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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Operator Copy

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM-102917	
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name JCS 1/22/2013	
2. Name of Operator RKI EXPLORATION & PRODUCTION, LLC. <i>&lt;246289&gt;</i>		7. If Unit or CA Agreement, Name and No.	
3a. Address 210 PARK AVENUE, SUITE 900 OKLAHOMA CITY, OK. 73102		8. Lease Name and Well No. RDX FEDERAL 21-43 <i>&lt;39072&gt;</i>	
3b. Phone No. (include area code) 405-996-5748 (BRENT UMBERHAM)		9. API Well No. <i>30-015-40997</i>	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 715 FSL & 2135 FEL At proposed prod. zone SAME		10. Field and Pool, or Exploratory BRUSHY DRAW DELAWARE EAST <i>&lt;8080&gt;</i>	
14. Distance in miles and direction from nearest town or post office* 15 MILES SOUTHEAST OF MALAGA, NM.		11. Sec., T. R. M. or Blk. and Survey or Area SECTION 21, T. 26 S., R. 30 E.	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 715'		12. County or Parish EDDY	
16. No. of acres in lease 640		13. State NM	
17. Spacing Unit dedicated to this well 40			
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1145'		20. BLM/BIA Bond No. on file NLM-NMB-000460	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3011.7' GL		22. Approximate date work will start*	
		23. Estimated duration 25 DAYS	

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

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

25. Signature <i>Barry W. Hunt</i>	Name (Printed/Typed) BARRY W. HUNT	Date <i>10/15/12</i>
Title PERMIT AGENT FOR RKI EXPLORATION & PRODUCTION, LLC.		
Approved by (Signature) <i>James A. Arnes</i>	Name (Printed/Typed) James A. Arnes	Date <i>1-11-13</i>
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

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

APPROVAL FOR TWO YEARS

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

(Continued on page 2)

\*(Instructions on page 2)

Carlsbad Controlled Water Basin

Approval Subject to General Requirements  
& Special Stipulations Attached

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

DISTRICT I  
1625 N. French Dr., Hobbs, NM 88240  
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II  
811 S. First St., Artesia, NM 88210  
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170

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

State of New Mexico  
Energy, Minerals & Natural Resources Department  
OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

Form C-102  
Revised August 1, 2011.  
Submit one copy to appropriate  
District Office  
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number <b>30-015-40997</b>	Pool Code <b>8090</b>	Pool Name <b>BRUSHY DRAW DELAWARE EAST</b>
Property Code <b>39072</b>	Property Name <b>RDX 21 FED 21</b>	Well Number <b>43</b>
OGRID No. <b>246289</b>	Operator Name <b>RKI EXPLORATION &amp; PRODUCTION</b>	Elevation <b>3011.7'</b>

Surface Location

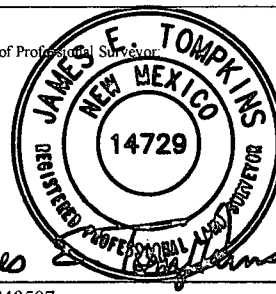
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>O</b>	<b>21</b>	<b>26 S</b>	<b>30 E</b>		<b>715</b>	<b>SOUTH</b>	<b>2135</b>	<b>EAST</b>	<b>EDDY</b>

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

Dedicated Acres <b>40</b>	Joint or Infill	Consolidated Code	Order No.
			<b>11</b> <b>7400</b>

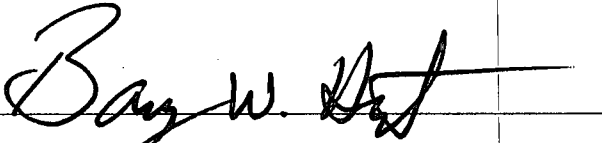
No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

				<p><b>OPERATOR CERTIFICATION</b></p> <p>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 voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Barry W. Hunt</i> 10/15/12 Signature Date <b>Barry W. Hunt</b> Print Name E-mail Address</p> <p><b>SURVEYORS CERTIFICATION</b></p> <p>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.</p> <p><b>JUNE 09, 2012</b> Date of Survey Signature and Seal of Professional Surveyor  <i>James E. Tompkins</i> Job No.: WTC48507 JAMES E. TOMPKINS 14729 Certificate Number</p>
	<p>RKI RDX 21 FED 43 SHL NMSP-E (NAD 83) Y = 372260.9 X = 680417.8 N LAT. = N32° 01' 21.47" W LONG. = W103° 53' 04.42" NMSP-E (NAD 27) Y = 372203.6' X = 639231.5' LAT. = N32.022506090° LONG. = W104.884083862°</p>	<p>715'</p>	<p>2135'</p>	

## CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct, and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or RKI Exploration and Production, LLC am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U. S. C. 1001 for the filing of false statements. Executed this 15th day of October 2012.

Signed: \_\_\_\_\_



Printed Name: Barry Hunt

Position: Agent for RKI Exploration & Production, LLC.

Address: 1403 Springs Farm Place, Carlsbad, NM 88220

Telephone: (575) 361-4078

E-mail: specialtpermitting@gmail.com

# **RKI Exploration & Production LLC**

3817 NW Expressway, Suite 950, Oklahoma City, OK 73112  
405-949-2221 Fax 405-949-2223

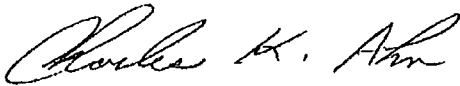
June 25<sup>th</sup>, 2012

To Whom It May Concern:

Please be advised that Mr. Barry Hunt has been retained by RKI Exploration & Production to sign as our agent on Application for Permit to Drill (APD) as well as Right of Way applications within the States of New Mexico and Texas.

If you have any questions or require additional information, please feel free to contact me at (405) 996-5771.

Sincerely,

A handwritten signature in cursive script, appearing to read "Charles K. Ahn".

Charles K. Ahn  
EH&S/Regulatory Manager

## DRILLING PLAN

Well RDX Fed 21-43  
 Location 715 FSL 2,135 FEL  
 Section 21-26S-30E  
 County Eddy  
 State New Mexico

- 1) The elevation of the unprepared ground is 3,011 feet above sea level.
- 2) The geologic name of the surface formation is Quaternary - Alluvium.
- 3) A rotary rig will be utilized to drill the well to 7,400 feet and run casing.  
 This equipment will then be rigged down and the well will be completed with a workover rig.
- 4) Proposed depth is 7,400 feet.
- 5) Estimated tops:

Alluvium	*		
Rustler	861		
Salado	1,200		
Castile	1,700		
Lamar Lime	3,418		
Base of Lime	3,432		
Delaware Top	3,457		
Bell Canyon Sand	3,457	Oil	1,497 psi
Cherry Canyon Sand	4,523	Oil	1,958 psi
Brushy Canyon Sand	5,589	Oil	2,420 psi
Bone Spring	7,253		3,141 psi
TD	7,400		3,204 psi

144 degree F

\* Fresh water anticipated at approximately 180 feet.

The Bone Spring will be penetrated as rathole to enable the entire Brushy Canyon to be logged.

## 6) Pressure control equipment:

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a double ram type (3,000 psi WP) preventer, a bag-type annular preventer (3,000 psi WP), and rotating head. Both units will be hydraulically operated and the ram type preventer will be equipped with blind rams on top and pipe rams (sized to accommodate the drill pipe size being utilized) on bottom. A 13 3/8" SOW x 13 5/8" 3M casing head will be installed on the 13 3/8" casing and utilized until total depth is reached. All BOP and associated equipment will be tested to 3,000 psi and the annular will be tested to 1,500 psi after setting the 13 3/8" string. The 13 3/8" and 9 5/8" casing will be tested to .22 psi per ft of casing string length or 1,500 psi whichever is greater, but not to exceed 70% of the minimum yield.

The 9 5/8" casing will be hung in the casing head and the stack will not be nipped down at this point.

The stack will not be isolated and tested after running the 9 5/8" casing, but will be tested along with the 9 5/8" casing. 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.

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

2 kill line valves, one of which will be a check valve.

2 chokes on the manifold along with a pressure gauge.

Upper kelly cock valve with handle available.

Safety valve and subs to fit all drill string connections in use.

All BOP equipment connections subjected to pressure will be flanged, welded, or clamped.

see  
COFF

7) Casing program: ALL NEW CASING

Hole Size	Top	Bottom	OD Csg	Wt/Grade	Connection	Collapse Design Factor	Burst Design Factor	Tension Design Factor
17 1/2"	0	925	13 3/8"	54.5#/J-55	ST&C	2.82	5.74	10.20
12 1/2"	0	3,425	9 5/8"	40#/J-55	LT&C	1.36	5.41	3.80
7 7/8"	0	7,400	5 1/2"	17#/N-80	LT&C	1.96	1.55	2.77

8) Cement program:

**Surface** 17 1/2" hole  
 Pipe OD 13 3/8"  
 Setting Depth 925 ft  
 Annular Volume 0.69462 cf/ft  
 Excess 1 100 %

Lead 581 sx 1.75 cf/sk 13.5 ppg  
 Tail 200 sx 1.34 cf/sk 14.8 ppg  
 Lead: "C" + 4% PF20 (gel) + 2% PF1 (CC) + .125 pps PF29 (CelloFlake) + .2% PF46 (antifoam)  
 Tail: "C" + 1% PF1 (CC)

Top of cement: Surface

**Intermediate** 12 1/2" hole  
 Pipe OD 9 5/8"  
 Setting Depth 3,425 ft  
 Annular Volume 0.31318 cf/ft 0.3627 cf/ft  
 Excess 1 100 %  
 Total Annular Volume 1118 cf  
 With Excess 2237 cf

Lead 952 sx 2.07 cf/sk 12.6 ppg  
 Tail 200 sx 1.33 cf/sk 14.8 ppg

Lead: 35/65 Poz "C" + 5% PF44 (salt) + 6% PF20 (gel) + 3 pps PF42 (KoalSeal) + .125 pps PF29 (CelloFlake) + .2% PF 46 (antifoam) + 1% PF1 (CC)  
 Tail: "C" + .2% PF13 (retarder)

Top of cement: Surface

**Production** 7 7/8" hole  
 Pipe OD 5 1/2"  
 Setting Depth 7,400 ft  
 Annular Volume 0.1733 cf/ft 0.26074 cf/ft 300 ft  
 Excess 0.35 35 %  
 Total Annular Volume 767 cf  
 With Excess 1,036 cf  
 DV Tool Depth 5,500 ft

Stage 1

Lead: 302 sx 1.47 cf/sk 13.0 ppg  
 Lead: PVL + 2% PF174 (expanding agent) + .3% PF167 (Uniflac) + .1% PF65 (dispersant) + .2% PF13 (retarder) + .25 pps PF46 (antifoam)  
 Top of cement: DV tool

Stage 2

Lead: 164 sx 2.04 cf/sk 12.6 ppg  
 Tail: 175 sx 1.47 cf/sk 13.0 ppg  
 Lead: 35/65 Poz "C" + 5% PF44 (salt) + 6% PF20 (gel) + .125 pps PF29 (CelloFlake) + .2% PF13 (retarder) + .25 pps PF46 (antifoam)  
 Tail: PVL + 1.3% PF44 (salt) + 5% PF174 (expander) + .5% PF606 (gel suppressing agent) + .25 pps PF46 (antifoam) + .2% PF13 (retarder)  
 Top of cement: 3,125 ft

9) Mud program:

Top	Bottom	Mud Wt.	Vis	PV	YP	Fluid Loss	Type System
0	925	8.5 to 8.9	32 to 36	6 - 12	2 - 8	NC	Fresh Water
925	3,425	9.8 to 10.0	28 to 30	1 - 6	1 - 6	NC	Brine
3,425	7,400	8.9 to 9.1	28 to 36	1 - 6	1 - 6	NC	Fresh Water

10) Logging, coring, and testing program:

*see COA*

No drillstem test are planned

Total depth to intermediate: CNL, Caliper, GR, DLL,

Intermediate to surface: CNL, GR

No coring is planned

11) Potential hazards:

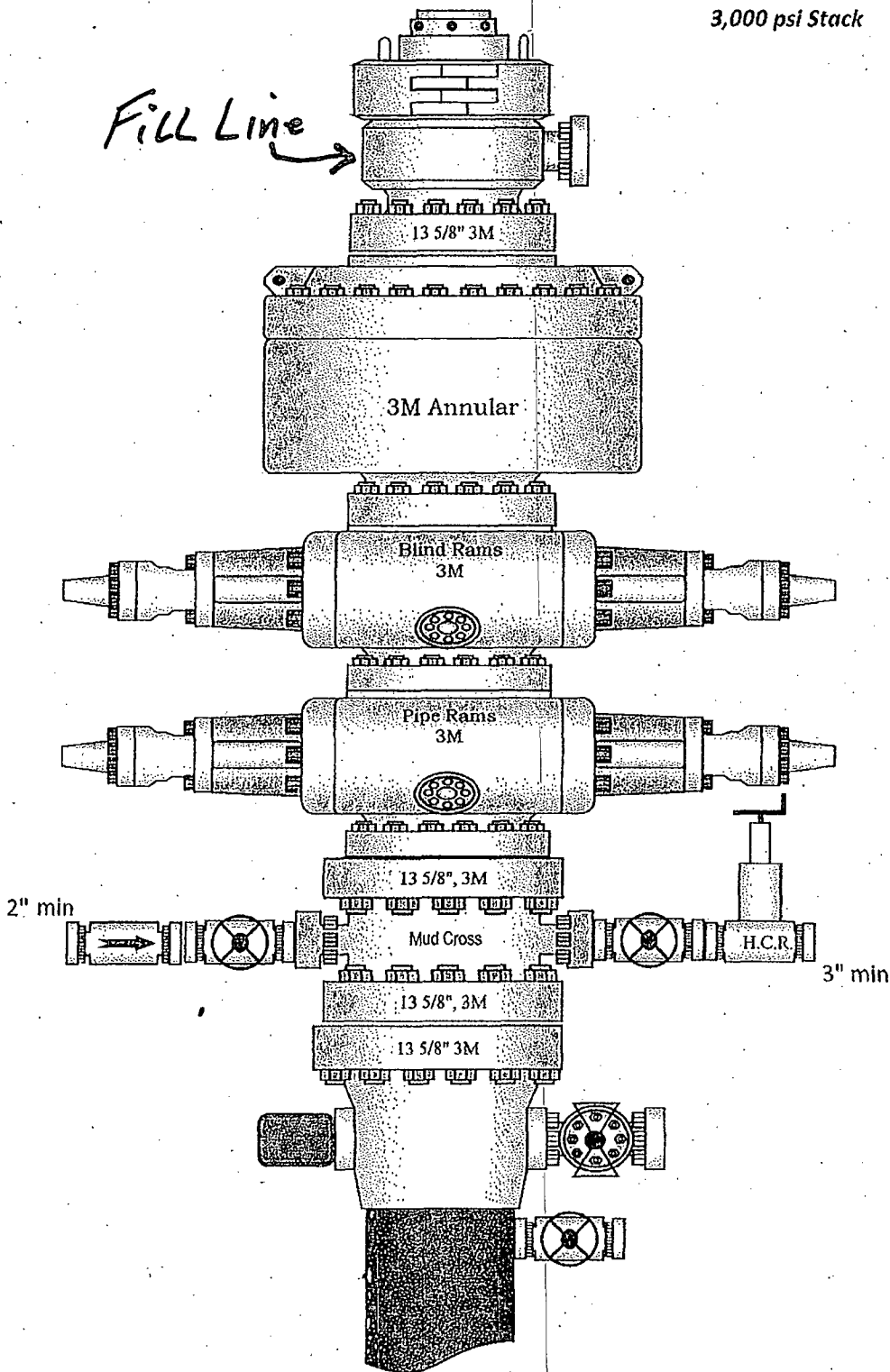
No abnormal pressure or temperature is expected. No H2S is known to exist in the area.

Lost circulation is not anticipated, but lost circulation equipment will be on location and readily available if needed.

12) Anticipated Start Date      Dec '12  
Duration                              25 days

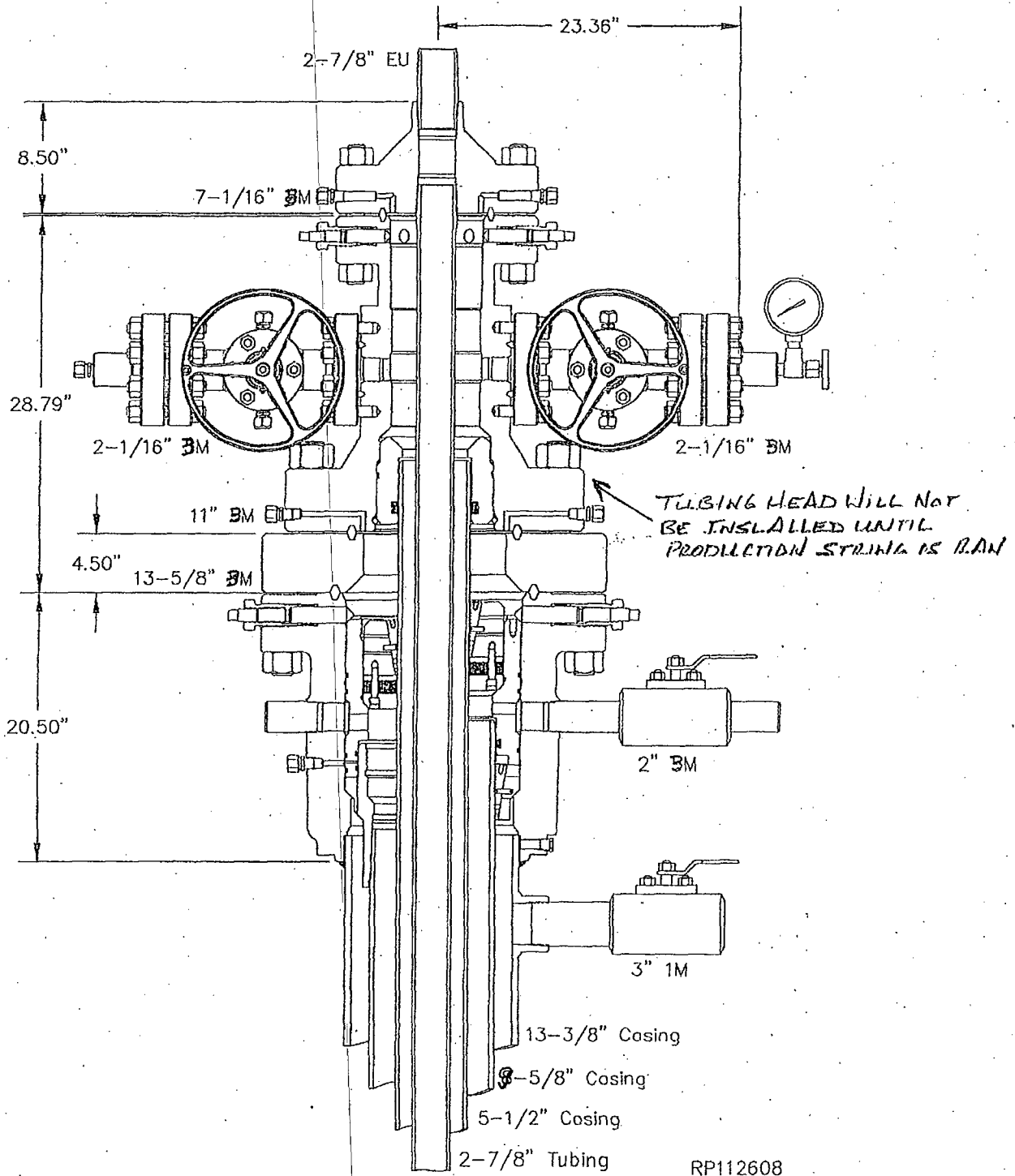
3,000 psi Stack

Fill Line →

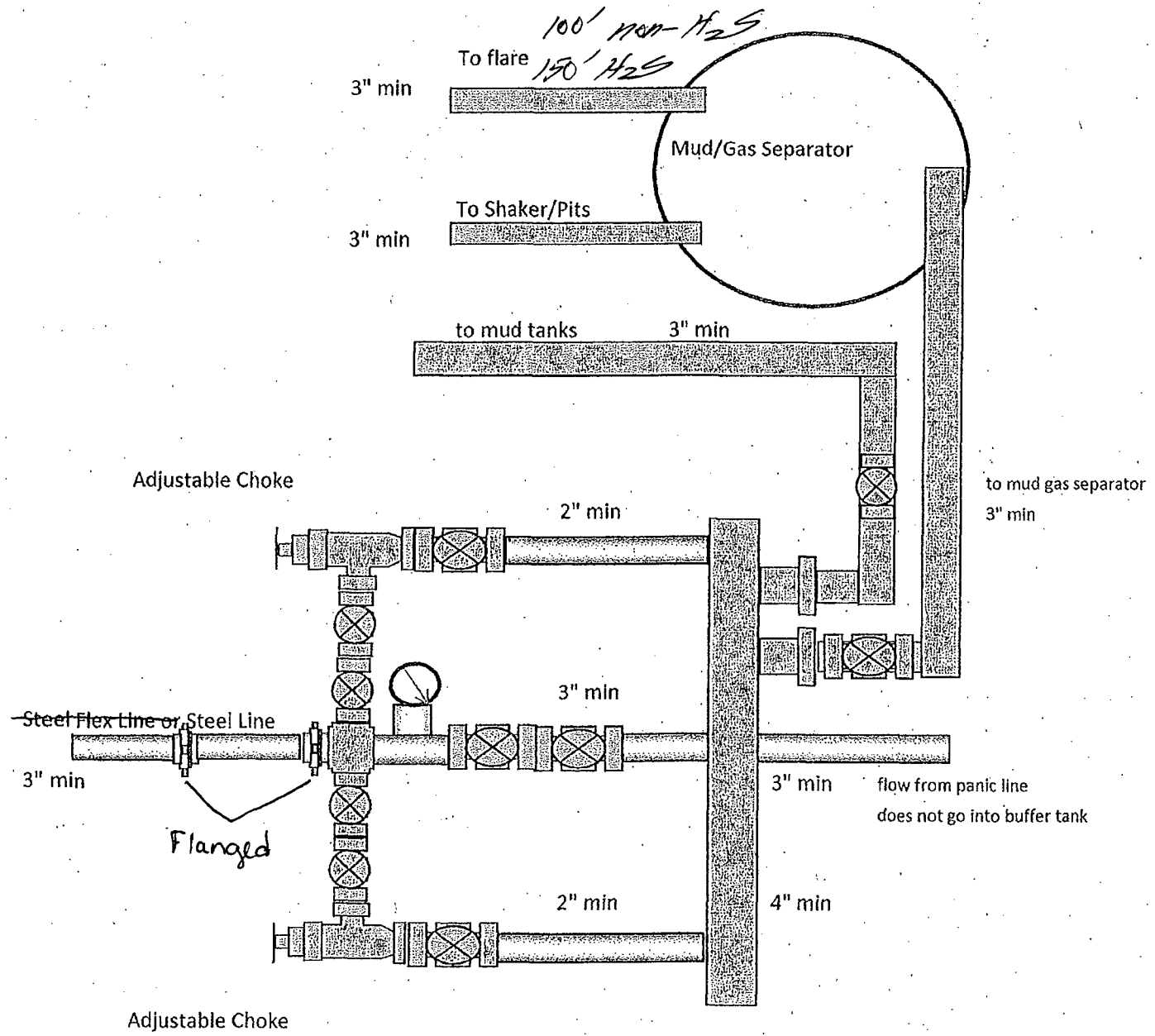




# System Drawing



3,000 psi Manifold



## PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	RKI EXPLORATION & PRODUCTION
LEASE NO.:	NM102917
WELL NAME & NO.:	43-RDX FEDERAL 21
SURFACE HOLE FOOTAGE:	715'/S. & 2135'/E.
LOCATION:	Section 21, T. 26 S., R. 30 E., NMPM
COUNTY:	Eddy County, New Mexico

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

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