

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**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.***SUBMIT IN TRIPLICATE - Other instructions on page 2**

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM6681
2. Name of Operator DJR OPERATING LLC Contact: STEVEN MERRELL E-Mail: smerrell@djrlc.com		6. If Indian, Allottee or Tribe Name EASTERN NAVAJO
3a. Address 1 ROAD 3263 AZTEC, NM 87410	3b. Phone No. (include area code) Ph: 505-632-3476	7. If Unit or CA/Agreement, Name and/or No. NMNM135229A
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 31 T23N R7W NWSE 2215FSL 2531FEL 36.182091 N Lat, 107.615097 W Lon		8. Well Name and No. NORTH ALAMITO UNIT 333H
		9. API Well No. 204 30-043-21333-00-X1
		10. Field and Pool or Exploratory Area BASIN MANCOS
		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 ☐ Hydraulic Fracturing ☐ Reclamation ☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair ☐ New Construction ☐ Recomplete ☒ Other
	☐ 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, North Alamito Unit 333H (API # 30-043-21333) which is part of the North Alamito 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.

ATTENTION: Joe Killins

NMOCD**JAN 06 2020**

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #497180 verified by the BLM Well Information System
For DJR OPERATING LLC, sent to the Farmington
Committed to AFMSS for processing by JOE KILLINS on 12/31/2019 (20JK0072SE)

Name (Printed/Typed) STEVEN MERRELL	Title REGULATORY SPECIALIST
Signature (Electronic Submission)	Date 12/31/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <u>JOE KILLINS</u>	Title <u>PETROLEUM ENGINEER</u>	Date <u>01/03/2020</u>
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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

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.

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

16

DISTRICT I
1686 N. French Dr., Hobbs, N.M. 88240
Phone: (505) 393-6161 Fax: (505) 393-0720

DISTRICT II
611 S. First St., Artesia, N.M. 88210
Phone: (505) 748-1283 Fax: (505) 748-0720

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) 476-9460 Fax: (505) 476-9462

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

¹ API Number 30-043-21333	² Pool Code 98174	³ Pool Name NORTH ALAMITO UNIT MANCOS OIL POOL
⁴ Property Code	⁵ Property Name NORTH ALAMITO UNIT	⁶ Well Number 333H
⁷ GRID No. 371838	⁸ Operator Name DJR OPERATING, LLC	⁹ Elevation 6979'

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
J	31	23N	7W		2215'	SOUTH	2531'	EAST	SANDOVAL

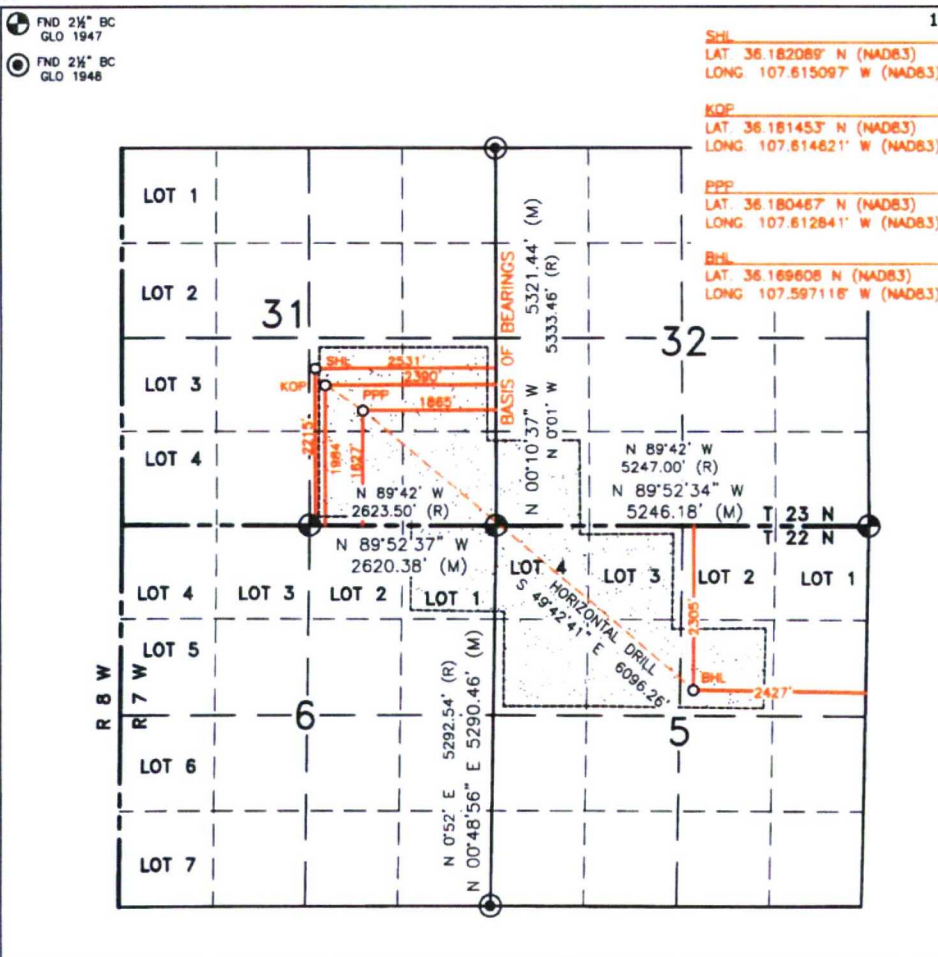
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	5	22N	7W		2305'	NORTH	2427'	EAST	SANDOVAL

¹² Dedicated Acres PENETRATED SPACING UNIT; SEC 31: SE/4 (160 AC.); SEC 32: SW/SW (40 AC.); SEC 6: NE/NE (40.21 AC.) SEC 5: SW/NE, NW/4 (200.68 AC.) = 440.89 ACRES TOTAL	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

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17 OPERATOR CERTIFICATION

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

Steven Merrell 12/30/19
Signature Date

Steven Merrell

Printed Name

Smerrell@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.

MARCH 15, 2019

Date of Survey

Signature and Seal of Professional Surveyor:



Certificate Number

11393

DISTRICT I

1625 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) 748-1263 Fax: (575) 748-9720

DISTRICT III

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Phone: (505) 834-6176 Fax: (505) 834-6170

DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

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

DJR OPERATING, LLC
NORTH ALAMITO UNIT #333H

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

☐ AMENDED REPORT

SHL

LAT 36.182089° N (NAD83)
LONG 107.615097° W (NAD83)

KOP

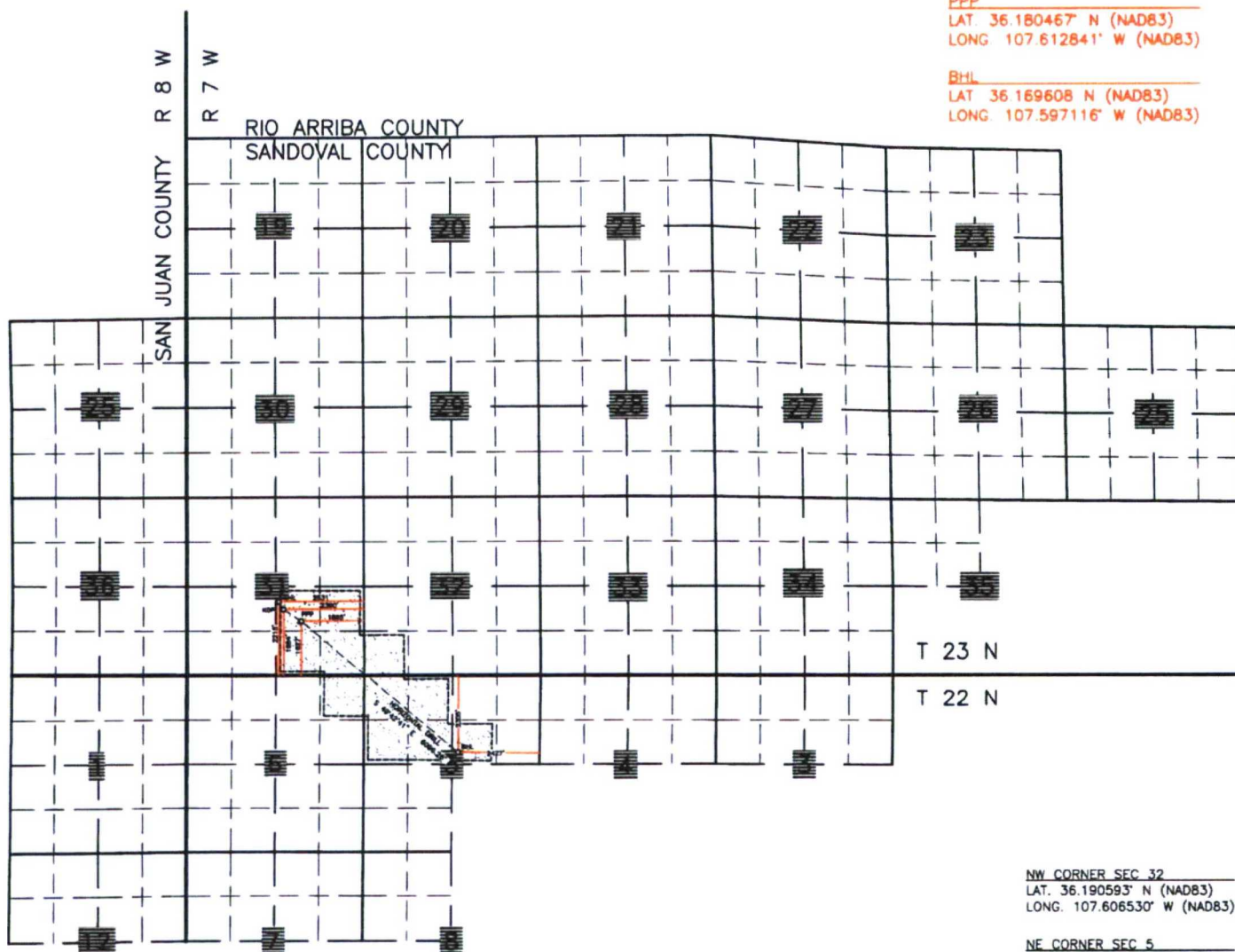
LAT 36.181453° N (NAD83)
LONG 107.614621° W (NAD83)

PPP

LAT 36.180467° N (NAD83)
LONG 107.612841° W (NAD83)

BHL

LAT 36.169608° N (NAD83)
LONG 107.597116° W (NAD83)

**NW CORNER SEC 32**

LAT. 36.190593° N (NAD83)
LONG. 107.606530° W (NAD83)

NE CORNER SEC 5

LAT. 36.175908° N (NAD83)
LONG. 107.588741° W (NAD83)

S/4 CORNER SEC 31

LAT. 36.176006° N (NAD83)
LONG. 107.615395° W (NAD83)

SE CORNER SEC 31

LAT. 36.175974° N (NAD83)
LONG. 107.606516° W (NAD83)

SW CORNER SEC 5

LAT. 36.161443° N (NAD83)
LONG. 107.606813° W (NAD83)

PENETRATED SPACING UNIT;

SEC 31: SE/4 (160 AC.); SEC 32: SW/SW (40 AC.); SEC 6: NE/NE (40.21 AC.) SEC 5: SW/NE, NW/4 (200.68 AC.) = 440.89 ACRES TOTAL

TOTAL 14,262.78 ACRES: T23N R7W SEC. 19-23, 25, 26-34 (ALL); 35 (NW/4); T22N R7W SEC. 3 & 4 (N/2); 5 (N/2, SW/4); 6 (ALL); 7 (N/2); 8 (NW/4); T23N R8W SEC. 25, 36 (ALL); T22N R8W SEC. 1 (ALL); SEC. 12 (N/2) - UNDIVIDED UNIT

DRILLING PLAN

North Alamito Unit 333H

Sandoval County, New Mexico

Surface Location

2531-ft FEL & 2215-ft FSL
 Sec 31 T23N R7W
 Graded Elevation 6979' MSL
 RKB Elevation 6993' (14' KB)

SHL Geographical Coordinates (NAD-83)

Latitude 36.1820890° N
 Longitude 107.6150970° W

Kick Off Point for Horizontal Build Curve

4520-ft MD
 4511-ft TVD

Local Coordinates (from SHL)

231-ft South
 141-ft East

Heel Location (Pay zone entry)

1865-ft FEL & 1627-ft FSL
 Sec 31 T23N R7W

Heel Geographical Coordinates (NAD-83)

Latitude 36.1804671° N
 Longitude 107.61284080° W

Bottom Hole Location (TD)

2427-ft FEL & 2305-ft FNL
 Sec 5 T22N R7W

BHL Geographical Coordinates (NAD-83)

Latitude 36.1696078° N
 Longitude 107.5971160° W

Well objectives

This well is planned as a 6090-ft lateral in the Gallup C sand.

Bottom Hole temperature and pressure

The temperature in the Gallup C horizontal objective is 139°F. Bottom hole pressure in the Gallup C is forecast to be 1985 psi.

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

Name	MD (ft)	TVD (ft)	Lithology	Pore fluid	Expected Pore Pressure (ppg)	Planned Mud Weight (ppg)
Ojo Alamo	890	889	Sd	W	8.3	8.4 – 8.8
Kirtland	930	929	Sh	-	8.3	8.4 – 8.8
Fruitland	1173	1172	C	G	8.3	9.0 - 9.5
Pictured Cliffs	1458	1456	Sd	W	8.3	9.0 - 9.5
Lewis	1626	1624	Sh	-	-	9.0 - 9.5
Chacra	2226	2222	Sd	-	8.3	9.0 - 9.5
Menefee	2948	2942	Sd, C	G	8.3	9.0 - 9.5
Point Lookout	3849	3841	Sd	-	8.3	9.0 - 9.5
Mancos	4029	4021	Sh	-	-	9.0 - 9.5
Mancos Silt	4364	4355	Slt	O/G	6.6	9.0 - 9.5
Gallup A	4862	4830	Slt	O/G	6.6	9.0 - 9.5
Gallup B	4904	4864	Sd	O/G	6.6	8.8 - 9.0
Gallup C	5080	4966	Sd	O/G	6.6	8.8 - 9.0
Target	5481	5108	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	5425	surf	5106	surface
4-1/2"	6-1/8"	11.6	P-110	BTC	5147	11599	5023	5096	5147

Note: all casing will be new

Casing Design Load Cases

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

Note

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

Casing Design Factors

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

Cement Design

9-5/8" Surface Casing

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

7" Intermediate Casing

	Lead	Tail
Type	BJ Services	BJ Services
Planned top	III	Poz/G
Density (ppg)	Surface	4020-ft
Yield (cf/sx)	12.30	13.50
Mix water (gal/sx)	2.34	1.50
Volume (sx)	13.26	7.20
Volume (bbls)	402	232
Volume (cu.ft.)	168	62
Excess %	941	347
	50	50

4-1/2" Production Liner

	BJ Services
Type	Poz/G
Planned top	5147-ft
Density (ppg)	13.3
Yield (cf/sx)	1.56
Mix water (gal/sx)	7.71
Volume (sx)	542
Volume (bbls)	151
Volume (cu.ft)	847
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 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 – 5425	9.0 – 9.5	38 – 45	8 – 14	<20
Production	Low solids, non-dispersed	5425 – 11599	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: North Alamo Unit
Site: J31 2307
Well: NAU 333H
Wellbore: Original drilling
Design: APD rev 3

PROJECT DETAILS: North Alamo 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



Azimuths to True North
Magnetic North: 8.96°
Magnetic Field
Strength: 49544.5nT
Dip Angle: 62.87°
Date: 3/27/2019
Model: IGRF2015

WELL DETAILS: NAU 333H

RKB @ 6993.00usft (RIG TBD)
+N/-S +E/-W Northing Easting Latitude Longitude
0.00 0.00 1885649.90 2787494.55 36.18208900 -107.61509700

Plan: APD rev 3 (NAU 333H/Original drilling)

Created By: Janie Collins Date: 22:51, December 11 2019

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
333H heel rev 2	5108.01	-590.40	865.83	1885081.91	2786191.71	36.18046710	-107.61234080
333H Waypoint	5108.01	-1446.43	1993.57	1884207.96	2789491.36	36.17811532	-107.60634194
333H toe rev 2	5108.01	-4542.92	5307.17	1881118.93	2792811.92	36.16960780	-107.59711600

SECTION DETAILS

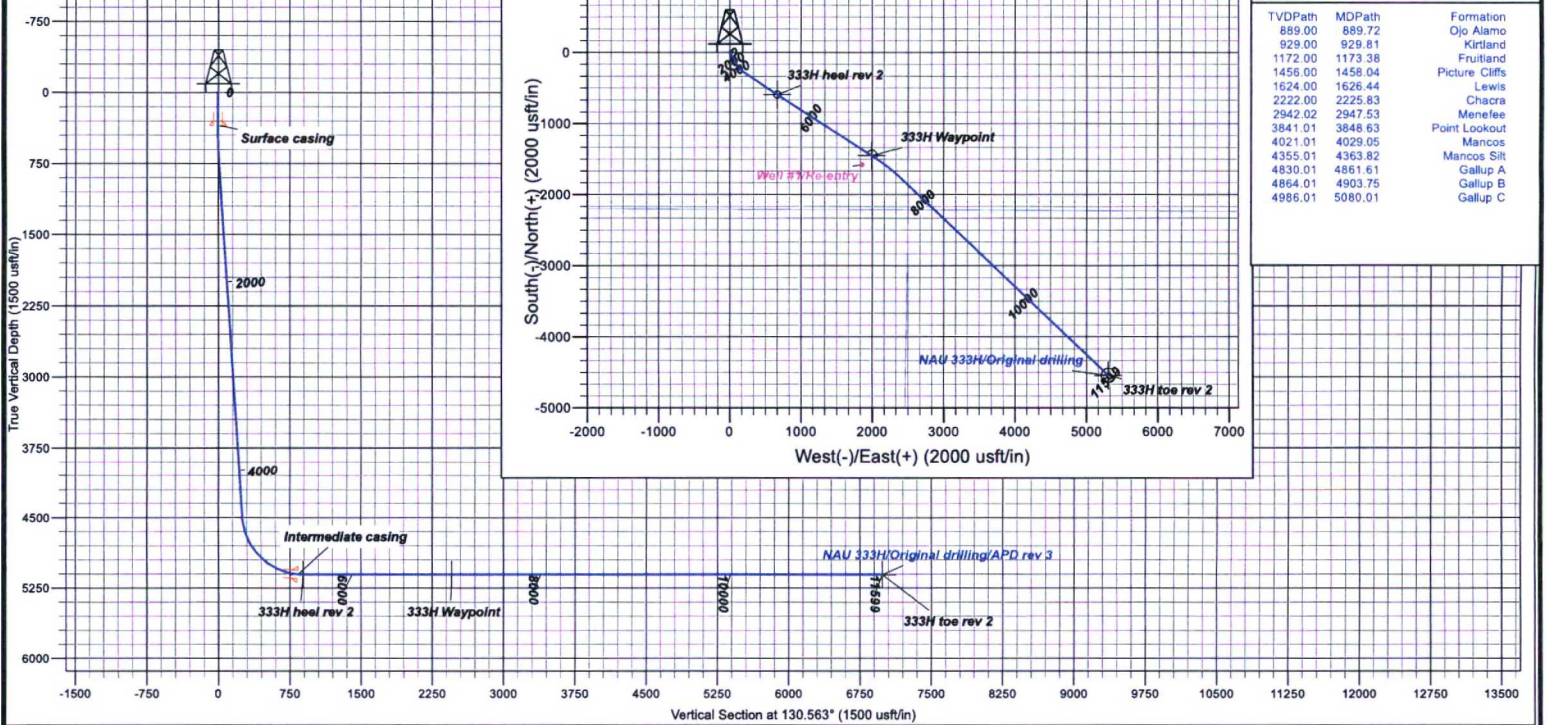
MD	Inc	Adj	TVD	+N/-S	+E/-W	Diag	TFace	VSeal	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
450.00	0.00	0.000	450.00	0.00	0.00	0.00	0.00	0.00	
845.59	3.91	148.547	845.44	-5.89	3.48	2.00	148.55	6.35	
4519.95	3.91	148.547	4510.78	-231.18	141.40	0.00	0.00	257.75	
5480.80	90.00	122.811	5108.01	-590.40	865.83	9.00	-25.79	889.75	333H heel rev 2
7060.57	90.00	122.811	5108.01	-1446.43	1993.57	0.00	0.00	2455.09	333H Waypoint
7805.88	90.00	133.713	5108.01	-1783.49	2420.93	2.00	90.00	2998.83	
11598.78	90.00	133.713	5108.01	-4542.92	5307.17	0.00	0.00	6986.00	333H toe rev 2

CASING DETAILS

TVD	MD	Name
350.00	350.00	Surface casing
5105.56	424.98	Intermediate casing

FORMATION DETAILS

TVDPath	MDPath	Formation
889.00	889.72	Ojo Alamo
929.00	929.81	Kirtland
1172.00	1173.38	Fruitland
1458.00	1458.04	Picture Cliffs
1624.00	1626.44	Lewis
2222.00	2225.83	Chacra
2942.02	2947.53	Menefee
3841.01	3848.63	Point Lookout
4021.01	4029.05	Mancos
4355.01	4363.82	Mancos Silt
4830.01	4861.61	Gallup A
4864.01	4903.75	Gallup B
4986.01	5080.01	Gallup C





DJR Operating

North Alamito Unit

J31 2307

NAU 333H

Original drilling

Plan: APD rev 3

Standard Planning Report

11 December, 2019



Scientific Drilling

Database: DJR
Company: DJR Operating
Project: North Alamito Unit
Site: J31 2307
Well: NAU 333H
Wellbore: Original drilling
Design: APD rev 3

Local Co-ordinate Reference: Well NAU 333H
TVD Reference: RKB @ 6993.00usft (RIG TBD)
MD Reference: RKB @ 6993.00usft (RIG TBD)
North Reference: True
Survey Calculation Method: Minimum Curvature

Project	North Alamito 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	J31 2307		
Site Position:		Northing:	1,885,649.91 usft
From:	Lat/Long	Easting:	2,787,494.55 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in
		Latitude:	36.18208900
		Longitude:	-107.61509700
		Grid Convergence:	0.13 °

Well	NAU 333H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	
		Latitude:	36.18208900
		Longitude:	-107.61509700
		Ground Level:	6,979.00 usft

Wellbore	Original drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/27/2019	8.96	62.87	49,544.46089392

Design	APD rev 3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	130.563

Plan Survey Tool Program	Date 12/11/2019			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	11,598.78	APD rev 3 (Original drilling)	MWD+IGRF
				OWSG MWD + IGRF or WMM

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
450.00	0.00	0.000	450.00	0.00	0.00	0.00	0.00	0.00	0.00	
645.59	3.91	148.547	645.44	-5.69	3.48	2.00	2.00	0.00	148.55	
4,519.95	3.91	148.547	4,510.78	-231.18	141.40	0.00	0.00	0.00	0.00	
5,480.80	90.00	122.811	5,108.01	-590.40	665.83	9.00	8.96	-2.68	-25.79	333H heel rev 2
7,060.57	90.00	122.811	5,108.01	-1,446.43	1,993.57	0.00	0.00	0.00	0.00	333H Waypoint
7,605.68	90.00	133.713	5,108.01	-1,783.49	2,420.93	2.00	0.00	2.00	90.00	
11,598.78	90.00	133.713	5,108.01	-4,542.92	5,307.17	0.00	0.00	0.00	0.00	333H toe rev 2



Scientific Drilling, Intl
Planning Report



Database: DJR
Company: DJR Operating
Project: North Alamo Unit
Site: J31 2307
Well: NAU 333H
Wellbore: Original drilling
Design: APD rev 3

Local Co-ordinate Reference: Well NAU 333H
TVD Reference: RKB @ 6993.00usft (RIG TBD)
MD Reference: RKB @ 6993.00usft (RIG TBD)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
450.00	0.00	0.000	450.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	1.00	148.547	500.00	-0.37	0.23	0.42	2.00	2.00	0.00
600.00	3.00	148.547	599.93	-3.35	2.05	3.73	2.00	2.00	0.00
645.59	3.91	148.547	645.44	-5.69	3.48	6.35	2.00	2.00	0.00
700.00	3.91	148.547	699.72	-8.86	5.42	9.88	0.00	0.00	0.00
800.00	3.91	148.547	799.49	-14.68	8.98	16.37	0.00	0.00	0.00
900.00	3.91	148.547	899.26	-20.50	12.54	22.86	0.00	0.00	0.00
1,000.00	3.91	148.547	999.02	-26.32	16.10	29.35	0.00	0.00	0.00
1,100.00	3.91	148.547	1,098.79	-32.14	19.66	35.83	0.00	0.00	0.00
1,200.00	3.91	148.547	1,198.56	-37.96	23.22	42.32	0.00	0.00	0.00
1,300.00	3.91	148.547	1,298.32	-43.78	26.78	48.81	0.00	0.00	0.00
1,400.00	3.91	148.547	1,398.09	-49.60	30.34	55.30	0.00	0.00	0.00
1,500.00	3.91	148.547	1,497.86	-55.42	33.90	61.79	0.00	0.00	0.00
1,600.00	3.91	148.547	1,597.62	-61.24	37.46	68.28	0.00	0.00	0.00
1,700.00	3.91	148.547	1,697.39	-67.06	41.02	74.77	0.00	0.00	0.00
1,800.00	3.91	148.547	1,797.16	-72.88	44.58	81.26	0.00	0.00	0.00
1,900.00	3.91	148.547	1,896.93	-78.70	48.14	87.75	0.00	0.00	0.00
2,000.00	3.91	148.547	1,996.69	-84.52	51.70	94.24	0.00	0.00	0.00
2,100.00	3.91	148.547	2,096.46	-90.34	55.26	100.72	0.00	0.00	0.00
2,200.00	3.91	148.547	2,196.23	-96.16	58.82	107.21	0.00	0.00	0.00
2,300.00	3.91	148.547	2,295.99	-101.98	62.38	113.70	0.00	0.00	0.00
2,400.00	3.91	148.547	2,395.76	-107.80	65.94	120.19	0.00	0.00	0.00
2,500.00	3.91	148.547	2,495.53	-113.62	69.50	126.68	0.00	0.00	0.00
2,600.00	3.91	148.547	2,595.29	-119.44	73.06	133.17	0.00	0.00	0.00
2,700.00	3.91	148.547	2,695.06	-125.26	76.62	139.66	0.00	0.00	0.00
2,800.00	3.91	148.547	2,794.83	-131.08	80.18	146.15	0.00	0.00	0.00
2,900.00	3.91	148.547	2,894.60	-136.90	83.74	152.64	0.00	0.00	0.00
3,000.00	3.91	148.547	2,994.36	-142.72	87.30	159.13	0.00	0.00	0.00
3,100.00	3.91	148.547	3,094.13	-148.54	90.86	165.61	0.00	0.00	0.00
3,200.00	3.91	148.547	3,193.90	-154.36	94.42	172.10	0.00	0.00	0.00
3,300.00	3.91	148.547	3,293.66	-160.18	97.97	178.59	0.00	0.00	0.00
3,400.00	3.91	148.547	3,393.43	-166.00	101.53	185.08	0.00	0.00	0.00
3,500.00	3.91	148.547	3,493.20	-171.82	105.09	191.57	0.00	0.00	0.00
3,600.00	3.91	148.547	3,592.96	-177.64	108.65	198.06	0.00	0.00	0.00
3,700.00	3.91	148.547	3,692.73	-183.46	112.21	204.55	0.00	0.00	0.00
3,800.00	3.91	148.547	3,792.50	-189.28	115.77	211.04	0.00	0.00	0.00
3,900.00	3.91	148.547	3,892.27	-195.10	119.33	217.53	0.00	0.00	0.00
4,000.00	3.91	148.547	3,992.03	-200.92	122.89	224.01	0.00	0.00	0.00
4,100.00	3.91	148.547	4,091.80	-206.74	126.45	230.50	0.00	0.00	0.00
4,200.00	3.91	148.547	4,191.57	-212.56	130.01	236.99	0.00	0.00	0.00
4,300.00	3.91	148.547	4,291.33	-218.38	133.57	243.48	0.00	0.00	0.00
4,400.00	3.91	148.547	4,391.10	-224.20	137.13	249.97	0.00	0.00	0.00
4,500.00	3.91	148.547	4,490.87	-230.02	140.69	256.46	0.00	0.00	0.00
4,519.95	3.91	148.547	4,510.78	-231.18	141.40	257.75	0.00	0.00	0.00
4,600.00	10.86	131.715	4,590.12	-238.53	148.47	267.90	9.00	8.68	-21.03
4,700.00	19.80	127.543	4,686.46	-255.16	168.97	294.29	9.00	8.94	-4.17
4,800.00	28.77	125.911	4,777.52	-279.64	201.96	335.27	9.00	8.98	-1.63
4,900.00	37.76	125.008	4,861.05	-311.39	246.62	389.85	9.00	8.99	-0.90
5,000.00	46.75	124.412	4,934.99	-349.62	301.86	456.67	9.00	8.99	-0.60



Scientific Drilling, Intl
Planning Report



Database: DJR
Company: DJR Operating
Project: North Alamo Unit
Site: J31 2307
Well: NAU 333H
Wellbore: Original drilling
Design: APD rev 3

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well NAU 333H
RKB @ 6993.00usft (RIG TBD)
RKB @ 6993.00usft (RIG TBD)
True
Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,100.00	55.74	123.970	4,997.52	-393.38	366.31	534.09	9.00	8.99	-0.44
5,200.00	64.74	123.614	5,047.10	-441.60	438.39	620.21	9.00	8.99	-0.36
5,300.00	73.73	123.308	5,082.52	-493.10	516.32	712.90	9.00	9.00	-0.31
5,400.00	82.73	123.028	5,102.89	-546.60	598.19	809.88	9.00	9.00	-0.28
5,480.80	90.00	122.811	5,108.01	-590.40	665.83	889.75	9.00	9.00	-0.27
5,500.00	90.00	122.811	5,108.01	-600.80	681.97	908.78	0.00	0.00	0.00
5,600.00	90.00	122.811	5,108.01	-654.99	766.01	1,007.86	0.00	0.00	0.00
5,700.00	90.00	122.811	5,108.01	-709.17	850.06	1,106.95	0.00	0.00	0.00
5,800.00	90.00	122.811	5,108.01	-763.36	934.11	1,206.03	0.00	0.00	0.00
5,900.00	90.00	122.811	5,108.01	-817.55	1,018.15	1,305.12	0.00	0.00	0.00
6,000.00	90.00	122.811	5,108.01	-871.74	1,102.20	1,404.21	0.00	0.00	0.00
6,100.00	90.00	122.811	5,108.01	-925.92	1,186.24	1,503.29	0.00	0.00	0.00
6,200.00	90.00	122.811	5,108.01	-980.11	1,270.29	1,602.38	0.00	0.00	0.00
6,300.00	90.00	122.811	5,108.01	-1,034.30	1,354.34	1,701.46	0.00	0.00	0.00
6,400.00	90.00	122.811	5,108.01	-1,088.49	1,438.38	1,800.55	0.00	0.00	0.00
6,500.00	90.00	122.811	5,108.01	-1,142.67	1,522.43	1,899.64	0.00	0.00	0.00
6,600.00	90.00	122.811	5,108.01	-1,196.86	1,606.47	1,998.72	0.00	0.00	0.00
6,700.00	90.00	122.811	5,108.01	-1,251.05	1,690.52	2,097.81	0.00	0.00	0.00
6,800.00	90.00	122.811	5,108.01	-1,305.23	1,774.57	2,196.89	0.00	0.00	0.00
6,900.00	90.00	122.811	5,108.01	-1,359.42	1,858.61	2,295.98	0.00	0.00	0.00
7,000.00	90.00	122.811	5,108.01	-1,413.61	1,942.66	2,395.07	0.00	0.00	0.00
7,060.57	90.00	122.811	5,108.01	-1,446.43	1,993.57	2,455.09	0.00	0.00	0.00
7,100.00	90.00	123.600	5,108.01	-1,468.02	2,026.56	2,494.19	2.00	0.00	2.00
7,200.00	90.00	125.600	5,108.01	-1,524.81	2,108.87	2,593.64	2.00	0.00	2.00
7,300.00	90.00	127.600	5,108.01	-1,584.42	2,189.14	2,693.40	2.00	0.00	2.00
7,400.00	90.00	129.600	5,108.01	-1,646.81	2,267.29	2,793.33	2.00	0.00	2.00
7,500.00	90.00	131.600	5,108.01	-1,711.88	2,343.22	2,893.33	2.00	0.00	2.00
7,600.00	90.00	133.600	5,108.01	-1,779.57	2,416.82	2,993.26	2.00	0.00	2.00
7,605.68	90.00	133.713	5,108.01	-1,783.49	2,420.93	2,998.93	2.00	0.00	2.00
7,700.00	90.00	133.713	5,108.01	-1,848.67	2,489.11	3,093.11	0.00	0.00	0.00
7,800.00	90.00	133.713	5,108.01	-1,917.77	2,561.39	3,192.96	0.00	0.00	0.00
7,900.00	90.00	133.713	5,108.01	-1,986.88	2,633.67	3,292.81	0.00	0.00	0.00
8,000.00	90.00	133.713	5,108.01	-2,055.98	2,705.95	3,392.66	0.00	0.00	0.00
8,100.00	90.00	133.713	5,108.01	-2,125.09	2,778.23	3,492.51	0.00	0.00	0.00
8,200.00	90.00	133.713	5,108.01	-2,194.19	2,850.51	3,592.35	0.00	0.00	0.00
8,300.00	90.00	133.713	5,108.01	-2,263.30	2,922.79	3,692.20	0.00	0.00	0.00
8,400.00	90.00	133.713	5,108.01	-2,332.40	2,995.07	3,792.05	0.00	0.00	0.00
8,500.00	90.00	133.713	5,108.01	-2,401.51	3,067.35	3,891.90	0.00	0.00	0.00
8,600.00	90.00	133.713	5,108.01	-2,470.61	3,139.63	3,991.75	0.00	0.00	0.00
8,700.00	90.00	133.713	5,108.01	-2,539.72	3,211.91	4,091.60	0.00	0.00	0.00
8,800.00	90.00	133.713	5,108.01	-2,608.82	3,284.19	4,191.45	0.00	0.00	0.00
8,900.00	90.00	133.713	5,108.01	-2,677.93	3,356.47	4,291.30	0.00	0.00	0.00
9,000.00	90.00	133.713	5,108.01	-2,747.03	3,428.75	4,391.15	0.00	0.00	0.00
9,100.00	90.00	133.713	5,108.01	-2,816.14	3,501.04	4,490.99	0.00	0.00	0.00
9,200.00	90.00	133.713	5,108.01	-2,885.24	3,573.32	4,590.84	0.00	0.00	0.00
9,300.00	90.00	133.713	5,108.01	-2,954.35	3,645.60	4,690.69	0.00	0.00	0.00
9,400.00	90.00	133.713	5,108.01	-3,023.45	3,717.88	4,790.54	0.00	0.00	0.00
9,500.00	90.00	133.713	5,108.01	-3,092.56	3,790.16	4,890.39	0.00	0.00	0.00
9,600.00	90.00	133.713	5,108.01	-3,161.66	3,862.44	4,990.24	0.00	0.00	0.00
9,700.00	90.00	133.713	5,108.01	-3,230.77	3,934.72	5,090.09	0.00	0.00	0.00
9,800.00	90.00	133.713	5,108.01	-3,299.87	4,007.00	5,189.94	0.00	0.00	0.00
9,900.00	90.00	133.713	5,108.01	-3,368.98	4,079.28	5,289.79	0.00	0.00	0.00
10,000.00	90.00	133.713	5,108.01	-3,438.08	4,151.56	5,389.63	0.00	0.00	0.00
10,100.00	90.00	133.713	5,108.01	-3,507.19	4,223.84	5,489.48	0.00	0.00	0.00

Database: DJR
Company: DJR Operating
Project: North Alamito Unit
Site: J31 2307
Well: NAU 333H
Wellbore: Original drilling
Design: APD rev 3

Local Co-ordinate Reference: Well NAU 333H
TVD Reference: RKB @ 6993.00usft (RIG TBD)
MD Reference: RKB @ 6993.00usft (RIG TBD)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,200.00	90.00	133.713	5,108.01	-3,576.29	4,296.12	5,589.33	0.00	0.00	0.00
10,300.00	90.00	133.713	5,108.01	-3,645.40	4,368.40	5,689.18	0.00	0.00	0.00
10,400.00	90.00	133.713	5,108.01	-3,714.51	4,440.68	5,789.03	0.00	0.00	0.00
10,500.00	90.00	133.713	5,108.01	-3,783.61	4,512.96	5,888.88	0.00	0.00	0.00
10,600.00	90.00	133.713	5,108.01	-3,852.72	4,585.24	5,988.73	0.00	0.00	0.00
10,700.00	90.00	133.713	5,108.01	-3,921.82	4,657.53	6,088.58	0.00	0.00	0.00
10,800.00	90.00	133.713	5,108.01	-3,990.93	4,729.81	6,188.43	0.00	0.00	0.00
10,900.00	90.00	133.713	5,108.01	-4,060.03	4,802.09	6,288.28	0.00	0.00	0.00
11,000.00	90.00	133.713	5,108.01	-4,129.14	4,874.37	6,388.12	0.00	0.00	0.00
11,100.00	90.00	133.713	5,108.01	-4,198.24	4,946.65	6,487.97	0.00	0.00	0.00
11,200.00	90.00	133.713	5,108.01	-4,267.35	5,018.93	6,587.82	0.00	0.00	0.00
11,300.00	90.00	133.713	5,108.01	-4,336.45	5,091.21	6,687.67	0.00	0.00	0.00
11,400.00	90.00	133.713	5,108.01	-4,405.56	5,163.49	6,787.52	0.00	0.00	0.00
11,500.00	90.00	133.713	5,108.01	-4,474.66	5,235.77	6,887.37	0.00	0.00	0.00
11,598.78	90.00	133.713	5,108.01	-4,542.92	5,307.17	6,986.00	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
333H Waypoint - plan hits target center - Circle (radius 75.00)	0.00	0.000	5,108.01	-1,446.43	1,993.57	1,884,207.96	2,789,491.37	36.17811532	-107.60834194
333H toe rev 2 - plan hits target center - Circle (radius 100.00)	0.00	0.000	5,108.01	-4,542.92	5,307.17	1,881,118.93	2,792,811.92	36.16960780	-107.59711600
333H heel rev 2 - plan hits target center - Circle (radius 50.00)	0.00	0.000	5,108.01	-590.40	665.83	1,885,061.01	2,788,161.71	36.18046710	-107.61284080

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
350.00	350.00	Surface casing	9.63	12.25
5,424.98	5,105.56	Intermediate casing	7.00	8.75

Database: DJR
Company: DJR Operating
Project: North Alamito Unit
Site: J31 2307
Well: NAU 333H
Wellbore: Original drilling
Design: APD rev 3

Local Co-ordinate Reference: Well NAU 333H
TVD Reference: RKB @ 6993.00usft (RIG TBD)
MD Reference: RKB @ 6993.00usft (RIG TBD)
North Reference: True
Survey Calculation Method: Minimum Curvature

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
889.72	889.00	Ojo Alamo		0.00	0.000
929.81	929.00	Kirtland		0.00	0.000
1,173.38	1,172.00	Fruitland		0.00	0.000
1,458.04	1,456.00	Picture Cliffs		0.00	0.000
1,626.44	1,624.00	Lewis		0.00	0.000
2,225.83	2,222.00	Chacra		0.00	0.000
2,947.53	2,942.02	Menefee		0.00	0.000
3,848.63	3,841.01	Point Lookout		0.00	0.000
4,029.05	4,021.01	Mancos		0.00	0.000
4,363.82	4,355.01	Mancos Silt		0.00	0.000
4,861.61	4,830.01	Gallup A		0.00	0.000
4,903.75	4,864.01	Gallup B		0.00	0.000
5,080.01	4,986.01	Gallup C		0.00	0.000



DJR Operating

North Alamito Unit

J31 2307

NAU 333H

Original drilling

APD rev 3

Anticollision Report

11 December, 2019



Company:	DJR Operating	Local Co-ordinate Reference:	Well NAU 333H
Project:	North Alamito Unit	TVD Reference:	RKB @ 6993.00usft (RIG TBD)
Reference Site:	J31 2307	MD Reference:	RKB @ 6993.00usft (RIG TBD)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	NAU 333H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original drilling	Database:	DJR
Reference Design:	APD rev 3	Offset TVD Reference:	Offset Datum

Reference	APD rev 3		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum ellipse separation of 1,000.00 usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	12/11/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	11,598.78	APD rev 3 (Original drilling)	MWD+IGRF	OWSG MWD + IGRF or WMM	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
ECA Fed C #1						
Well #1 - Re-entry - P&A	7,018.28	4,946.98	183.33	2.21	1.012	Level 2, CC, ES, SF
J31 2307						
NAU 528H - Original drilling - APD rev 3	401.67	401.67	39.88	37.41	16.140	CC
NAU 528H - Original drilling - APD rev 3	450.00	449.65	39.99	37.17	14.200	ES
NAU 528H - Original drilling - APD rev 3	600.00	597.25	46.41	42.56	12.053	SF
NAU 529H - Original drilling - APD rev 3	450.00	450.00	19.91	17.09	7.065	CC
NAU 529H - Original drilling - APD rev 3	500.00	500.00	20.03	16.86	6.322	ES
NAU 529H - Original drilling - APD rev 3	800.00	799.72	27.92	22.67	5.321	SF

Offset Design												Offset Site Error:	0.00 usft
ECA Fed C #1 - Well #1 - Re-entry - P&A												Offset Well Error:	0.00 usft
Survey Program: 2000-INCLINOMETER													
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)					
6,100.00	5,108.01	4,946.98	4,946.98	39.31	119.70	90.00	-1,577.60	1,858.69	936.41	797.77	138.64	6.754	
6,200.00	5,108.01	4,946.98	4,946.98	41.62	119.70	90.00	-1,577.60	1,858.69	838.58	699.53	139.04	6.031	
6,300.00	5,108.01	4,946.98	4,946.98	43.96	119.70	90.00	-1,577.60	1,858.69	741.32	601.65	139.67	5.308	
6,400.00	5,108.01	4,946.98	4,946.98	46.34	119.70	90.00	-1,577.60	1,858.69	644.90	504.24	140.65	4.585	
6,500.00	5,108.01	4,946.98	4,946.98	48.74	119.70	90.00	-1,577.60	1,858.69	549.76	407.51	142.25	3.865	
6,600.00	5,108.01	4,946.98	4,946.98	51.16	119.70	90.00	-1,577.60	1,858.69	456.70	311.80	144.90	3.152	
6,700.00	5,108.01	4,946.98	4,946.98	53.59	119.70	90.00	-1,577.60	1,858.69	367.31	217.94	149.38	2.459	
6,800.00	5,108.01	4,946.98	4,946.98	56.05	119.70	90.00	-1,577.60	1,858.69	285.06	128.10	156.97	1.816	
6,900.00	5,108.01	4,946.98	4,946.98	58.52	119.70	90.00	-1,577.60	1,858.69	218.18	49.41	168.77	1.293	Level 3
7,000.00	5,108.01	4,946.98	4,946.98	61.00	119.70	90.00	-1,577.60	1,858.69	184.24	4.06	180.19	1.023	Level 2
7,018.28	5,108.01	4,946.98	4,946.98	61.46	119.70	90.00	-1,577.60	1,858.69	183.33	2.21	181.12	1.012	Level 2, CC, ES, SF
7,060.57	5,108.01	4,946.98	4,946.98	62.51	119.70	90.00	-1,577.60	1,858.69	188.15	6.97	181.18	1.038	Level 2
7,100.00	5,108.01	4,946.98	4,946.98	63.49	119.70	90.00	-1,577.60	1,858.69	200.47	21.50	178.97	1.120	Level 2
7,200.00	5,108.01	4,946.98	4,946.98	65.98	119.70	90.00	-1,577.60	1,858.69	255.69	86.27	169.42	1.509	
7,300.00	5,108.01	4,946.98	4,946.98	68.46	119.70	90.00	-1,577.60	1,858.69	330.53	169.79	160.73	2.056	
7,400.00	5,108.01	4,946.98	4,946.98	70.93	119.70	90.00	-1,577.60	1,858.69	414.42	259.93	154.49	2.682	
7,500.00	5,108.01	4,946.98	4,946.98	73.37	119.70	90.00	-1,577.60	1,858.69	502.79	352.70	150.09	3.350	
7,605.68	5,108.01	4,946.98	4,946.98	75.93	119.70	90.00	-1,577.60	1,858.69	598.75	452.01	146.74	4.080	
7,700.00	5,108.01	4,946.98	4,946.98	78.20	119.70	90.00	-1,577.60	1,858.69	686.22	541.61	144.61	4.745	

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

DJR OPERATING, LLC

NORTH ALAMITO UNIT #333H

2215' FSL & 2531' FEL
LOCATED IN THE NW/4 SE/4 OF SECTION 31,
T23N, R7W, N.M.P.M.,
SANDOVAL COUNTY, NEW MEXICO
NAU J31-2307

DIRECTIONS

- 1) FROM THE INTERSECTION OF HWY 64 & HWY 550 IN BLOOMFIELD, GO SOUTH ON HWY 550, 39.0 MILES TO INDIAN ROUTE 7061 (M.P. 112.7).
- 2) TURN RIGHT ONTO 7061 AND GO 5.4 MILES TO LYBROOK ROAD #2.
- 3) TURN LEFT AND GO 2.8 MILES TO A "Y" INTERSECTION.
- 4) TURN LEFT AND GO 1 MILE TO THE WELL PAD ACCESS ROAD ON THE RIGHT.
- 5) TURN RIGHT AND GO 0.2 MILES TO THE WELL PAD.

WELL FLAG LOCATED AT LAT. 36.182089° N, LONG. 107.615097° W (NAD 83).