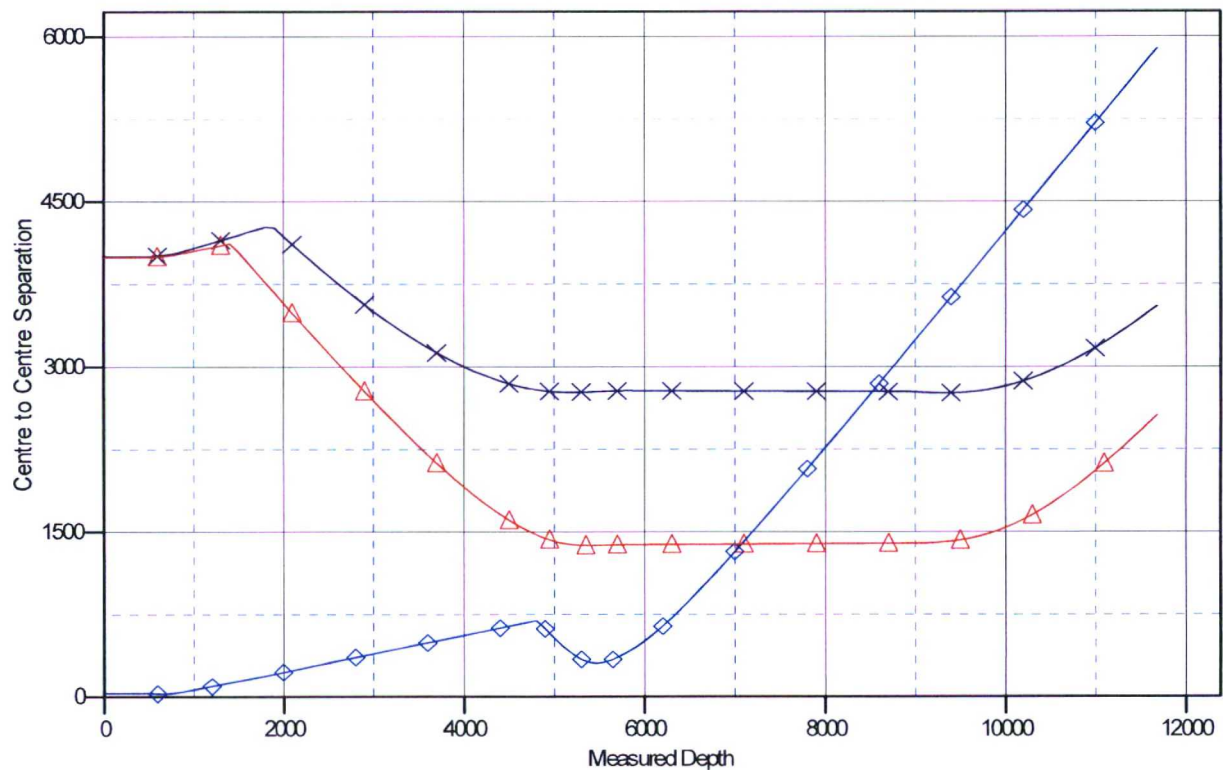
Company: DJR Operating
Project: Venado Canyon Unit
Reference Site: L12 2206 Pad
Site Error: 0 ft
Reference Well: 203H
Well Error: 0 ft
Reference Wellbore: Original drilling
Reference Design: APD

Local Co-ordinate Reference: Well 203H
TVD Reference: RIG @ 7065ft (AD #1000)
MD Reference: RIG @ 7065ft (AD #1000)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM
Offset TVD Reference: Offset Datum

Reference Depths are relative to RIG @ 7065ft (AD #1000)
 Offset Depths are relative to Offset Datum
 Central Meridian is -107.83333333

Coordinates are relative to: 203H
 Coordinate System is US State Plane 1983, New Mexico Western Zone
 Grid Convergence at Surface is: 0.24°

Ladder Plot



LEGEND

◆ 204H, Original drilling, APD V0
 ✕ 207H, Original drilling, APD V0
 ▲ 206H, Original drilling, APD V0

Anicollision Report

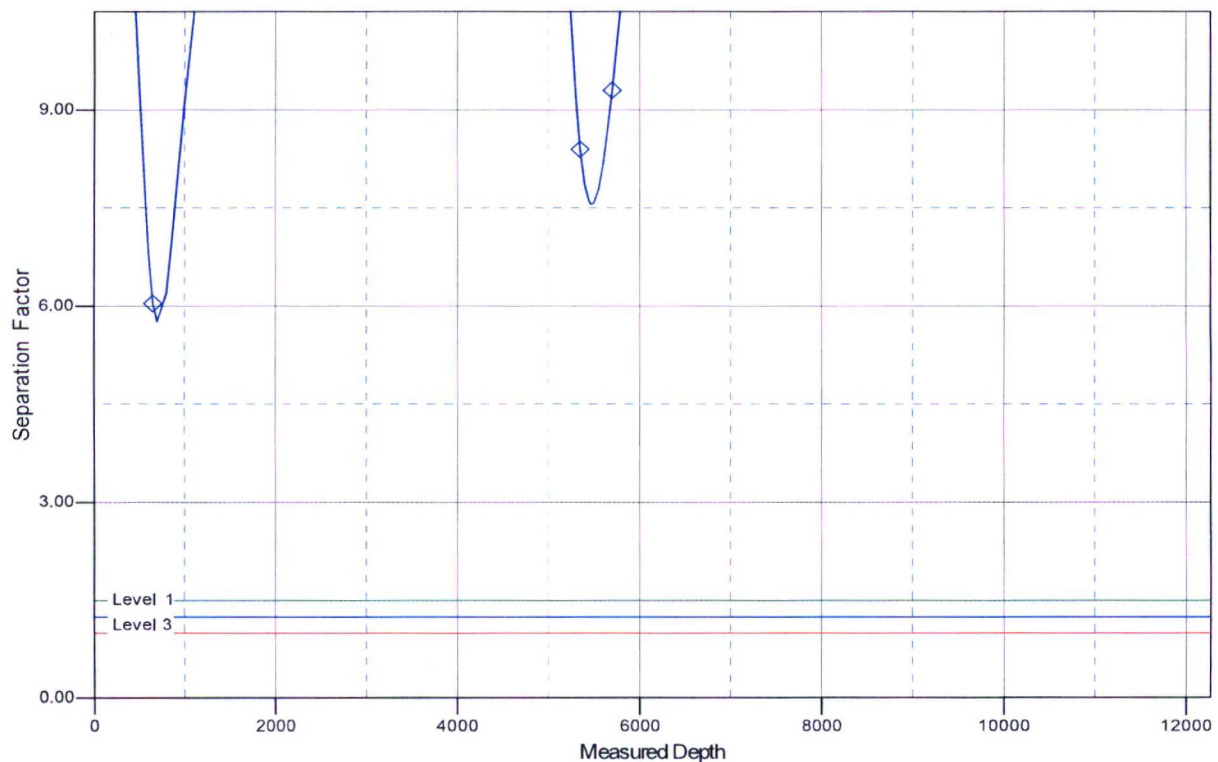
Company: DJR Operating
Project: Venado Canyon Unit
Reference Site: L12 2206 Pad
Site Error: 0 ft
Reference Well: 203H
Well Error: 0 ft
Reference Wellbore: Original drilling
Reference Design: APD

Local Co-ordinate Reference: Well 203H
TVD Reference: RIG @ 7065ft (AD #1000)
MD Reference: RIG @ 7065ft (AD #1000)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM
Offset TVD Reference: Offset Datum

Reference Depths are relative to RIG @ 7065ft (AD #1000)
Offset Depths are relative to Offset Datum
Central Meridian is -107.8333333

Coordinates are relative to: 203H
Coordinate System is US State Plane 1983, New Mexico Western Zone
Grid Convergence at Surface is: 0.24°

Separation Factor Plot



LEGEND

◆ 204H, Original drilling, APD V0 ◆ 207H, Original drilling, APD V0 ◆ 206H, Original drilling, APD V0