

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010**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.
NMMN35607

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.8. Well Name and No.
RDX FEDERAL COM 28 9H9. API Well No.
30-015-43294-00-X110. Field and Pool, or Exploratory
UNDESIGNATED11. County or Parish, and State
EDDY COUNTY, NM

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

RKI EXPLORATION & PROD LLC

Contact: HEATHER BREHM

E-Mail: hbrehm@rkixp.com

3a. Address

210 PARK AVE SUITE 900
OKLAHOMA CITY, OK 73102

3b. Phone No. (include area code)

Ph: 405-996-5769

Fx: 405-949-2223

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 28 T26S R30E NENW 360FNL 1345FWL

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Change to Original APD
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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 recompleate 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 shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleation in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

RKI respectfully requests a pool change to the Brushy Draw; Wolfcamp [97136] oil pool.

SHL stays the same

FTP ? 330? FNL & 430? FWL

LTP ? 330? FSL & 430? FWL

BHL ? 230? FSL, 430? FWL

Dedicated acres ? 224.8

Pool name ? Brushy Draw; Wolfcamp (o)

Pool Code ? 97136

NM OIL CONSERVATION

ARTESIA DISTRICT

NOV 19 2015

Provide C102 to OCD
11/23/15
Accepted for record
NMOCD

RECEIVED

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

Electronic Submission #322241 verified by the BLM Well Information System

For RKI EXPLORATION & PROD LLC, sent to the Carlsbad

Committed to AFMSS for processing by CHRISTOPHER WALLS on 11/13/2015 (16CRW0013SE)

Name (Printed/Typed) HEATHER BREHM

Title REGULATORY ANALYST

Signature (Electronic Submission)

Date 11/02/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE**APPROVED**

Approved By

Title

NOV 13 2015

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

Is/ Chris Walls

BUREAU OF LAND MANAGEMENT

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.

RKI Exploration & Production, LLC
Drilling Program

Well RDX Fed Com 28-9H
Location Surface: 360 FNL 1,345 FWL Sec. 28-26S-30E
Bottom Hole: 230 FSL 430 FWL Sec. 33-26S-30E

County Eddy
State New Mexico

- 1) The elevation of the unprepared ground is 3,013 feet above sea level.
25 KB 3,038
- 2) A rotary rig will be utilized to drill the well to 17,398 feet and run casing.
This equipment will then be rigged down and the well will be completed with a workover rig
- 3) Proposed depth is 17,398 feet measured depth

4) Estimated tops:

	MD	TVD	Thickness	Fluid	
Rustler	800	800		Freshwater	
Salado	1,100	1,100			
Base Lamar Lime	3,280	3,259			BHP
Cherry Canyon Sand	4,437	4,404		Oil	1,938 psi
Bone Spring Lime	7,217	7,156		Oil	3,149 psi
Bone Spring 1st SS	8,166	8,102		Oil	3,565 psi
Bone Spring 2nd SS	9,052	8,988		Oil	3,955 psi
Bone Spring 3rd SS	10,066	10,002		Oil	4,401 psi
KOP	10,138	10,073		Oil	4,432 psi
Wolfcamp	10,439	10,361		Oil	4,559 psi
Wolfcamp Target Top	11,138	10,717		Oil	4,715 psi
Landing Point	11,138	10,717			4,715 psi
					psi
Total Depth	17,299	10,717			230 Degrees F
Lateral Length	6,161 MD				

*Note: All mineral resources encountered will be protected by running casing and raising cement across all encountered resources

5) Casing program:

Hole Size	Top	Bottom	OD Csg	Weight	Grade	Connection	Burst	Pressure Max	Burst SF
17 1/2"	0	715	13 3/8"	54.5	J-55	STC	2730	334.62	8.16
12 1/4"	0	7,217	9 5/8"	40	HCL-80	LTC	5750	3753	1.53
8 3/4"	0	17,299	5 1/2"	20	P-110	BTC	12630	10000	1.26
*Burst SF = Burst / Pmax									
Hole Size	Top	Bottom	OD Csg	Weight	Grade	Connection	Collapse	Mud Weight	Collapse SF
17 1/2"	0	715	13 3/8"	54.5	J-55	STC	1580	9.0	4.72
12 1/4"	0	7,217	9 5/8"	40	HCL-80	LTC	4230	10.0	1.13
8 3/4"	0	17,299	5 1/2"	20	P-110	BTC	12100	11.5	1.17
*Collapse SF = [Collapse/(mw x 0.052 x Depth)]									
Hole Size	Top	Bottom	OD Csg	Weight	Grade	Connection	Tension	Tension Load	Tension SF
17 1/2"	0	715	13 3/8"	54.5	J-55	STC	420000	38968	10.78
12 1/4"	0	7,217	9 5/8"	40	HCL-80	LTC	936000	288680	3.24
8 3/4"	0	17,299	5 1/2"	20	P-110	BTC	641000	345980	1.85

*All casing load assumptions are based on Air Wt. Burst design assumes Max Frac Pressure (10K), & Collapse design assumes evacuated & max Mud Weight during interval.

Minimum Design Standards

Collapse	1.1	All casing will be new
Burst	1	Casing design subject to revision based on geologic conditions encountered
Tension	1.9	

Cement program:

6) **Surface** 17 1/2" hole
 Pipe OD 13 3/8"
 Setting Depth 715 ft
 Annular Volume 0.6947 cf/ft
 Tail 200
 Shoe Joint 36.5
 Excess 1 100 %
 383 ft

Lead 416 sx 1.75 cf/sk 13.5 ppg 9.13 gal/sk
 Tail 200 sx 1.33 cf/sk 14.8 ppg 6.32 gal/sk

Lead: "C" + 4% PF20 (gel) + 2% PF1 (CC) + .125 pps PF29 (CelloFlake) + .4 pps PF46 (antifoam)

Tail: "C" + 1% PF1 (CC)

Top of cement: Surface

3 centralizers on bottom 3 jts 1 per jt, then 1 every other jt

Intermediate 12 1/4" hole
 Pipe OD 9 5/8"
 Setting Depth 7,217 ft
 Annular Volume 0.3132 cf/ft 0.323 cf/ft
 DV Tool 5,500 ft
 Excess 1st Stage 0.6 60 %
 2nd Stage 1.6 160 %

Stage 1:
 Lead 581 sx 1.48 cf/sk 13 ppg 7.609 gal/sk

Lead: PVL + 1.3% PF44 + 5% PF174 + .5% PF606 + .4% PF13 + .1% PF153 + .4 pps PF45

Top of cement: 5,500 ft DV tool: 5,500 ft
 1 per joint bottom 3 joints, then 1 every 3th jt

Stage 2:
 Lead 1357 sx 2.87 cf/sk 11.6 ppg 16.793 gal/sk
 Tail 175 sx 1.33 cf/sk 14.8 ppg 6.331 gal/sk

Lead: 35/65 Poz "C" + 5% PF44 + 6% PF20 + .2% PF13 + .125 ps PF29 + .4 pps PF46

Tail: "C" + .2% PF13

Top of cement: SURFACE - ft

1 per joint bottom 3 joints, then 1 every 3th jt

Production 8 3/4" hole
 Pipe OD (in OH) 5 1/2"
 Setting Depth 17,299 ft
 Annular Volume 0.2526 cf/ft 0.2526 cf/ft
 Excess 0.35 35 %

Lead 698 sx 1.47 cf/sk 13 ppg gal/sk
 Tail 1292 sx 1.89 cf/sk 13 ppg 9.632 gal/sk

Lead: PVL + 1.3% PF44 + 5% PF174 + .5% PF606 + .3% PF 813 + .1% PF153 + .4pps PF45

Tail: AcidSolid PVL + 5% PF174 + .7% PF606 + .2% PF153 + .5% PF13 + 30% PF151 + .4 pps PF47

Top of cement: 6,917 ft

1 per joint bottom 3 joints, then every 3rd joint to top of cement

*NOTE: A cement bond log will be ran across 9 5/8" Intermediate casing

7) Pressure control equipment:

The blowout preventer equipment will be 5,000 psi rated as shown in the attached BOP diagram and consist of the following

Annular preventer

Pipe rams

Blind rams

Pipe rams

Drilling spool or blowout preventer with 2 side outlets (choke side shall be a 3" minimum diameter, kill side shall be at least 2" diameter)

Choke line shall be 3" minimum diameter

2 choke line valves, 3" minimum diameter

2 chokes with 1 remotely controlled from the rig floor

Kill line, 2" minimum diameter

2 kill line valves and a check valve, 2" minimum diameter

Upper and lower kelly cock valves with handles readily available

Safety valves and subs to fit all drill string connections in use shall be readily available

Inside BOP or float available

Pressure gauge on choke manifold

All BOPE subjected to pressure shall be flanged, welded, or clamped

Fill-up line above uppermost preventer

A 13 3/8" SOW x 13 5/8" SM multi-bowl casing head will be installed and utilized until Total Depth is reached.

The 9 5/8" casing will be landed in the head on a casing mandrel, and the stack will not be broker

until total depth has been reached. Before drilling out the 9 5/8" casing will be tested to .22 psi/ft of casing setting depth or 1,500 psi whichever is greater, but not exceeding 70% of the burst rating of the pipe.

After drilling approximately 10 feet of new formation an EMW test of 11.0 ppg will be performed.

Pipe rams will be operated and checked each 24 hour period and each time the drill string is out of the hole. These function test will be documented on the daily driller's log.

8) Mud program:

Top	Bottom	Mud Wt.	Vis	PV	YP	Fluid Loss	Type System
	0	715 8.3 to 8.5	28 to 30	1 - 6	1 - 6	NC	Fresh Water ND
	715	7,217 9.8 to 10	28 to 30	1 - 10	1 - 12	NC	Brine
	7,217	10,138 8.8 to 9.3	35 to 40	8 - 10	10 - 12	NC	Cut Brine
	10,138	17,398 9.3 to 10.5	45 to 55	8 - 12	6 - 10	10 to 15	Cut Brine

*Enough Barite will be stored on location to weight up mud system to an 11.5 ppg mud weight if needed (2751 sx from 9.3 ppg to 11.5 ppg - 2000 bbl system). Formula: Barite Required (lbs) = $[(35.05 \times (Wf - Wi)) / (35.05 - Wf)] \times \text{Mud Volume (gals)}$.

*Pason PVT equipment will monitor all pit levels at all times, in the event an influx occurred

9) Logging, coring, and testing program:

No drill stem test or cores are planned

Neutron/Density, Resistivity, Gamma Ray, Caliper will be run at Pilot Hole Total Depth

Neutron, Gamma Ray, Caliper will be run from TD to surface

10) Potential hazards:

No H2S is known to exist in the area.

Lost circulation can occur, lost circulation material will be readily available if needed

11) Anticipated start date

ASAP

Duration

35 days

RKI Exploration & Production, LLC
Completion Procedure

Well Location RDX Fed Com 28-9H
Surface: 360 FNL 1,345 FWL Sec. 28-26S-30E
Bottom Hole: 230 FSL 430 FWL Sec. 33-26S-30E

County Eddy
State New Mexico

Hole Size	Top	Bottom	OD Csg	Wt/Grade	Connection	Collapse Design Factor	Burst Design Factor	Tension Design Factor
17 1/2"		0	715	13 3/8"	54.5 J-55	4.72	8.16	10.78
12 1/4"		0	7217	9 5/8"	40 HCL-80	1.13	1.53	3.24
8 3/4"		0	17299	5 1/2"	20 P-110	1.17	1.26	1.85

TD 17,299 ft MD 10,717 ft TVD

1) MIRU work over rig and NU BOP. Run CBL/GR log to confirm TOC

2) Fracture stimulate in 10 to 15 stages:

2500 gal				15% HCl
25000 gal				Linear 25# gel
30000 gal	0.5 ppg		15000 100 mesh	Linear 25# gel
20000 gal				Lightning 20
20000 gal	0.5 ppg		10000 40/70 White Sand	Lightning 20
30000 gal	1 ppg		13000 40/70 White Sand	Lightning 20
20000 gal	1.5 ppg		37500 40/70 White Sand	Lightning 20
20000 gal	2 ppg		50000 40/70 White Sand	Lightning 20
25000 gal	2.5 ppg		95500 40/70 White Sand	Lightning 20
30000 gal	3 ppg		95500 40/70 White Sand	Lightning 20
15000 gal	2 ppg		95500 40/70 CRC Sand	Lightning 20
Flush		237500 gal total	250000 lb total	Treated Water

Repeat for remaining stages

3)

Flow back and test

4)

TIH and drill out frac plugs or sleeves

5)

Run production equipment and place well on production

6)

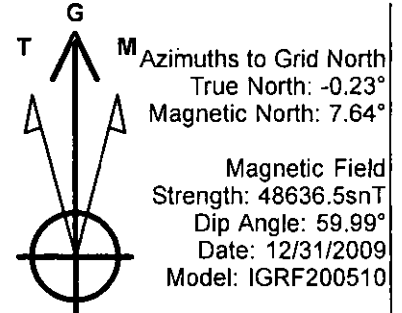
Stimulation Fluid: See attached chemical sheet

Surface treating pressure 6500 psi
Max injection pressure 8500 psi
Anticipated frac height 75 ft
Anticipated frac length 500 ft
Disposal
Disposal



Northing 371175.20 Easting 678586.90 Ground Level: 3013.0
 Latitude 32° 1' 10.803 N Longitude 103° 53' 25.741 W

28-9H SHL 360' FNL 1345' FWL 28-26S-30E
 28-9H T1 330' FNL 430' FWL 28-26S-30E
 28-9H BHL 230' FSL 430' FWL 33-26S-30E



SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	Vsect
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0
1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.0
1271.9	8.16	271.53	1271.0	0.5	-19.3	3.00	2.0
7449.4	8.16	271.53	7386.0	24.0	-895.6	0.00	91.0
7721.3	0.00	0.00	7657.0	24.5	-914.9	3.00	93.0
10137.7	0.00	0.00	10073.3	24.5	-914.9	0.00	93.0
10587.7	45.00	179.68	10478.5	-143.3	-914.0	10.00	259.3
10687.7	45.00	179.68	10549.2	-214.0	-913.6	0.00	329.4
11137.7	90.00	179.68	10717.0	-619.2	-911.3	10.00	730.9
17299.4	90.00	179.68	10717.0	-6780.8	-876.5	0.00	6837.2

FORMATION TOP DETAILS

TVD	MD	Formation
3259.0	3280.2	Base Castile
3290.0	3311.6	Delaware
4404.0	4436.9	Cherry Canyon
5461.0	5504.7	Topper
7156.0	7217.1	BS Lime
7657.0	7721.3	Avalon Lm Top
7716.0	7780.3	Avalon Lm Base
8102.0	8166.3	BS 1 SS
8988.0	9052.3	BS 2 SS
10002.0	10066.3	BS 3 SS
10361.0	10439.1	Wolfcamp
10717.0	11137.7	WolfcampTT

