

13-60

Form 3160-3
(March 2012)

RECEIVED

FEB 08 2013
OCD ArtesiaFORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NMOCD ARTESIA

Lease Serial No.
NM-20965

APPLICATION FOR PERMIT TO DRILL OR REENTER

6. If Indian, Allottee or Tribe Name

TOS
2/12/2013

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

1a. Type of work: ☒ DRILL ☐ REENTER1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.

RDX FEDERAL 17-16 <39027>

2. Name of Operator RKI EXPLORATION & PRODUCTION, LLC.

9. API Well No.

30-015-41089

3a. Address 210 PARK AVENUE, SUITE 900
OKLAHOMA CITY, OK. 731023b. Phone No. (include area code)
405-996-5748 (BRENT UMBERHAM)

10. Field and Pool, or Exploratory

BRUSHY DRAW DELAWARE EAST <8090>

4. Location of Well (Report location clearly and in accordance with any State requirements.)*

At surface 330 FNL & 460 FWL

At proposed prod. zone SAME

11. Sec., T. R. M. or Blk. and Survey or Area
SECTION 17, T. 26 S., R. 30 E.14. Distance in miles and direction from nearest town or post office*
14 MILES SOUTHEAST OF MALAGA, NM12. County or Parish
EDDY13. State
NM15. Distance from proposed* 330'
location to nearest
property or lease line, ft.
(Also to nearest drig. unit line, if any)16. No. of acres in lease
52017. Spacing Unit dedicated to this well
4018. Distance from proposed location* 1320'
to nearest well, drilling, completed,
applied for, on this lease, ft.19. Proposed Depth
7200'20. BLM/BIA Bond No. on file
NLM-NMB-00046021. Elevations (Show whether DF, KDB, RT, GL, etc.)
3069' 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:

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

25. Signature

Barry W. Hunt

Name (Printed/Typed)
BARRY W. HUNT

Date

10/11/12

Title

PERMIT AGENT FOR RKI EXPLORATION & PRODUCTION, LLC.

Approved by (Signature)

/s/ Don Peterson

Name (Printed/Typed)

/s/ Don Peterson

Date

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)

Carlsbad Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached

DISTRICT I

1625 N. French Dr., Hobbs, NM 88240

DISTRICT II

1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

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

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015-41089	Pool Code 8090	Pool Name Brushy Draw Delaware East
Property Code 39027	Property Name RDX FEDERAL "17"	Well Number 16
OGRID No. 246289	Operator Name RKI EXPLORATION & PRODUCTION	Elevation 3069'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	17	26 S	30 E		330	NORTH	460	WEST	EDDY

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 40	Joint or Infill	Consolidation Code	Order No.
------------------------------	-----------------	--------------------	-----------

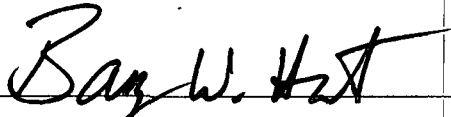
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	SURFACE LOCATION LAT N.: 32°02'56.10" LONG W.: 103°54'37.92" N.: 318790.813 E.: 672330.917 (NAD-83)	LAT N.: 31°52'32.19" LONG W.: 103°54'39.07" N.: 318734.869 E.: 631143.681 (NAD-27)	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 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. <i>Barry W. Hunt</i> 10/10/12 Signature Date Barry W. Hunt Printed Name
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. FEBRUARY 2, 2012 Date Surveyed Signature & Seal of Professional Surveyor Certificate No. Gary L. Jones 7977 BASIN SURVEYS			

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 10th 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

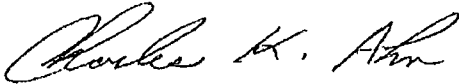
June 25th, 2012

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 Federal 17-16
 Location 330 FNL 460 FWL
 Section 17-26S-30E
 County Eddy
 State New Mexico

- 1) The elevation of the unprepared ground is 3,069 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 7,200 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 7,200 feet.

5) Estimated tops:

Alluvium	*		
Rustler	927		
Salado	1,276		
Castile	1,756		
Lamar Lime	3,297		
Base of Lime	3,494		
Delaware Top	3,530		
Bell Canyon Sand	3,530	Oil	1,528 psi
Cherry Canyon Sand	4,596	Oil	1,990 psi
Brushy Canyon Sand	5,654	Oil	2,448 psi
TD	7,200		140 degree F

* Fresh water is anticipated at approximately 180 feet.

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.

Fill up line above the upper most preventer.

7) Casing program:

Hole Size	Top	Bottom	OD Csg	Wt/Grade	Connection	Collapse Design Factor	Burst Design Factor	Tension Design Factor
17 1/2"	0	950 ⁸⁵⁰	13 3/8"	54.5#/J-55	ST&C	2.75	5.58	9.93
12 1/2"	0	3,450 ^{3,430}	9 5/8"	40#/J-55	LT&C	1.35	5.38	3.77
7 7/8"	0	7,200	5 1/2"	17#/N-80	LT&C	2.01	1.55	2.84

All new casing

8) Cement program:

Surface 17 1/2" hole
 Pipe OD 13 3/8"
 Setting Depth ~~950~~ ft
 Annular Volume 0.69462 cf/ft
 Excess 1

850' see COA

Lead 601 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 ~~3,450~~ ft
 Annular Volume 0.31318 cf/ft
 Excess 1
 Total Annular Volume 1128 cf
 With Excess 2255 cf

Okay

0.3627 cf/ft
 100 %

Lead 961 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% PF46 (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 7,200 ft
 Annular Volume 0.1733 cf/ft
 Excess 0.35
 Total Annular Volume 728 cf
 With Excess 983 cf
 DV Tool Depth 5,000 ft

0.26074 cf/ft 300 ft
 35 %

Stage 1

Lead: 350 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: 157 sx 2.04 cf/sk 12.6 ppg
 Tail: 100 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% FP606 (gel suppressing agent) + .25 pps PF46 (antifoam) + .2% PF 13 (retarder)

Top of cement:

3,150 ft

9) Mud program:

See COA

Top	Bottom	Mud Wt.	Vis	PV	YP	Fluid Loss	Type System
0	950	8.5 to 8.9	32 to 36	6 - 12	2 - 8	NC	Fresh Water
950	3,450	8.8 to 10.0	28 to 30	1 - 6	1 - 6	NC	Brine
3,450	7,200	8.9 to 9.1	28 to 36	1 - 6	1 - 6	NC	Fresh Water

2438'

10) Logging, coring, and testing program:

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:

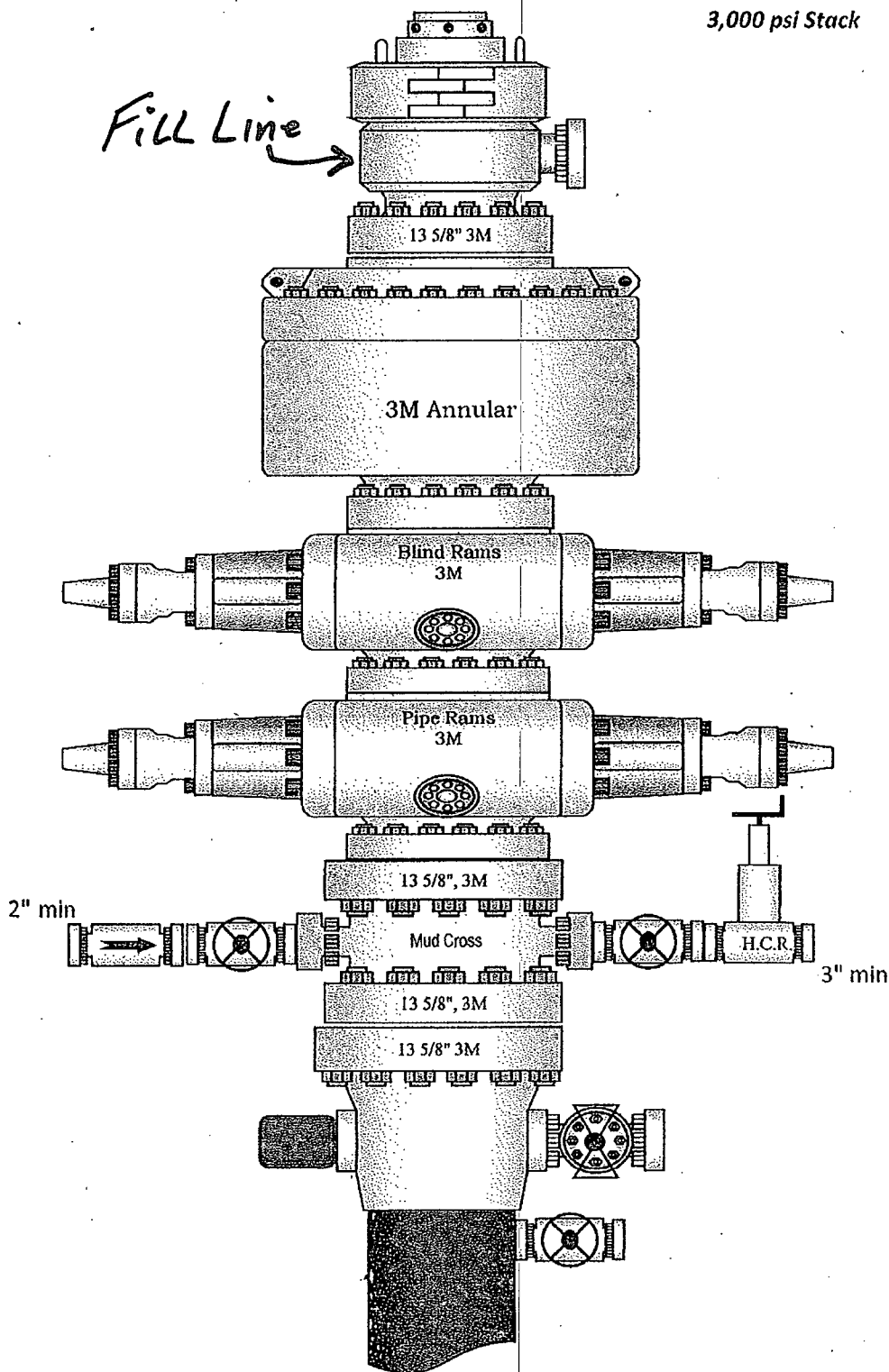
No abnormal pressure or temperature is expected. No H2S is known to exist in the area.

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

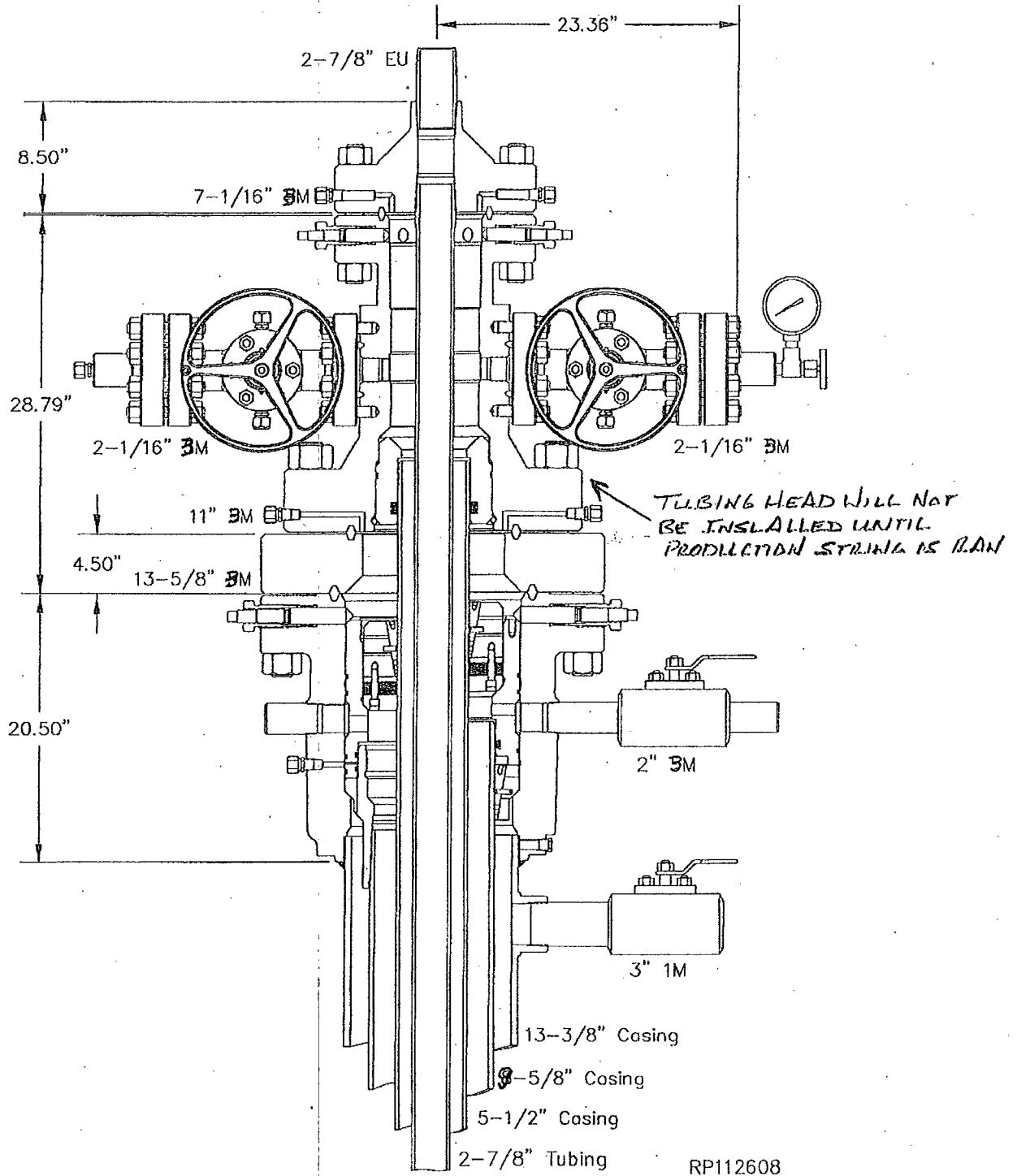
12) Anticipated Start Date Dec '12
 Duration 25 days

3,000 psi Stack

Fill Line



System Drawing



3,000 psi Manifold

100' non-H₂S
150' H₂S

3" min
To flare

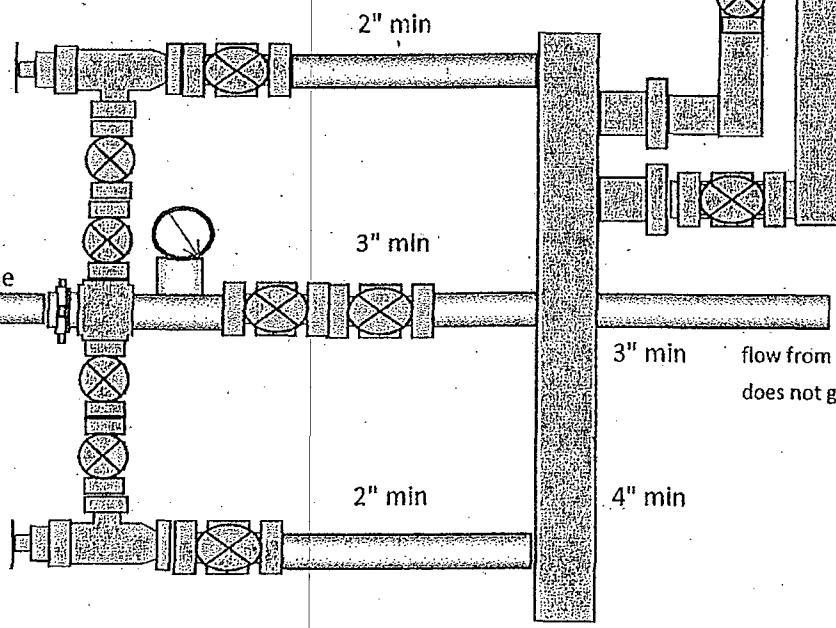
3" min
To Shaker/Pits

Mud/Gas Separator

to mud tanks 3" min

Adjustable Choke

to mud gas separator
3" min



Steel Flex Line or Steel Line
3" min

2" min

3" min

2" min

3" min

4" min

flow from panic line
does not go into buffer tank

Adjustable Choke

RKI Exploration and Production
3817 N. W. Expressway, Suite 950
Oklahoma City, OK. 73112

Closed Loop System

Design Plan

Equipment List

- 2 – 414 Swaco Centrifuges
- 2 – 4 screen Mongoose shale shakers
- 2 – 250 bbl. tanks to hold fluid
- 2 – CRI Bins with track system
- 2 – 500 bbl. frac tanks for fresh water
- 2 – 500 bbl. frac tanks for brine water

Operation and Maintenance

- Closed Loop equipment will be inspected daily by each tour and any necessary maintenance performed
- Any leak in system will be repaired and/or contained immediately
- OCD notified within 48 hours
- Remediation process started

Closure Plan

During drilling operations, all liquids, drilling fluids and cuttings will be hauled off via CRI (Controlled Recovery Incorporated). Permit #: R-9166.

Plat for Closed Loop System

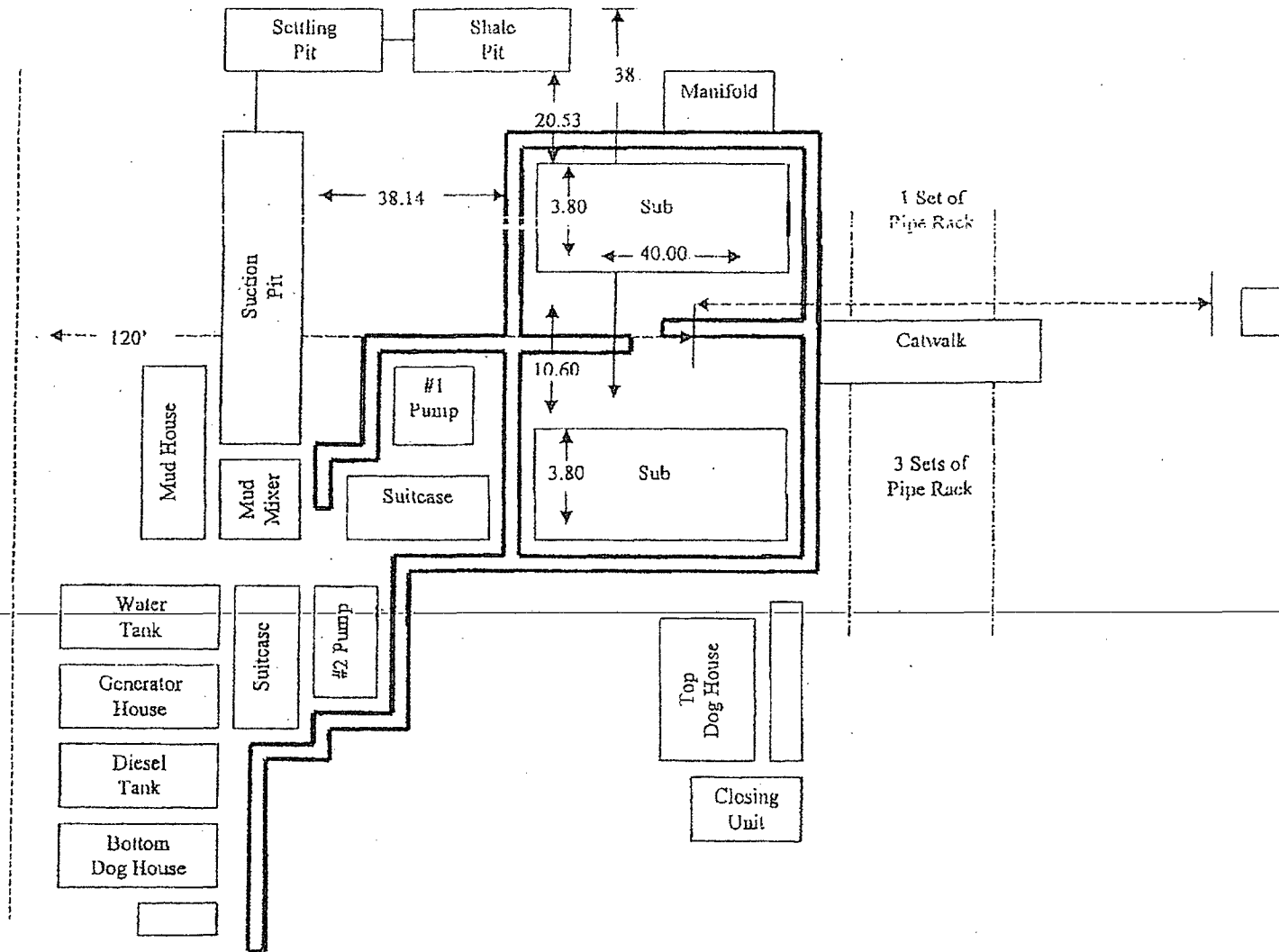


EXHIBIT D

**Rig Plat Only
RDX FEDERAL 17-16
V-DOOR SOUTHEAST**

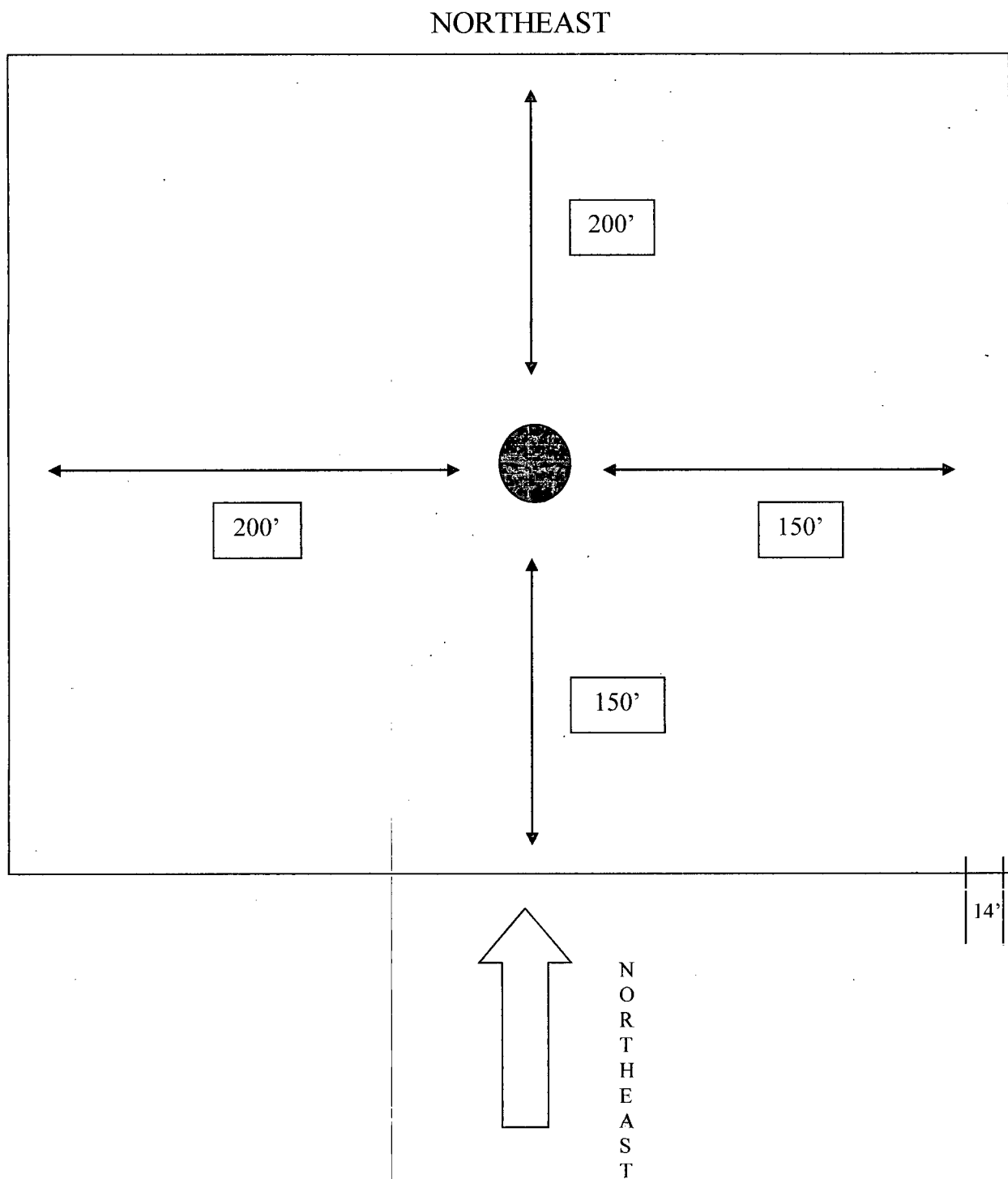
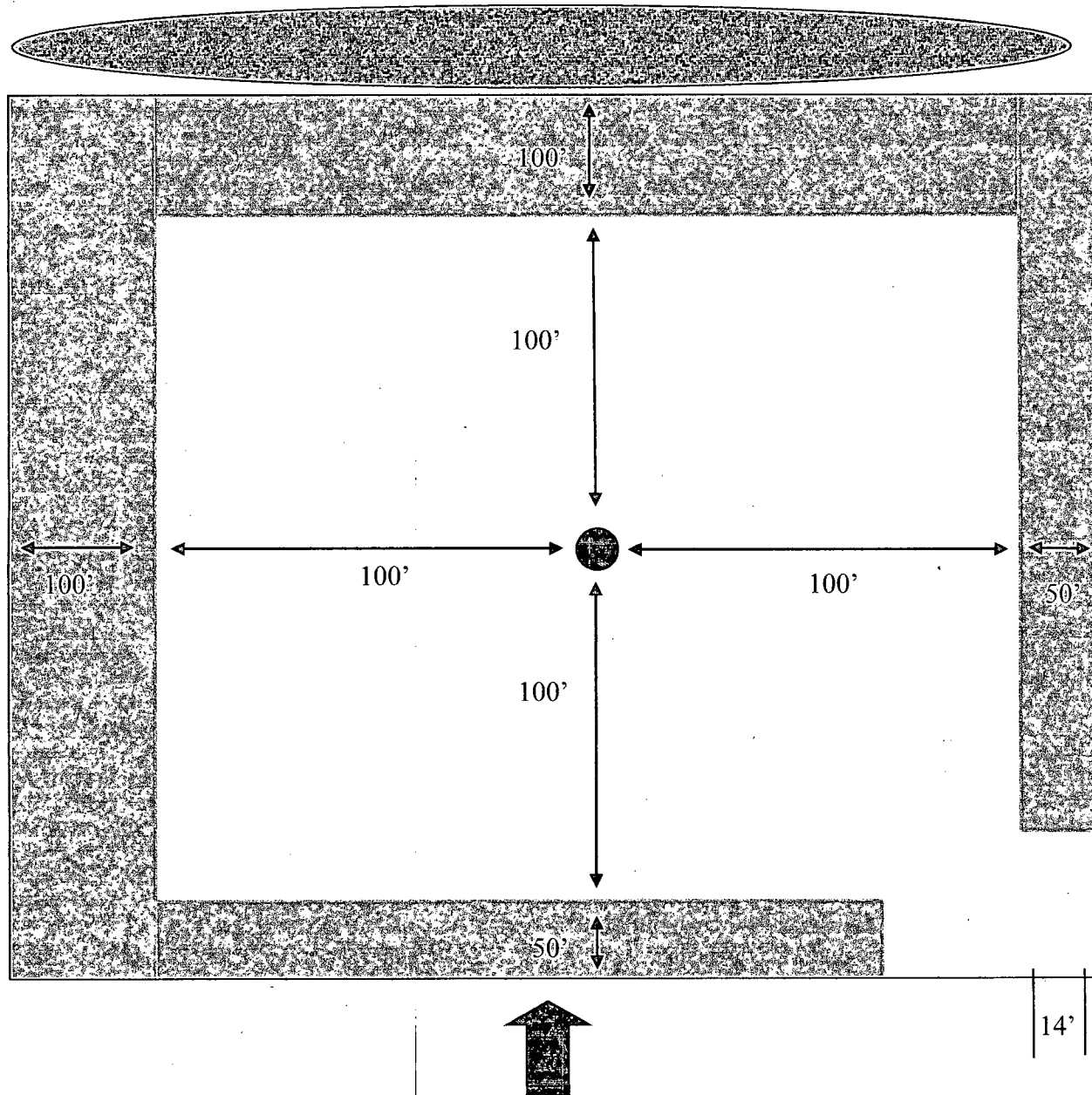


EXHIBIT C

**Interim Reclamation & Production Facilities
RDX FEDERAL 17-16
V-DOOR SOUTHEAST**



LEGEND



Well Bore



Topsoil



Interim Reclamation



Berm



Production Facilities



NORTHEAST

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	RKI Exploration and Production, LLC.
LEASE NO.:	NM-20965
WELL NAME & NO.:	RDX Federal 17-16
SURFACE HOLE FOOTAGE:	0330' FNL & 0460' FWL
LOCATION:	Section 17, T. 26 S., R 30 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

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.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Phantom Bank Heronry
- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
 - Medium Cave/Karst
 - Logging Requirements
 - Waste Material and Fluids
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**