

OCD-ARTESIA

ATS-12-633  
EA-12-830

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED  
OMB No. 1004-0137  
Expires July 31, 2010

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
2. Name of Operator RKI EXPLORATION & PRODUCTION, LLC. <i>&lt;246 289&gt;</i>		7. If Unit or CA Agreement, Name and No.
3a. Address 3817 NW EXPRESSWAY, SUITE 950 OKLAHOMA CITY, OK. 73112	3b. Phone No. (include area code) 405-996-5750 (BILL AUBREY)	8. Lease Name and Well No. RDX FEDERAL 21-12 <i>&lt;39072&gt;</i>
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface 430 FNL & 1330 FWL At proposed prod. zone 495 FNL & 1815 FWL		9. API Well No. 30-015-40560
14. Distance in miles and direction from nearest town or post office* 16 MILES SOUTHEAST OF MALAGA, NM		10. Field and Pool, or Exploratory BRUSHY DRAW DELAWARE EAST <i>&lt;8090&gt;</i>
15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any) 430 ft.	16. No. of acres in lease 640	11. Sec., T. R. M. or Blk. and Survey or Area SECTION 21, T. 26 S., R. 30 E.
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 150 ft. east of RDX Federal 21-11	19. Proposed Depth TVD 7500 ft. MD 7550 ft.	12. County or Parish EDDY
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3027' GL	22. Approximate date work will start*	13. State NM
23. Estimated duration 30 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 4/20/12
Title PERMIT AGENT FOR RKI EXPLORATION & PRODUCTION, LLC.		
Approved by (Signature) <i>/s/ James A. Amos</i>	Name (Printed/Typed)	Date JUL 30 2012
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.

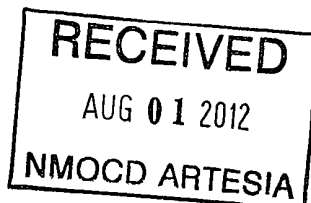
APPROVAL FOR TWO YEARS

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



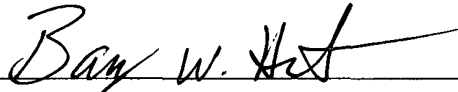
Approval Subject to General Requirements  
& Special Stipulations Attached

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

## 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 20th day of April 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](mailto:specialtpermitting@gmail.com)

Field Representative: Gene Simer

Address: P. O. Box 370, Carlsbad, NM 88221

Telephone: Office: (575) 885-1313, Cell: (575) 706-3225

# **RKI** Exploration & Production LLC

P.O. Box 370, Carlsbad, NM 88221  
Office 505-885-1313 Fax 505-885-3509

July 17, 2009

To Whom It May Concern:

Mr. Barry Hunt is employed by RKI Exploration & Production to sign as their agent for APD's and Right of Ways in the states of New Mexico and Texas.

If you have any questions, please contact me at my office at 575-885-1313.

Sincerely,

RKI Exploration & Production, LLC

A handwritten signature in cursive script, appearing to read "Gene Simer".

Gene Simer  
Production Superintendent

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>30-015-40560</b>	Pool Code <b>8090</b>	Pool Name <b>BRUSHY DRAW DELAWARE EAST</b>
Property Code <b>39072</b>	Property Name <b>RDX FEDERAL 21</b>	Well Number <b>12</b>
GRID No <b>246289</b>	Operator Name <b>RKI EXPLORATION &amp; PRODUCTION</b>	Elevation <b>3027'</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
C	21	26S	30E		430	NORTH	1330	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
C	21	26S	30E		495	NORTH	1815	WEST	EDDY
Dedicated Acres <b>40</b>	Joint or Infill	Consolidated 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.

7550 7/30

	<b>BHL RDX FEDERAL 21-12</b> NMSP-E (NAD 83) Y = 376357.6' N X = 679008.4' E N LAT. = 32° 02' 02.07" W LONG. = -103° 53' 20.60"  NMSP-E (NAD 27) Y = 376300.2' N X = 637822.3' E N LAT. = 32.0337837° W LONG. = -103.8885766°	<b>OPERATOR CERTIFICATION</b> 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. Signature: <i>Barry W. Hunt</i> Date: <b>4/20/12</b> Print Name: <b>Barry W. Hunt</b> E-mail Address:
<b>SHL: RDX FEDERAL 21-12</b> NMSP-E (NAD 83) Y = 376419.6' N X = 678522.8' E N LAT. = 32° 02' 02.71" W LONG. = -103° 53' 26.24"  NMSP-E (NAD 27) Y = 376362.2' N X = 637336.7' E N LAT. = 32.0339597° W LONG. = -103.8901427°		<b>SURVEYORS CERTIFICATION</b> 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 27, 2012 Date of Survey Signature and Seal of Professional Surveyor  Job No.: <b>WTC48364</b> JAMES E. TOMPKINS 14729 Certificate Number

7) Cement program:

**Surface** 17 1/2" hole  
 Pipe OD 13 3/8" New  
 Setting Depth ~~1,000~~ ft  
 Annular Volume 0.69462 cf/ft  
 Excess 1 100 %  
 Total Annular Volume 590 cf  
 With Excess 1181 cf

Lead 675 sx 1.75 cf/sk 13.5 ppg  
 Tail 200 sx 1.34 cf/sk 14.8 ppg

Lead: "C" + 4% PF20 + 2% PF1 + .125 pps PF29 + .2% PF46

Tail: "C" + 1% PF1

Top of cement: Surface

**Intermediate** 12 1/2" hole  
 Pipe OD 9 5/8" New  
 Setting Depth 3,440 ft  
 Annular Volume 0.31318 cf/ft 0.3627 cf/ft  
 Excess 1 100 %  
 Total Annular Volume 1127 cf  
 With Excess 2254 cf

Lead 785 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 + 6% PF20 + 3 pps PF42 + .125 pps PF29 + .2% PF46 + 1% PF1

Tail: "C" + .2% PF13

Top of cement: Surface

**Production** 7 7/8" hole  
 Pipe OD 5 1/2" New  
 Setting Depth 7,500 ft  
 Annular Volume 0.1733 cf/ft 0.26074 cf/ft 300 ft  
 Excess 0.35 35 %  
 Total Annular Volume 782 cf  
 With Excess 1,055 cf  
 DV Tool Depth 5,000 ft

Stage 1

Lead: 398 sx 1.47 cf/sk 13.0 ppg

Lead: PVL + 2% PF174 + .3% PF167 + .1% PF65 + .2% PF13 + .25 pps PF46

Top of cement: DV tool

Stage 2

Lead: 159 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 + 6% PF20 + 3 pps PF42 + .2% PF13 + .125 pps PF130 + .25 pps PF46

Tail: PVL + 2% PF174 + .3% PF167 + .1% PF65 + .2% PF13 + .25 pps PF46

Top of cement: 3,140 ft

8) 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.

9) Mud program:

Interval	Mud Wt.	Vis	Fluid Loss	Type System
0 to 1,000'	8.5 to 8.9	32 to 36	NC	Fresh Water
1,000' to 3440'	9.8 to 10.0	28 to 30	NC	Brine
3440' to TD	8.9 to 9.1	28 to 36	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

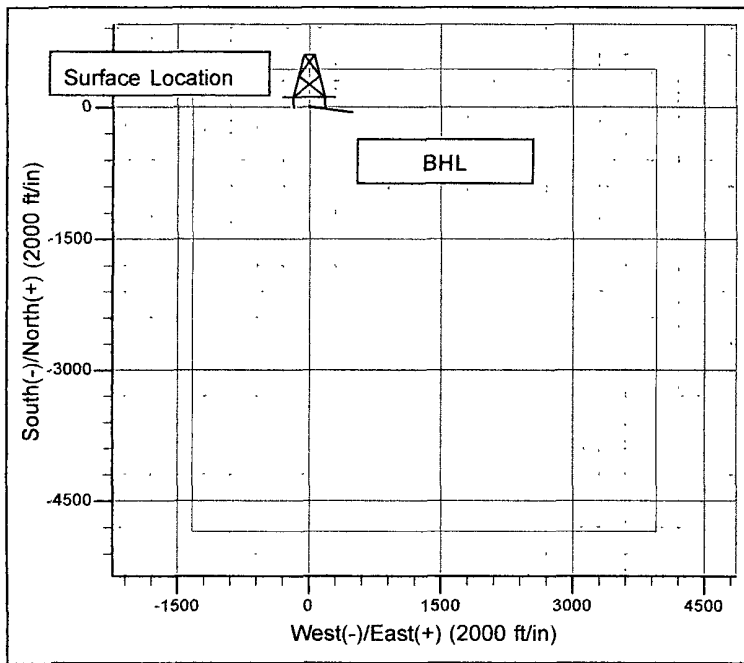
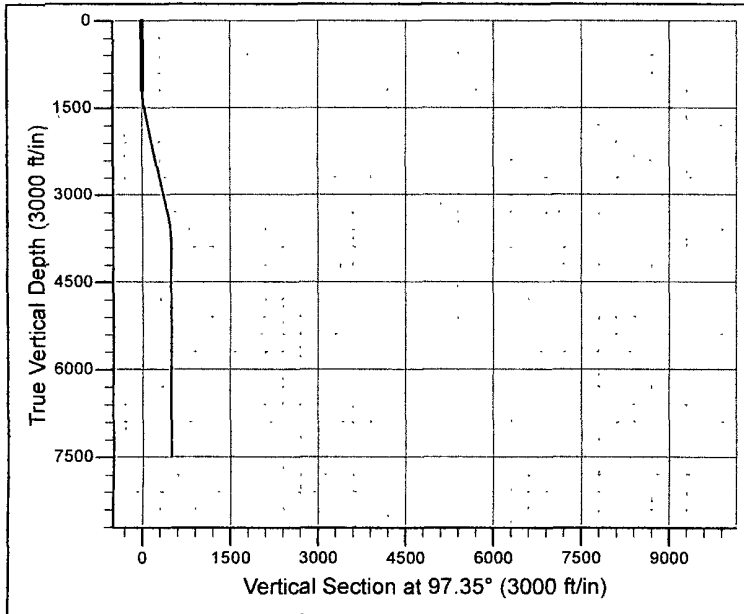
11) Potential hazards:

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

No lost circulation is expected to occur.

12) Anticipated Start Date May '12  
Duration 15 days

RDX Fed 21-12  
Section 21-26S-30E  
Eddy County, NM



#### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1200	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1508	12.34	97.35	1506.1	-4.2	32.8	4.00	97.35	33.1	
4	3438	12.34	97.35	3391.8	-57.0	442.0	0.00	0.00	445.6	
5	3850	0.00	0.00	3800.0	-62.7	485.7	3.00	180.00	489.8	
6	7550	0.00	0.00	7500.0	-62.7	485.7	0.00	0.00	489.8	RDX Fed 21-12

## RDX 21-12 Directional Design #1

## H HEADER INFORMATION -----

H COMPANY : RKI 2

H FIELD : Eddy County, NM

H SITE : Section 21-26S-30E

H WELL : RDX Federal 21-12

H WELLPATH: Wellbore #1

H DEPTHUNT: ft

H SURVDATE: 1/1/1990

H-----

## H WELL INFORMATION

H WELL EW MAP : 206814.06

H WELL NS MAP : 114733.09

H DATUM ELEVN : 0.00

H VSECT ANGLE : 97.35

H VSECT NORTH : 0.00

H VSECT EAST : 0.00

H-----

## H SURVEY TYPE INFORMATION

H 0.00 - 7550.15 DESIGN #1 :

H-----

## H SURVEY LIST

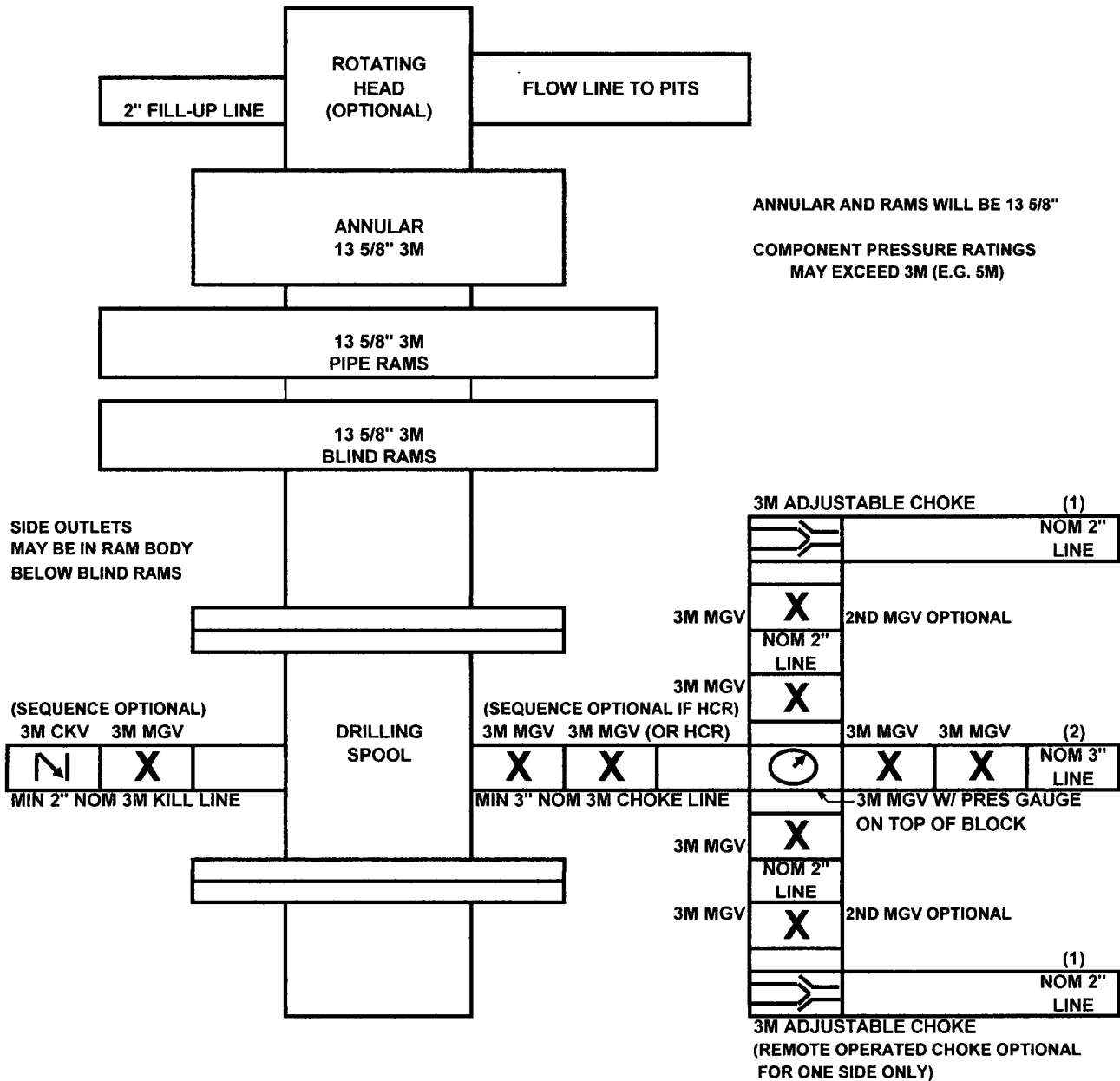
H MD	INC	AZI	TVD	NS	EW
0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00
1000.00	0.00	0.00	1000.00	0.00	0.00
1100.00	0.00	0.00	1100.00	0.00	0.00
1200.00	0.00	0.00	1200.00	0.00	0.00
1300.00	4.00	97.35	1299.92	-0.45	3.46
1400.00	8.00	97.35	1399.35	-1.78	13.83
1508.51	12.34	97.35	1506.13	-4.24	32.82
1600.00	12.34	97.35	1595.51	-6.74	52.22
1700.00	12.34	97.35	1693.20	-9.47	73.41
1800.00	12.34	97.35	1790.89	-12.21	94.61
1900.00	12.34	97.35	1888.57	-14.94	115.81
2000.00	12.34	97.35	1986.26	-17.68	137.00
2100.00	12.34	97.35	2083.95	-20.41	158.20
2200.00	12.34	97.35	2181.64	-23.15	179.39
2300.00	12.34	97.35	2279.33	-25.88	200.59
2400.00	12.34	97.35	2377.02	-28.62	221.79
2500.00	12.34	97.35	2474.71	-31.35	242.98
2600.00	12.34	97.35	2572.40	-34.09	264.18
2700.00	12.34	97.35	2670.09	-36.82	285.38
2800.00	12.34	97.35	2767.78	-39.56	306.57
2900.00	12.34	97.35	2865.47	-42.29	327.77
3000.00	12.34	97.35	2963.16	-45.03	348.97
3100.00	12.34	97.35	3060.85	-47.76	370.16
3200.00	12.34	97.35	3158.54	-50.50	391.36
3300.00	12.34	97.35	3256.23	-53.23	412.56



# RDX 21-12 Directional Design #1

3400.00	12.34	97.35	3353.92	-55.97	433.75
3438.80	12.34	97.35	3391.82	-57.03	441.98
3500.00	10.50	97.35	3451.81	-58.58	454.00
3600.00	7.50	97.35	3550.56	-60.58	469.52
3700.00	4.50	97.35	3650.00	-61.92	479.89
3800.00	1.50	97.35	3749.85	-62.59	485.09
3850.15	0.00	0.00	3800.00	-62.68	485.74
3900.00	0.00	0.00	3849.85	-62.68	485.74
4000.00	0.00	0.00	3949.85	-62.68	485.74
4100.00	0.00	0.00	4049.85	-62.68	485.74
4200.00	0.00	0.00	4149.85	-62.68	485.74
4300.00	0.00	0.00	4249.85	-62.68	485.74
4400.00	0.00	0.00	4349.85	-62.68	485.74
4500.00	0.00	0.00	4449.85	-62.68	485.74
4600.00	0.00	0.00	4549.85	-62.68	485.74
4700.00	0.00	0.00	4649.85	-62.68	485.74
4800.00	0.00	0.00	4749.85	-62.68	485.74
4900.00	0.00	0.00	4849.85	-62.68	485.74
5000.00	0.00	0.00	4949.85	-62.68	485.74
5100.00	0.00	0.00	5049.85	-62.68	485.74
5200.00	0.00	0.00	5149.85	-62.68	485.74
5300.00	0.00	0.00	5249.85	-62.68	485.74
5400.00	0.00	0.00	5349.85	-62.68	485.74
5500.00	0.00	0.00	5449.85	-62.68	485.74
5600.00	0.00	0.00	5549.85	-62.68	485.74
5700.00	0.00	0.00	5649.85	-62.68	485.74
5800.00	0.00	0.00	5749.85	-62.68	485.74
5900.00	0.00	0.00	5849.85	-62.68	485.74
6000.00	0.00	0.00	5949.85	-62.68	485.74
6100.00	0.00	0.00	6049.85	-62.68	485.74
6200.00	0.00	0.00	6149.85	-62.68	485.74
6300.00	0.00	0.00	6249.85	-62.68	485.74
6400.00	0.00	0.00	6349.85	-62.68	485.74
6500.00	0.00	0.00	6449.85	-62.68	485.74
6600.00	0.00	0.00	6549.85	-62.68	485.74
6700.00	0.00	0.00	6649.85	-62.68	485.74
6800.00	0.00	0.00	6749.85	-62.68	485.74
6900.00	0.00	0.00	6849.85	-62.68	485.74
7000.00	0.00	0.00	6949.85	-62.68	485.74
7100.00	0.00	0.00	7049.85	-62.68	485.74
7200.00	0.00	0.00	7149.85	-62.68	485.74
7300.00	0.00	0.00	7249.85	-62.68	485.74
7400.00	0.00	0.00	7349.85	-62.68	485.74
7500.00	0.00	0.00	7449.85	-62.68	485.74
7550.15	0.00	0.00	7500.00	-62.68	485.74

## 3M BOP SCHEMATIC



(1) Line to mud gas separator and/or pit

(2) Bleed line to pit

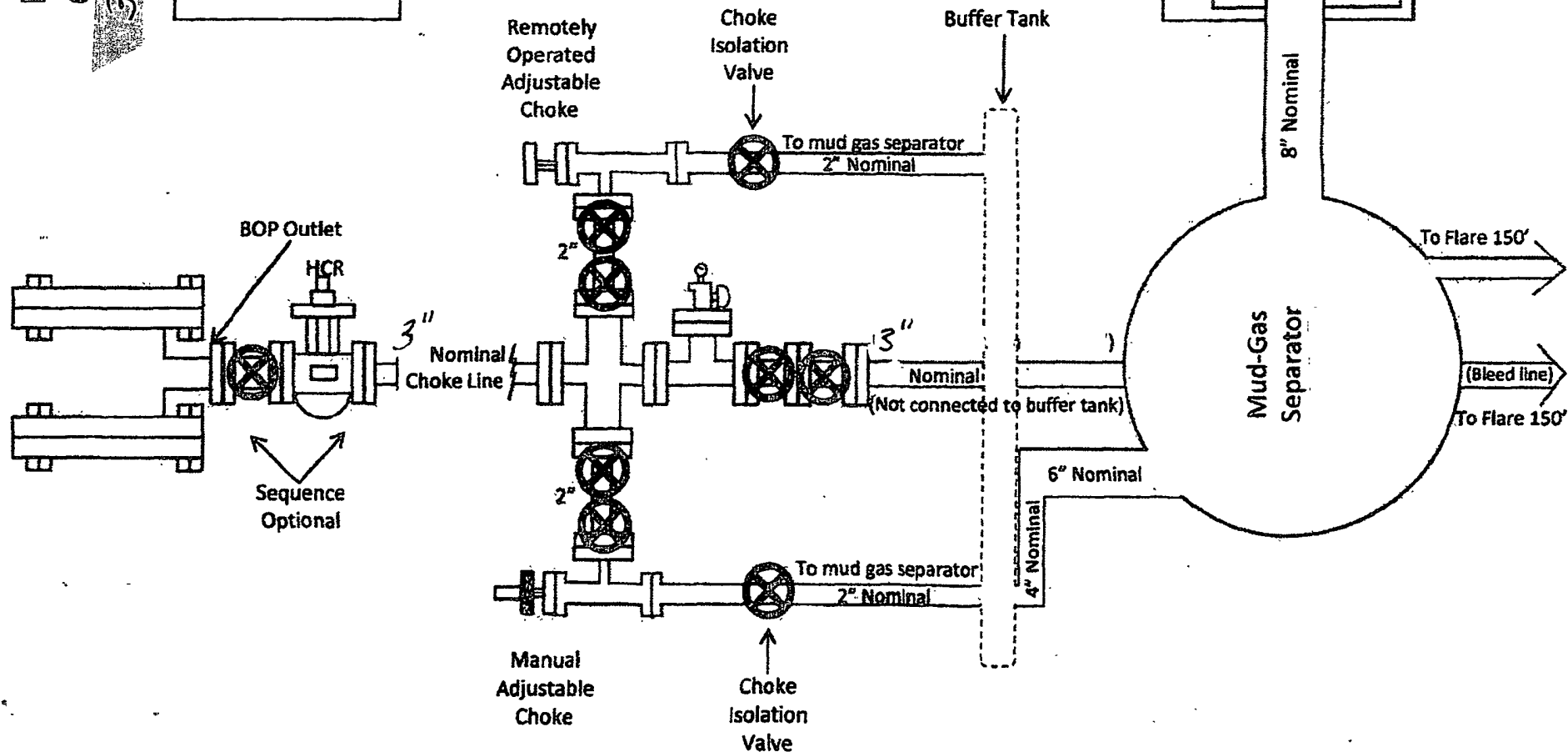
MGV - Manual Gate Valve

CKV - Check Valve

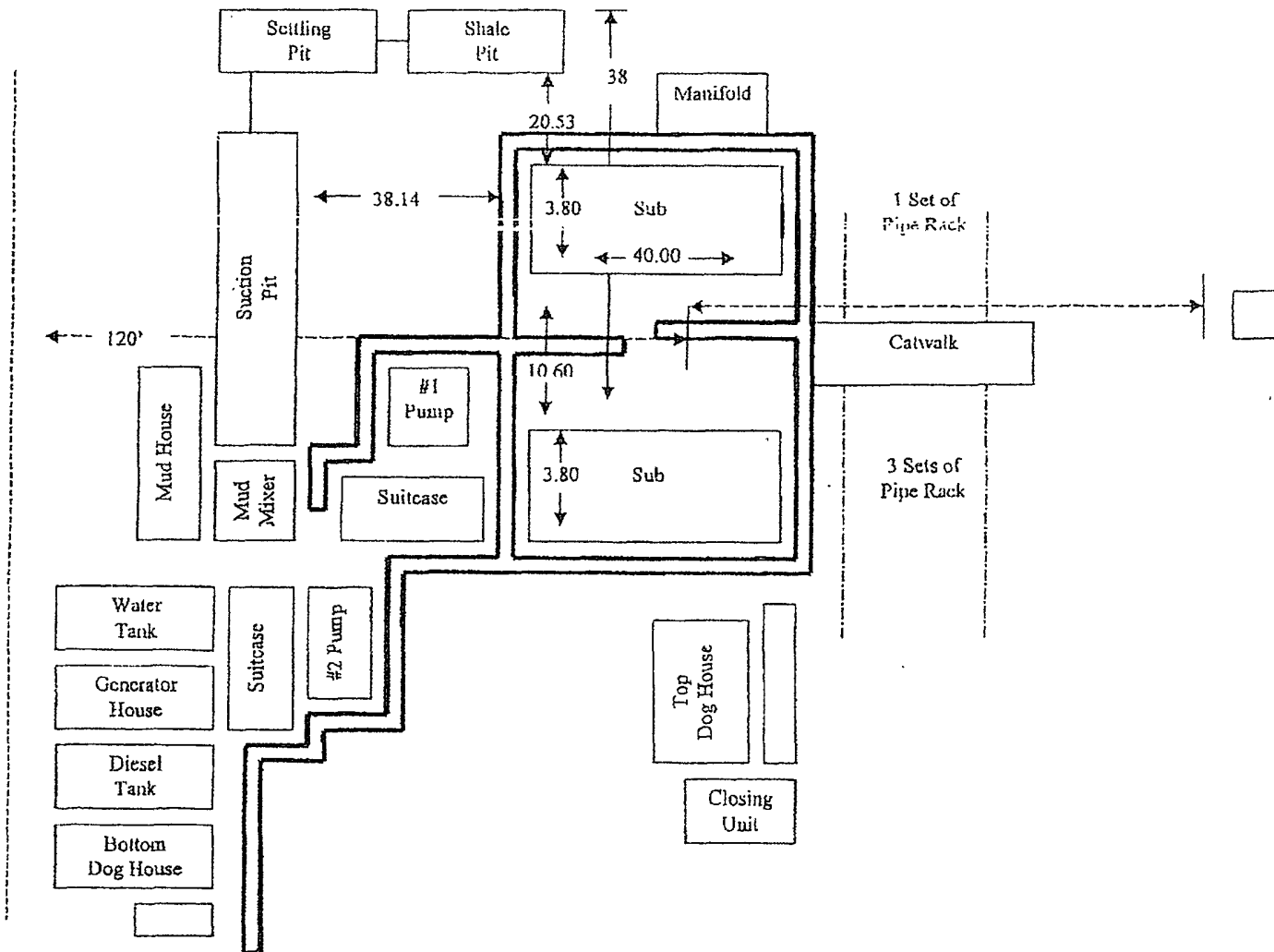
HCR - Hydraulically Controlled Remote Valve

# Drilling Operations Choke Manifold 3M Service

Exhibit E-1 - Choke Manifold Diagram



# Plat for Closed Loop System



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

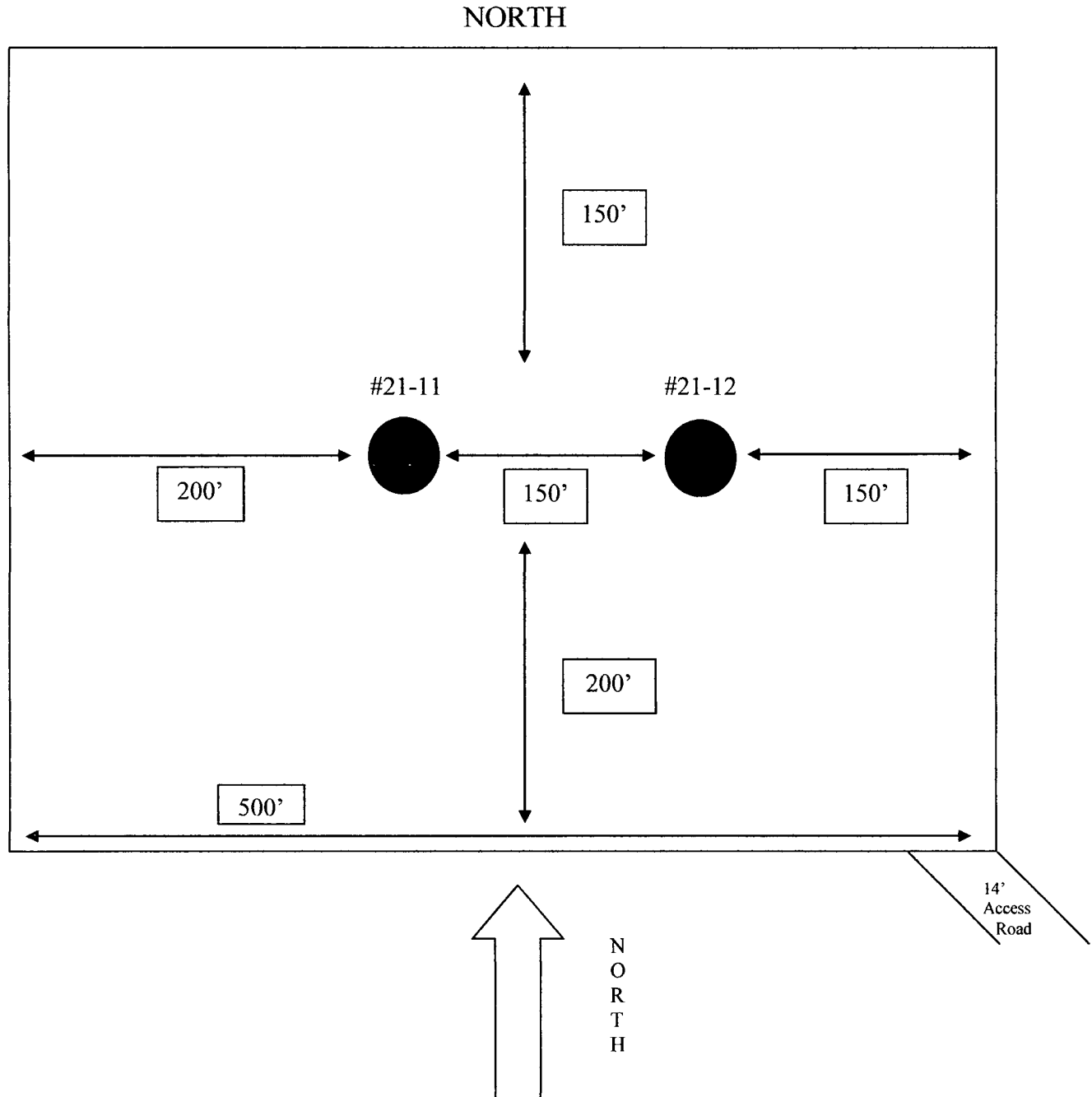
- Closed Loop equipment will be inspected daily by each tour and any necessary maintenance performed
- Any leak in system will be repaired and/or contained immediately
- OCD notified within 48 hours
- Remediation process started

### Closure Plan

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

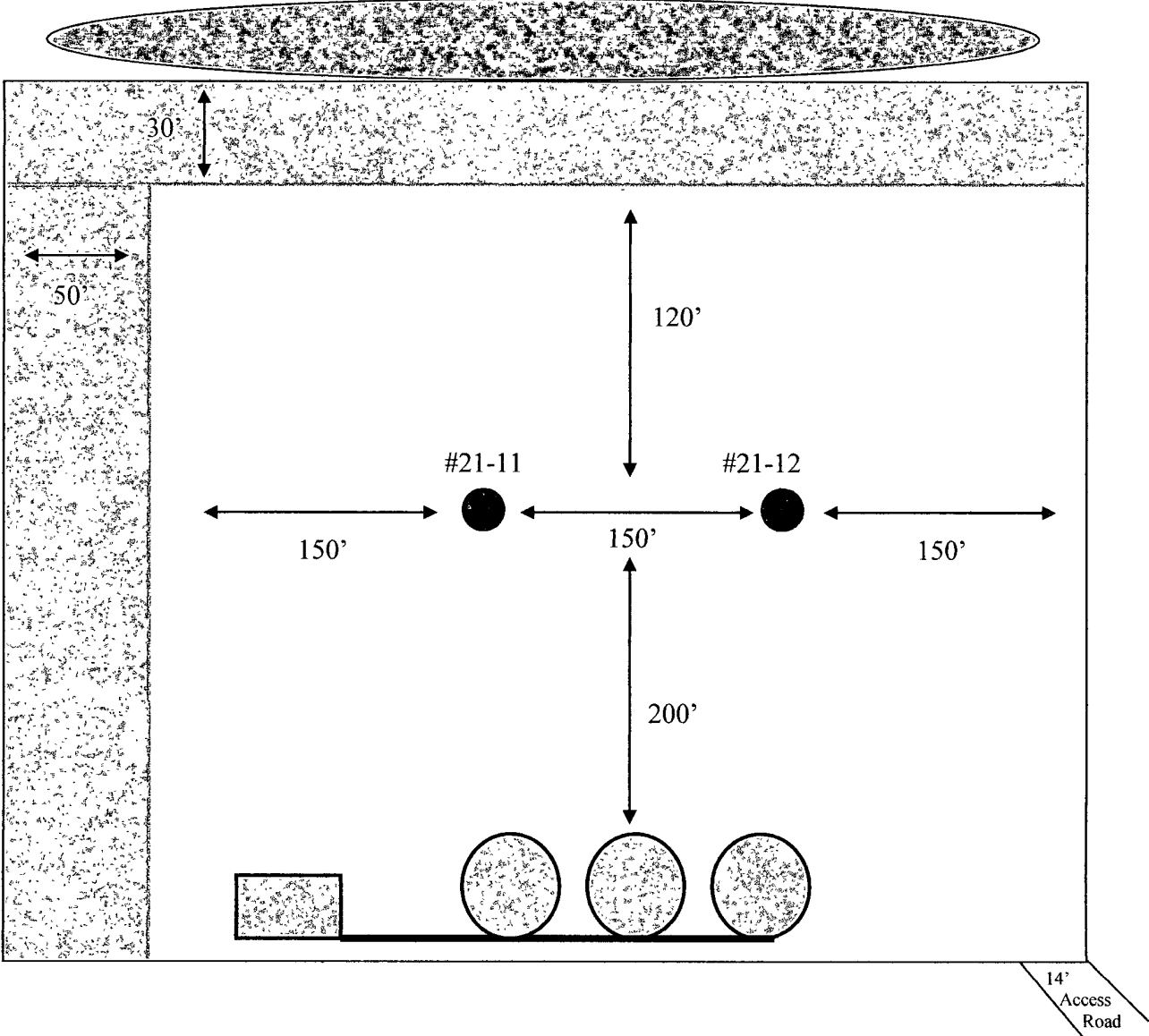
**EXHIBIT D**

**Rig Plat Only  
RDX FEDERAL 21-12  
V-DOOR EAST**



**EXHIBIT C**

**Interim Reclamation & Production Facilities  
RDX FEDERAL 21-12  
V-DOOR EAST**



**LEGEND**



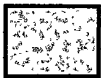
Well Bore



Topsoil



Interim Reclamation



Production Facilities



NORTH

## PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	RKI EXPLORATION, LLC
LEASE NO.:	NM102917
WELL NAME & NO.:	12-RDX FEDERAL 21
SURFACE HOLE FOOTAGE:	0430'/N. & 1330'/W.
BOTTOM HOLE FOOTAGE:	0495'/N. & 1815'/W.
LOCATION:	Section 21, T. 26 S., R. 30 E., NMPM
COUNTY:	Eddy County, New Mexico

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