

SEP 19 2008

OCD-ARTESIA

ATS-08-574

OCD-ARTESIA

UNITED STATES

DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

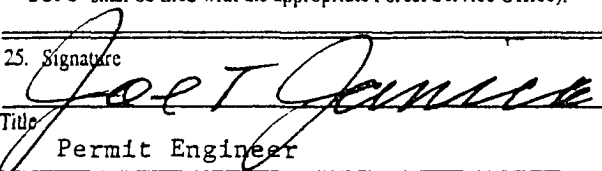
## APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED  
OMB No. 1004-0137  
Expires March 31, 20075. Lease Serial No.  
NM-100558  
6. If Indian, Allottee or Tribe Name  
-----7. If Unit or CA Agreement, Name and No.  
-----8. Lease Name and Well No.  
RDX"10" # 2 370559. API Well No.  
30-015-3664210. Field and Pool, or Exploratory  
BRUSHY DRAW-DELAWARE EAST11. Sec., T. R. M. or Blk. and Survey or Area  
SECTION 10 T26S-R30E12. County or Parish  
EDDY CO.  
13. State  
NEW MEXICO1a. Type of work: ☒ DRILL ☐ REENTER1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone2. Name of Operator  
RKI EXPLORATION & PRODUCTION, LLC. (GENE SIMER 575-885-1313)3a. Address 3817 NW EXPRESSWAY  
SUITE 950 OKLAHOMA CITY, OK 73112  
3b. Phone No. (include area code)  
405-996-57484. Location of Well (Report location clearly and in accordance with any State requirements.)  
At surface 1890' FSL & 1890' FWE SECTION 10 T26S-R30E EDDY CO.  
At proposed prod. zone SAME B-1041 Carlsbad Controlled Water Basin14. Distance in miles and direction from nearest town or post office\*  
Approximately 20 miles Southeast of Malaga New Mexico15. Distance from proposed\*  
location to nearest  
property or lease line, ft  
(Also to nearest drg. unit line, if any)  
1080'16. No. of acres in lease  
64017. Spacing Unit dedicated to this well  
4018. Distance from proposed location\*  
to nearest well, drilling, completed,  
applied for, on this lease, ft.  
990'19. Proposed Depth  
8425'20. BLM/BIA Bond No. on file  
NMB-00046021. Elevations (Show whether DF, KDB, RT, GL, etc.)  
3120' GL22. Approximate date work will start\*  
WHEN APPROVED23. Estimated duration  
28 days

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall 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 shall 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 authorized officer.

25. Signature  Name (Printed/Typed) Joe T. Janica Date 05/14/08Title  
Permit Engineer

Approved by (Signature) /s/ Don Peterson Name (Printed/Typed) /s/ Don Peterson Date SEP 17 2008

Title FOR 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.

\*(Instructions on page 2)

SEE ATTACHED FOR  
CONDITIONS OF APPROVALAPPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

FORM APPROVED  
OMB No. 1004-0137  
Expires: March 31, 2007

**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. NM-100558  
6. If Indian, Allottee or Tribe Name

**SUBMIT IN TRIPLICATE - Other instructions on page 2.**

1. Type of Well  
☒ Oil Well ☐ Gas Well ☐ Other  
2. Name of Operator RKI Exploration & Production  
3a. Address 3817 NW Expressway, Suite 950  
Oklahoma City, OK. 73112  
3b. Phone No. (include area code) 405-949-2221  
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
1080' FSL & 1650' FWL Sec. 10 T26S - R30E  
7. If Unit of CA/Agreement, Name and/or No.  
8. Well Name and No. RDX "10" # 2  
9. API Well No. 30-015-Pending  
10. Field and Pool or Exploratory Area  
Brushy Draw - Delaware  
11. Country or Parish, State  
Eddy Co. New Mexico

**12. CHECK THE 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 Change hole sizes, casing specs, & cement volumes
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

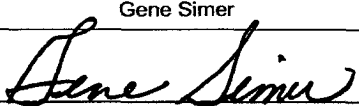
13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths 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.)

Due to availability of casing, we propose to drill the following hole sizes and install the following casing sizes, weights, grades after drilling out the 13-3/8" surface casing:

Hole Size	Depths	Casing Size, Weights, Grades, Coupling
11"	0' - 3,425'	8-5/8", 32#, J-55 ST&C
7-7/8"	0' - 40'	5-1/2", 20#, L-80 LT&C
	40' - 7,465'	5-1/2", 17#, K-55 LT&C
	7,465' - 8,425'	5-1/2", 20#, L-80 LT&C

Cementing 8-5/8": 716 sacks Lead (yield=2.04) and 200 sacks Tail (yield=1.33). TOC @ surface with 100% excess.  
Cementing 5-1/2" - Single Stage: 312 sacks Lead (yield=2.32) and 200 sacks Tail (yield=2.00). Volume of cement TOC @ 3,225' with 25% excess.

Actual cement volumes for 5-1/2" casing to be determined by openhole caliper log.

14. I hereby certify that the foregoing is true and correct.  
Name (Printed/Typed) Gene Simer  
Signature   
Title Production Superintendent  
Date 7/22/08

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

Approved by /s/ Don Peterson  
FOR FIELD MANAGER  
Title  
Office CARLSBAD FIELD OFFICE  
Date SEP 17 2008

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.

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.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

FORM APPROVED  
OMB No. 1004-0137  
Expires: March 31, 2007

## 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 reverse side.**


1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other	5. Lease Serial No. NM-100558
2. Name of Operator RKI EXPLORATION & PRODUCTION, LLC.	6. If Indian, Allottee or Tribe Name -----
3a. Address 3817 NW EXPRESSWAY SUITE 950 OKLAHOMA CITY, OKLAHOMA 73112	7. If Unit or CA/Agreement, Name and/or No. -----
3b. Phone No. (include area code) 405-996-5748	8. Well Name and No. RDX "10" # 2
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 990' FSL & 1890' FWL SECTION 10 T26S-R30E EDDY CO. NM	9. API Well No.
	10. Field and Pool, or Exploratory Area WILDCAT-BONE SPRING
	11. County or Parish, State EDDY CO. NEW MEXICO

## 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 type="checkbox"/> Other
	<input checked="" type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	<u>Move location</u>
	<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 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 shall 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 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.)

1. RKI EXPLORATION & PRODUCTION, LLC. requests the approval to move the location of their: RDX "10" # 2 location From: 1080' FSL & 1650' FWL SECTION 10 T26S-R30E  
To: 990' FSL & 1890' FWL SECTION 10 T26S-R30E.
2. The reason for this move is to comply with spacing rules of the State of New Mexico Oil Conservation Division.

14. I hereby certify that the foregoing is true and correct Name (Printed/Typed) Joe T. Janica		Title Permit Eng.
Signature 		Date 06/08/08
THIS SPACE FOR FEDERAL OR STATE OFFICE USE		
Approved by /s/ Don Peterson	FOR FIELD MANAGER	Date SEP 17 2008
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 CARLSBAD FIELD OFFICE

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(Instructions on page 2)

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

Form C-102  
Revised October 12, 2005

Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code <b>96403</b>	Pool Name <b>WILDCAT-BONE SPRING</b>
Property Code	Property Name <b>RDX "10"</b>	Well Number <b>2</b>
OGRID No. <b>246289</b>	Operator Name <b>RKI EXPLORATION &amp; PRODUCTION</b>	Elevation <b>3120'</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>N</b>	<b>10</b>	<b>26 S</b>	<b>30 E</b>		<b>990</b>	<b>SOUTH</b>	<b>1890</b>	<b>WEST</b>	<b>EDDY</b>

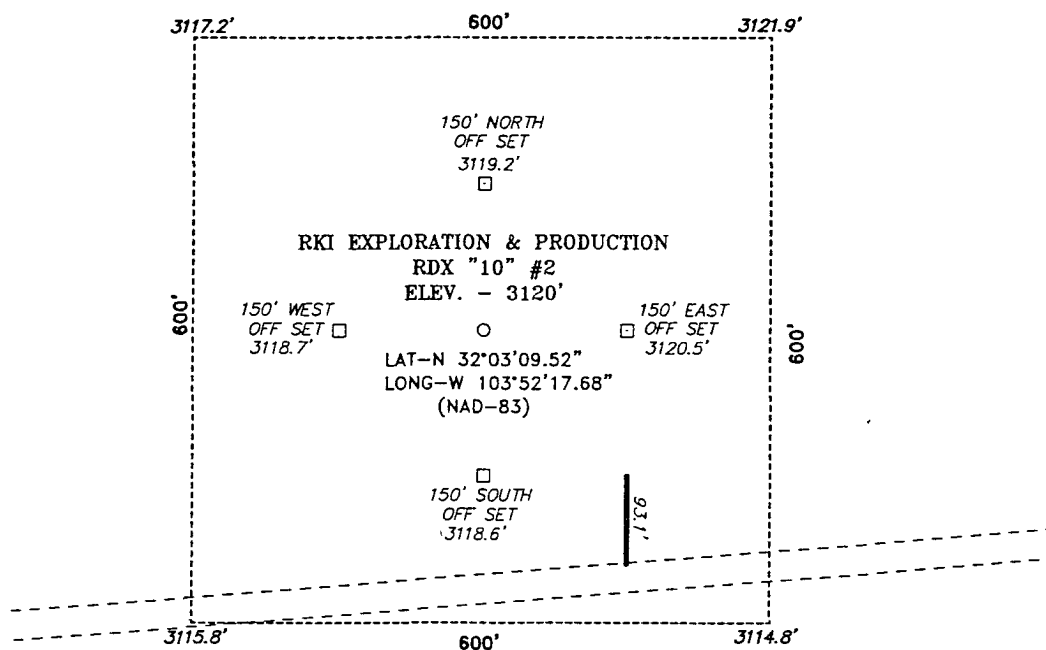
Bottom Hole Location If Different From Surface

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	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

	<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 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.</p> <p><i>Joe T. Janica</i> Signature Date <b>06/08/08</b></p> <p><b>Joe T. Janica</b> Printed Name</p> <p><b>SURVEYOR 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>MAY 31, 2008</b></p> <p>Date Surveyed Signature &amp; Seal of Professional Surveyor <i>Gary L. Jones</i> W.O. No. <b>19849</b> Certificate No. <b>Gary L. Jones 7977</b> BASIN SURVEYS</p>
--	---

SECTION 10, TOWNSHIP 26 SOUTH, RANGE 30 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.



**DIRECTIONS TO LOCATION:**

FROM THE JUNCTION OF HWY 285 AND WHITETHORN,  
GO EAST AND FOLLOW EPNG PIPELINE FOR 10.3  
MILES, TURN SOUTH FOR 0.9 MILES, THENCE TURN  
EAST FOR 1.4 MILES TO PROPOSED LEASE ROAD.



SCALE: 1" = 200'

**RKI EXPLORATION & PRODUCTION**

REF: RDX "10" #2 / Well Pad Topo

THE RDX "10" #2 LOCATED 990' FROM  
THE SOUTH LINE AND 1890' FROM THE WEST LINE OF  
SECTION 10, TOWNSHIP 26 SOUTH, RANGE 30 EAST,  
N.M.P.M., EDDY COUNTY, NEW MEXICO.

**BASIN SURVEYS** P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 19849

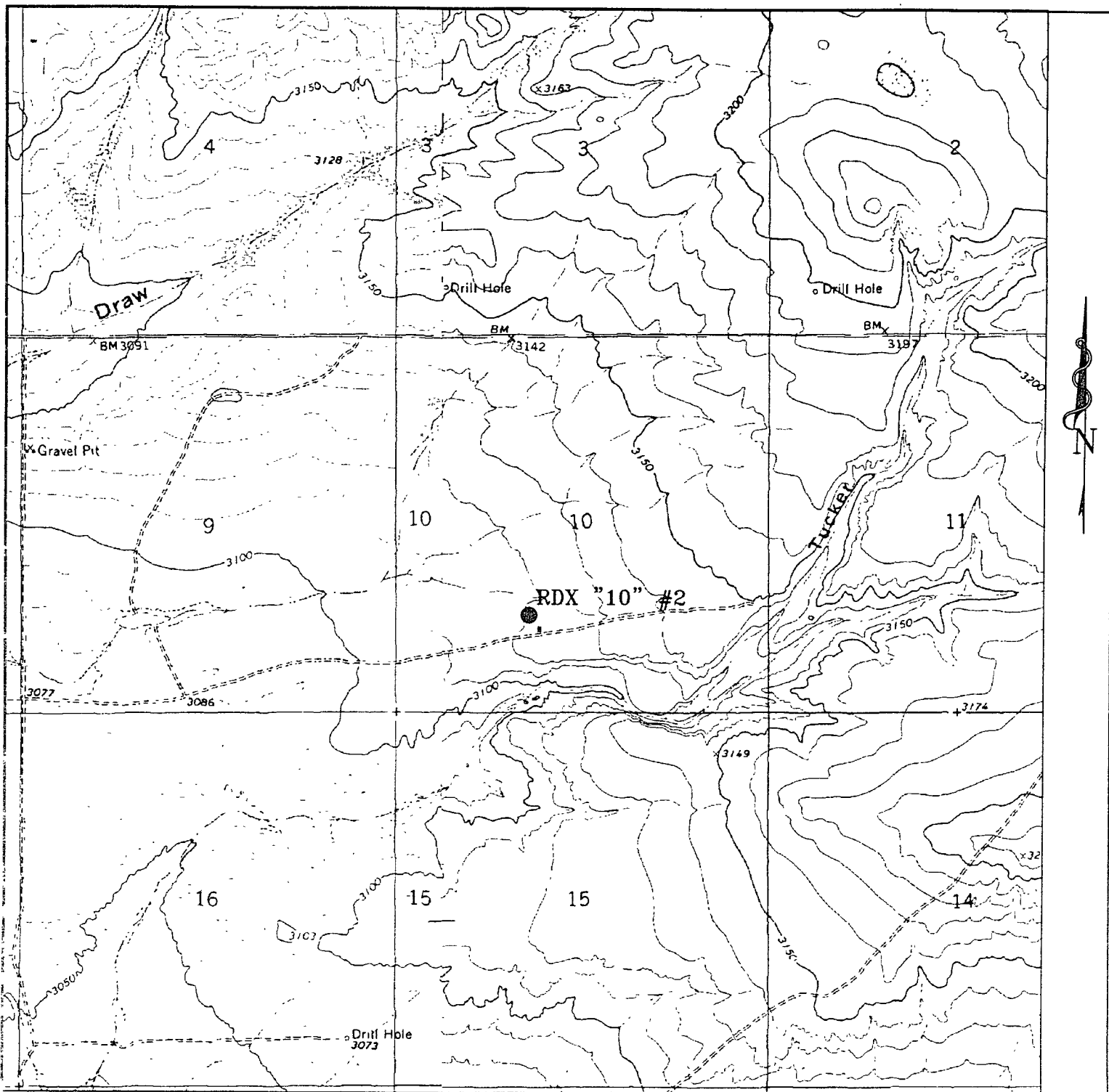
Drawn By: J. M. SMALL

Date: 06-02-2008

Disk: JMS 19849

Survey Date: 05-31-2008

Sheet 1 of 1 Sheets



## RDX "10" #2

Located at 990' FSL AND 1890' FWL  
 Section 10, Township 26 South, Range 30 East,  
 N.M.P.M., Eddy County, New Mexico.

**basin  
surveys**

focused on excellence  
in the oilfield

P.O. Box 1786  
 1120 N. West County Rd.  
 Hobbs, New Mexico 88241  
 (505) 393-7316 - Office  
 (505) 392-3074 - Fax  
[basinsurveys.com](http://basinsurveys.com)

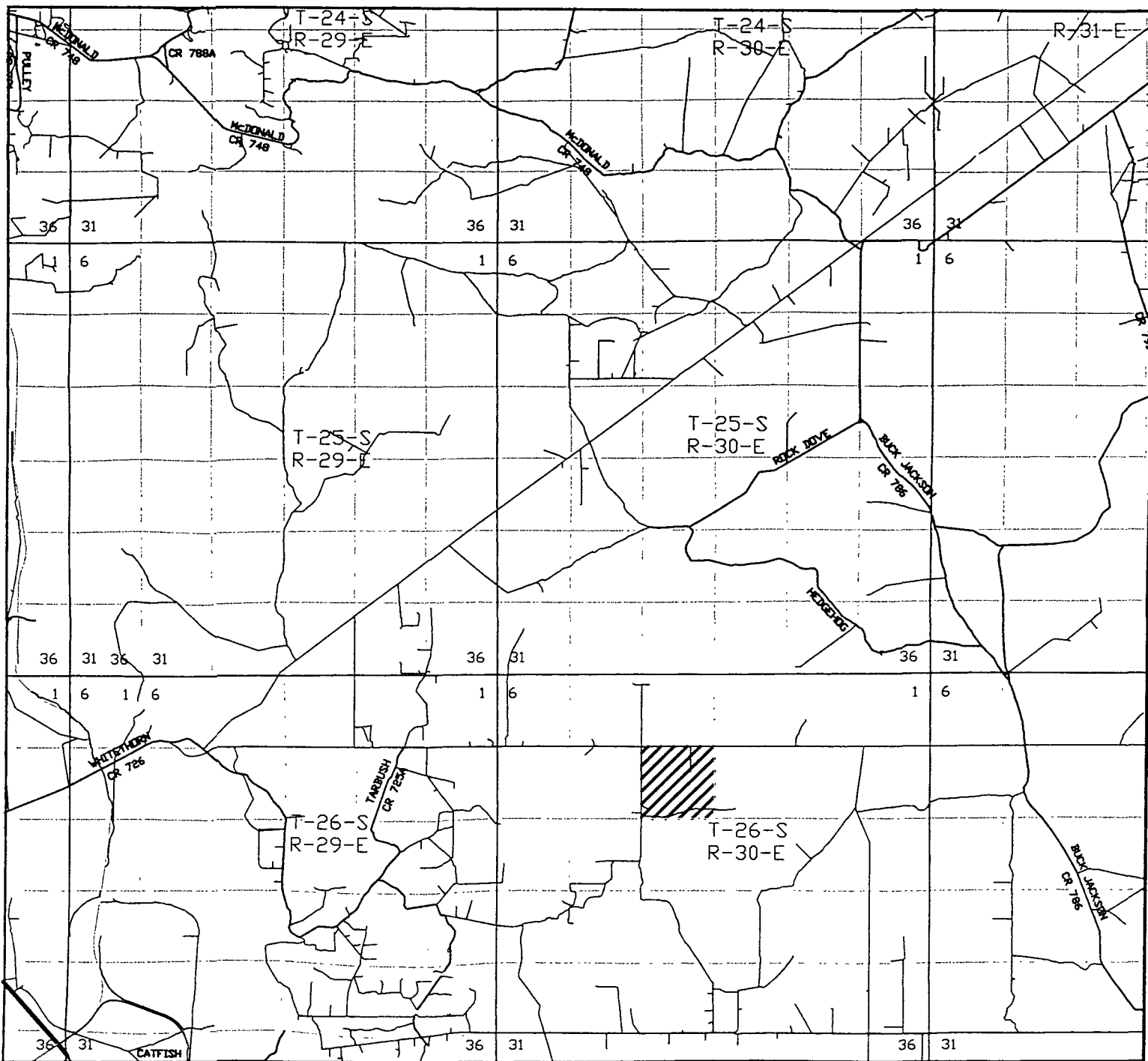
W.O. Number: 19849

Survey Date: 05-31-2008

Scale: 1" = 2000'

Date: 06-02-2008

**RKI**  
**EXPLORATION &  
 PRODUCTION**



RDX "10" #2

Located at 990' FSL and 1890' FWL

Section 10, Township 26 South, Range 30 East,  
N.M.P.M., Eddy County, New Mexico.

**basin**  
**surveys**

focused on excellence  
in the oilfield

P.O. Box 1786  
1120 N. West County Rd.  
Hobbs, New Mexico 88241  
(505) 393-7316 - Office  
(505) 392-3074 - Fax  
basinsurveys.com

W.O. Number: JMS 19849

Survey Date: 05-31-2008

Scale: 1" = 2 MILES

Date: 06-02-2008

*RKI*  
**EXPLORATION &  
PRODUCTION**

## GEOLOGICAL PROGNOSIS

**Well Name:** RDX 10-2 **Location (NSL):**  
**API #:** 0  
**Field:** Ross Draw Extension  
**Elevation:** GL(ft): 3,120 **Lat/Long:**  
KB(ft):

---

<b>FORMATION</b>	<b>DEPTH (TVD)(ft)</b>
------------------	------------------------

Rustler	850
Salado	1,250
Castile	1,595
Lamar Lime	3,400
Base of Lime	3,600
Delaware Top	3,640
Bell Canyon Sand	3,640
Cherry Canyon Sand	4,740
Brushy Canyon Sand	5,810
Bone Spring Lime	7,475
Bone Spring Shale	7,550
Bone Spring Shale Base	8,375
TD (includes a 50 ft. rat hole)	8,425

**Primary Objective(s):** Brushy Canyon  
**Secondary Objective(s):** Bone Spring Shale, Bell Canyon, Cherry Canyon

**Mud Logger:** Company Name: Morco **Starting Depth:**  
Catch 10' Samples from Intermediate Casing to Total Depth

**Electric Logging Program: (Schlumberger )**  
Laterolog from Intermediate Casing to T.D.  
Gamma Ray/Density/Neutron/Caliper Log from Intermediate Casing to T.D.  
Magnetic Resonance Tool from Intermediate Casing to T.D.

**Correlation Logs:**

Sun-Ex Fed Unit #2	Sun '10' Fed #1	Sun -Ex Fed Unit #1
SE SE	SW SW	SE SW
9-26S-30E	10-26S-30E	10-26S-30E

**Remarks:** Well is a NSL because of the need to be at least 270' from the plugged Sun 'EX' Fed U. MD and will be changed when an elevation is supplied. Tops are subject to change as drilling continues

**Date:** 4/10/2008

**Geologist:** Matt Huhnke **Office:** (405) 996-5755  
**Cell:** (405) 476-2355  
**E-mail:** [mhuhnke@rkixp.com](mailto:mhuhnke@rkixp.com)  
**FAX:** (405) 949-2223

**Engineer:** Pat McCollom **Office:** (405) 996-5748  
**Cell:** (405) 833-0332  
**E-mail:** [pmccollom@rkixp.com](mailto:pmccollom@rkixp.com)  
**FAX:** (405) 949-2223



## APPLICATION TO DRILL

RKI EXPLORATION &amp; PRODUCTION, LLC.

RDX "10" # 2

UNIT "N"  
T26S-R30ESECTION 10  
EDDY CO. NM

In response to questions asked under Section II of Bulliten NTL-6, the following information on the above will be provided.

1. LOCATION: 1080' FSL & 1650' FWL SECTION 10 T26S-R30E EDDY CO. NM
2. ELEVATION ABOVE SEA LEVEL: 3120' GL.
3. GEOLOGICAL NAME OF SURFACE FORMATION: Quaternary Aeolian Deposits.
4. DRILLING TOOLS AND ASSOCIATED EQUIPMENT: Conventional rotary drilling rig using drilling mud as a circulating medium for solids removal from hole.
5. PROPOSED DRILLING DEPTH: 8425'
6. ESTIMATED TOPS OF GEOLOGICAL FORMATIONS:
 

Rustler Anhydrite	850'	Brushy Canyon Sand	5810'
Lamar Lime	3400'	Bone Spring Lime	7475'
Bell Canyon Sand	3640'	Bone Spring Shale	8375'
Cherry Canyon Sand	4740'	TD	8425'
7. POSSIBLE MINERAL BEARING FORMATIONS:
 

Brushy Canyon	011	Bone Spring	011
Bell Canyon	011	Cherry Canyon	011
8. CASING PROGRAM:

HOLE SIZE	INTERVAL	OD OF CASING	WEIGHT	THREAD	COLLAR	GRADE	CONDITION
-----------	----------	--------------	--------	--------	--------	-------	-----------

26"	0-40	20"	NA	NA	NA	CONDUCTOR	New
-----	------	-----	----	----	----	-----------	-----

17 1/2"	0-875'	13 3/8"	54.5#	8-R	ST&C	J-55	New
---------	--------	---------	-------	-----	------	------	-----

12 1/2"	0-3425'	9 5/8"	36#	8-R	ST&C	J-55	New
---------	---------	--------	-----	-----	------	------	-----

7 7/8"	0-8425'	5 1/2"	17#	8-R	LT&C	J-55	New
--------	---------	--------	-----	-----	------	------	-----

Casing design factors: Collapse 1.125 Burst 1.0 Body Yield 1.5						Joint Strength	
						Buttress	1.6
						8-R	1.8

Replaced  
with Sundry  
Dated 7-22-08  
per Gene Simer  
7-24-08

APPLICATION TO DRILL

RKI EXPLORATION & PRODUCTION, LLC.

RDX "10" # 2

UNIT "N"  
T26S-R30E

SECTION 10  
EDDY CO. NM

9. CASING CEMENTING & SETTING DEPTHS:

20" Conductor Set 40' of 20" conductor and cement to surface with Redi-mix

13 3/8" Surface Set 875' of 13 3/8" 54.5# J-55 ST&C casing. Cement with 504 Sx. of 35/65 Class "C" POZ + 6% Bentonite, + 5#/Sx Gilsonite, + .125#/Sx Celoflakes + 3% CaCl, Yield 1.95. Tail in with 200 Sx. of Class "C" cement + 2% CaCl, + .125#/Sx Polyflakes, Yield 1.33, circulate cement to surface.

*89 1/8" see SN*  
9 5/8" Intermediate Set 3425" or ~~3~~ 5/8" 36# J-55 ST&C casing. Cement with 839 Sx. of 35/65 Class "C" POZ + 5% Salt, + 6% Bentonite, + 4#/Sx. Gilsonite, .125#/Sx of polyflakes. Yield 2.04. Tail in with 200 Sx. of Class "C" cement + 1% CaCl, Yield 1.33. Circulate cement to surface.

5 1/2" Production Set 8425' of 5 1/2" 17# J-55 LT&C casing. Cement with 320 Sx. of Cement Plus BLEND/LITEFIL, + 3% bwob Tic dispersant, + 1% bwob antisetling agent. +.4% bwob retrrder, + .125#/Sx polyflakes, + .2% bwob antifoamer Yield 2.32. Tail in with 200 Sx of 40/60 Cem PLUSBLEND/LITEFIL(24#/CF, + .3% bwob tic dispersant, + 1% bwob antisetling agent, + .2% bwob antifoamer, + .4% midtemp retarder + .125#/Sx Poly flakes. Yield 2.0. Estimate top of cement 3225' from surface.

*2925'*

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E" shows a 900 Series 3000 PSI working pressure B.O.P. consisting of an annular bag type preventor, middle blind rams, and bottom pipe rams. The B.O.P. will be nipped up on the ~~8 5/8"~~ casing and tested to API specifications. The B.O.P. will be operated at least once in each 24 hour period and the blind rams will be operated when the drill pipe is out of the hole on trips. Full opening stabbing valve and upper kelly cock will be utilized. Exhibit "E-1" shows a hydraulically operated closing unit and a 3" 5000 PSI working pressure choke manifold with dual adjustable chokes. No abnormal pressure or temperatures are expected while drilling this well.

*13 3/8"*

## APPLICATION TO DRILL

RKI EXPLORATION &amp; PRODUCTION, LLC.

RDX "10" # 2

UNIT "N"  
T26S-R30ESECTION 10  
EDDY CO. NM11. PROPOSED MUD CRICULATING SYSTEM:

DEPTH	MUD WT.	VISC.	FLUID LOSS	TYPE SYSTEM
40-875	8.4-8.6	29-34	NC	Fresh water spud mud add paper as needed to control seepage, use Lime for pH control
875-3425'	10.0-10.2	29-38	NC	Brine water use paper to control seepage, and high viscosity sweeps to clean hole.
3425-7450'	9.0-9.3	30-38	NC	Fresh water/cut brine use high viscosity sweeps to clean hole. Maintain pH @ 10 with caustic soda.
7450-8425'	9.0-9.5	30-34	15 cc or less	Same as above maintain pH with caustic soda, use high viscosity sweeps to clean hole. Control water loss with white starch/impermix.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run logs, casing, and DST's the water loss and viscosity may have to be adjusted in order to meet these needs.

APPLICATION TO DRILL

RKI EXPLORATION & PRODUCTION, LLC.

RDX "10" # 2

UNIT "N"  
T26S-R30E

SECTION 10  
EDDY CO. NM

12. LOGGING, CORING, AND TESTING PROGRAM:

- A. Open hole logs: Dual Laterolog, SNP DENSITY, LDT MSFL, GAMMA RAY, and CALIPER from TD back to 9 5/8" casing shoe.
- B. Cased hole logs: Gamma Ray, Neutron from 9 5/8" casing shoe back to surface.
- C. Mud logger rig up on hole at 3425'± and remain on hole to TD.
- D. No cores or DST's are planned at this time.

13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected. There is no known presence of H<sup>2</sup>S in this area. If H<sup>2</sup>S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 4200± PSI, and Estimated BHT 160°.

14. ANTICIPATED STARTING DATE AND DURATION OF OPERATION:

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operation and drilling is expected to take 28 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flowlines in order to place well on production.

15. OTHER FACETS OF OPERATIONS:

After running casing, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The Brushy Canyon formation will be perforated and stimulated in order to establish production. The well will be swab tested and potentialized as an oil well.

# Permian Drilling Rig # 1 Plat for Closed Loop Sys

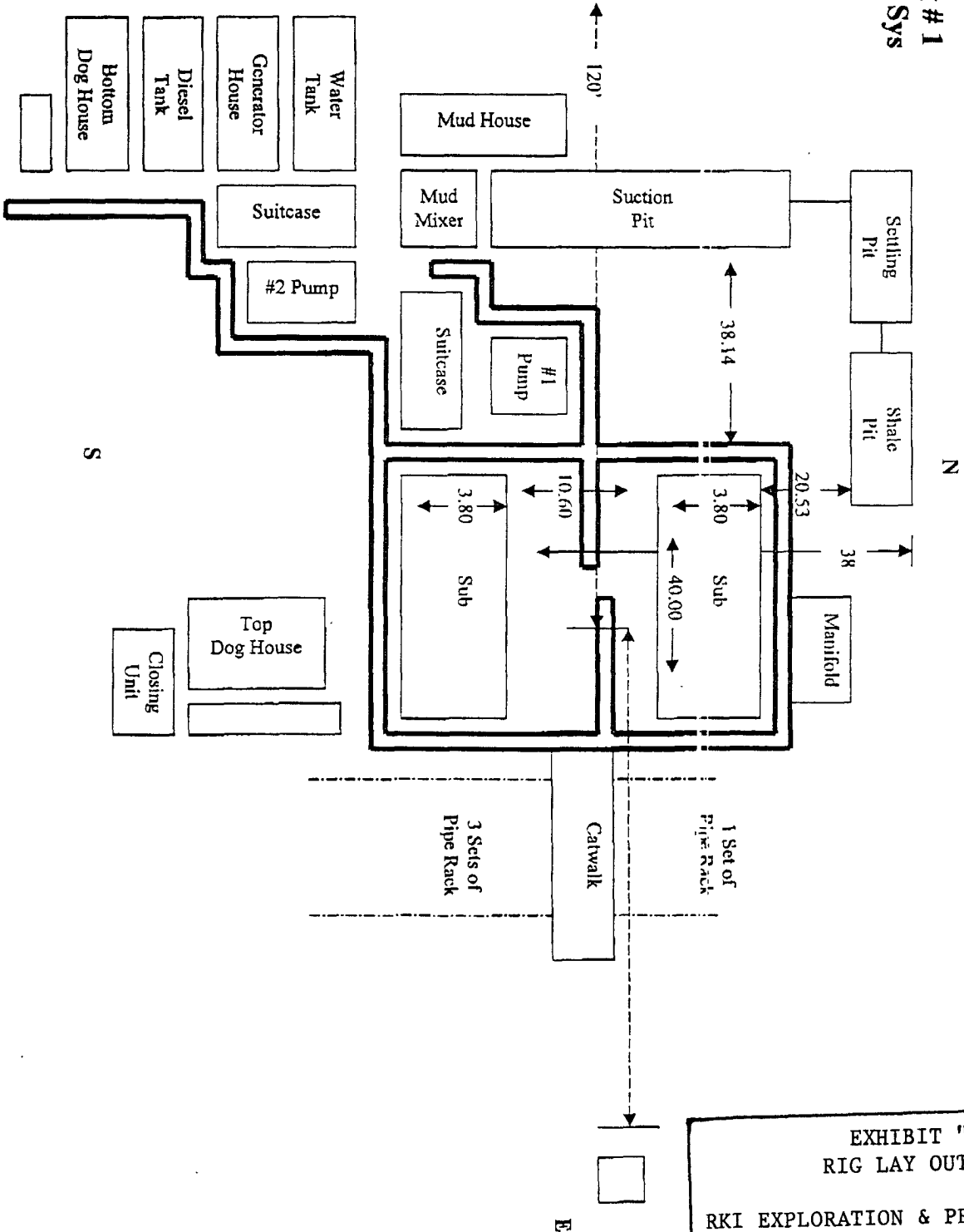
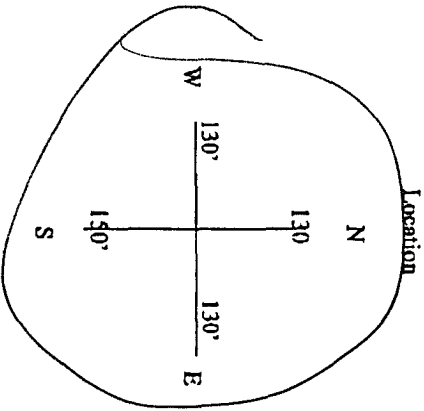
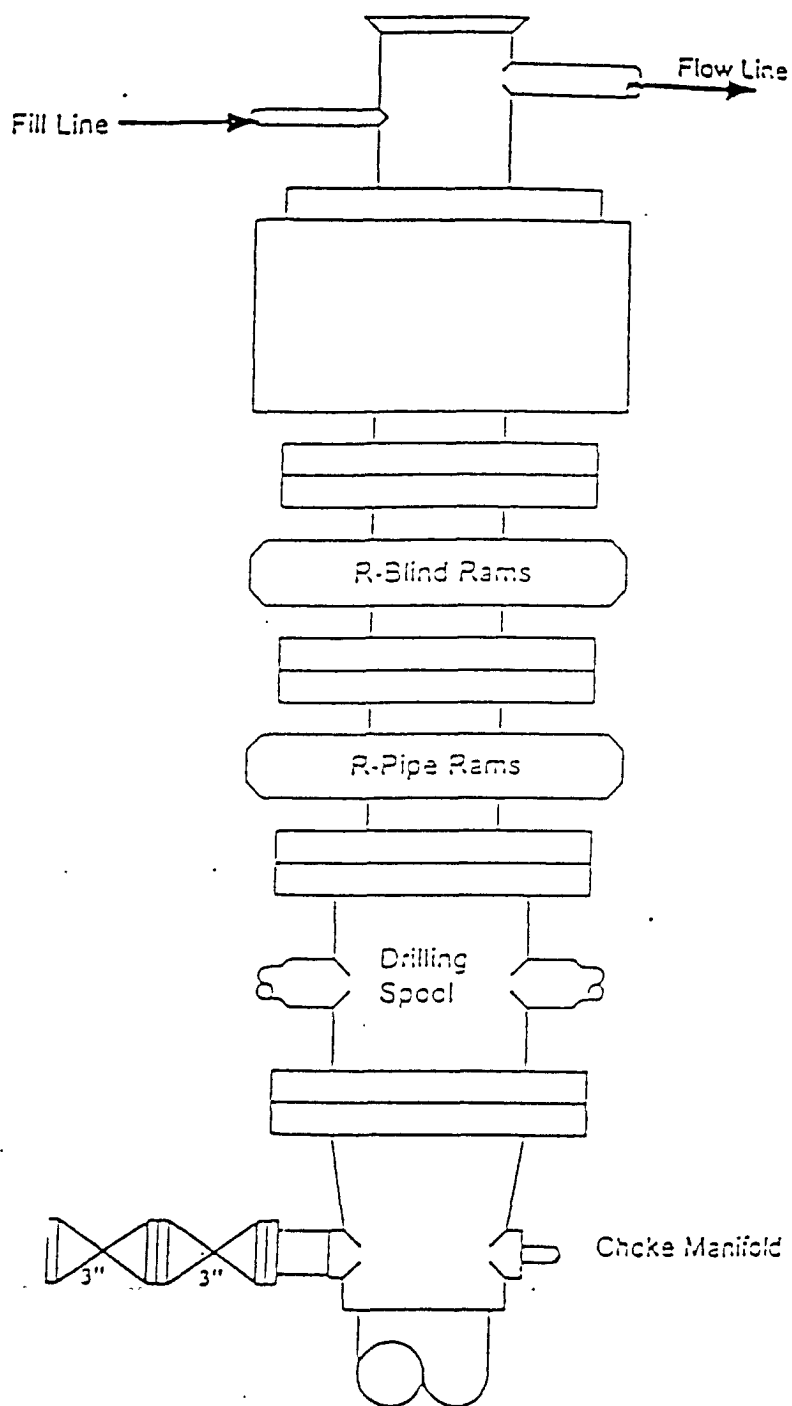


EXHIBIT "D"  
RIG LAY OUT PLAT  
RKI EXPLORATION & PRODUCTION, LLC.  
RDX "10" # 2  
UNIT "N"  
T26S-R30E  
SECTION 10  
EDDY CO. NM



Type 900 Series  
3000 psi WP

EXHIBIT "E"  
SKETCH OF B.O.P. TO BE USED ON  
RKI EXPLORATION & PRODUCTION, LLC.  
RDX "10" # 2  
UNIT "N" SECTION 10  
T26S-R30E EDDY CO. NM

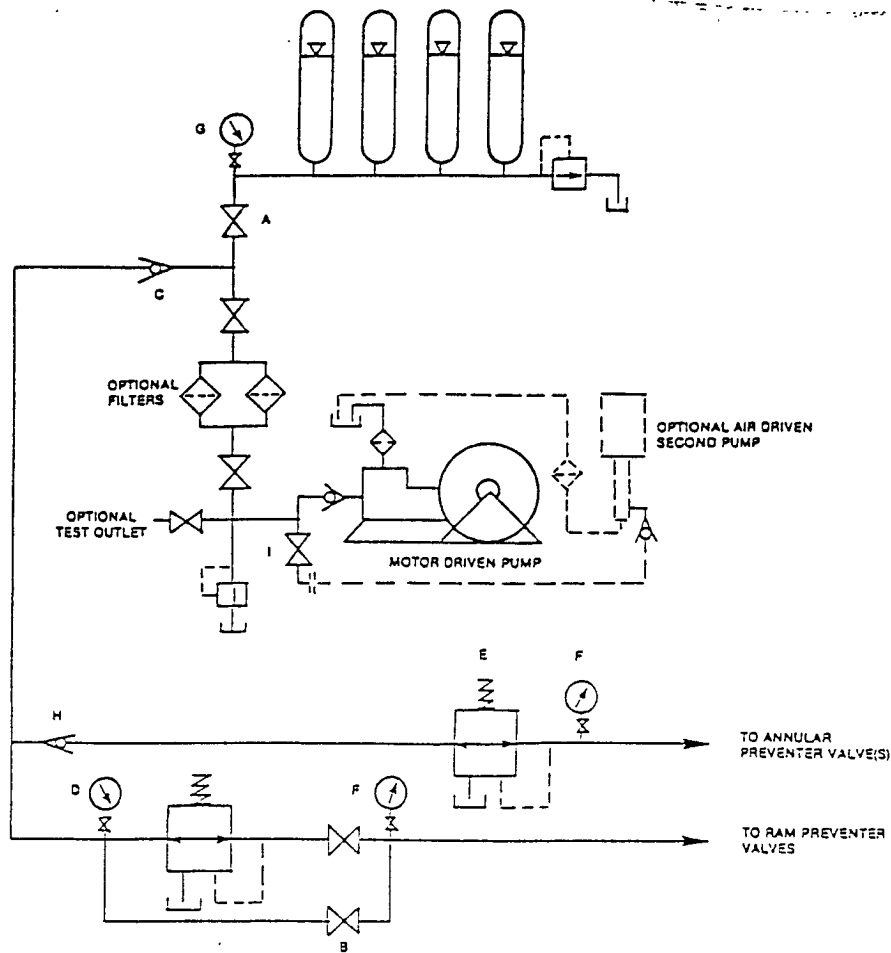


FIGURE K6-1. The schematic sketch of an accumulator system shows required and optional components.

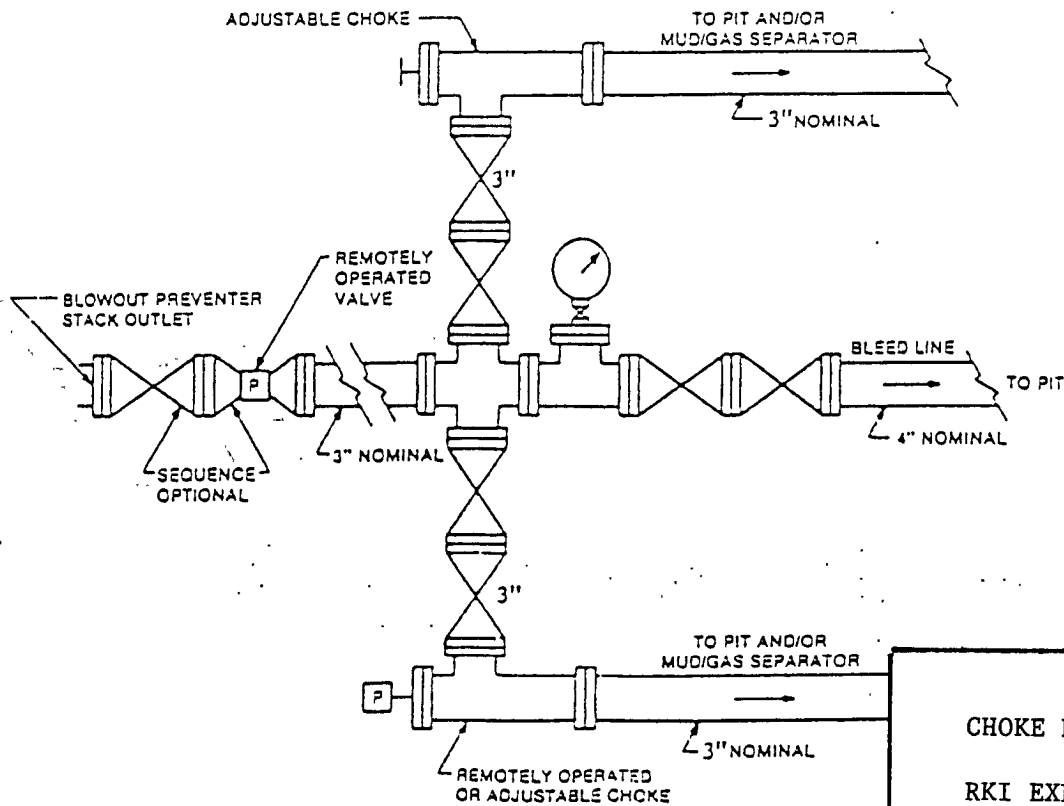


FIGURE K4-2. Typical choke manifold assembly for 5M rated working pressure service — surface installation.

EXHIBIT "E-1"  
CHOKE MANIFOLD & CLOSING UNIT

RKI EXPLORATION & PRODUCTION, LLC.  
RDX "10" # 2

UNIT "N"  
T26S-R30E

SECTION 10  
EDDY CO. NM

**RKI Exploration & Production**  
**Hydrogen Sulfide Contingency Plan**  
**For Drilling/Workover/Facility**

This well and its anticipated facility are not expected to have Hydrogen Sulfide releases. However, there may be Hydrogen Sulfide production in the nearby area. There are no private Residences in the area but a contingency plan has been orchestrated. RKI Exploration and Production will have a Company Representative available to rig personnel through out drilling or production operations. If hydrogen sulfide is detected or suspected, monitoring equipment will be acquired for monitoring and/or testing.



**RKI Exploration & Production**  
**Hydrogen Sulfide Contingency Plan**  
**For Drilling/Workover/Facility**

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**RKI Exploration & Production**  
**Hydrogen Sulfide Contingency Plan**  
**For Drilling/Workover/Facility**

**General H2S Emergency Actions:**

1. All personnel will immediately evacuate to an up-wind and if possible up-hill "safe area".
2. If for any reason a person must enter the hazardous area, they must wear a SCBA (Self Contained Breathing Apparatus).
3. Always use the "buddy system"
4. Isolate the well/problem if possible
5. Account for all personnel
6. Display the proper colors warning all unsuspecting personnel of the danger at hand.
7. Contact the Company personnel as soon as possible if not at the location (use the enclosed call list as instructed)

At this point the company representative will evaluate the situation and coordinate the necessary duties to bring the situation under control, and if necessary, the notification of the emergency response agencies and nearby residents.

**EMERGENCY PROCEDURES FOR AN UNCONTROLLABLE RELEASE OF H2S**

1. All personnel will don the self contained breathing apparatus
2. Remove all personnel to the "safe area" (always use the buddy system)
3. Contact company personnel if not on location]
4. Set in motion the steps to protect and or remove the general public to and upwind "safe area" Maintain strict security & safety procedures while dealing with the source.
5. No entry to any unauthorized personnel
6. Notify the appropriate agencies:   City Police – City Street(s)  
  State Police – State Rd.  
  County Sheriff – County Rd.
7. Call the NMOCD

## **RKI Exploration & Production LLC**

### **Hydrogen Sulfide Contingency Plan For Drilling/Workover/Facility**

If at this time the supervising person determines the release of H<sub>2</sub>S cannot be contained to the site location and the general public is in harms way he will take the necessary steps to protect the workers and the public.

EMERGENCY CALL LIST: (Start and continue until ONE of these people has been contacted)

	OFFICE	MOBILE	HOME
RKI E&P	1-800-667-6958		
Gene Simer	505-885-1313	505-706-3225	505-885-6302
Pat McCollom	405-996-5748	405-833-0332	405-277-3699
Tim Haddican	405-949-2329	405-823-2872	405-348-5515

#### EMERGENCY RESPONSE NUMBERS:

State Police	Eddy County		505-748-9718
State Police	Lea County		505-392-5588
Sheriff	Eddy County		505-746-2701
Sheriff	Lea County		
Emergency Medical Service (Ambulance)	Eddy County		911 or 505-746-2701
	Lea County	Eunice	911 or 505-394-3258
Emergency Response	Eddy County SERC		505-476-9620
	Lea County		
Artesia Police Dept			505-746-5001
Artesia Fire Dept			505-746-5001
Carlsbad Police Dept			505-885-2111
Carlsbad Fire Dept			505-885-3125

**EMERGENCY CALL LIST (CONT.)**

Loco Hills Police Dept		505-677-2349
Jal Police Dept		505-395-2501
Jal Fire Dept		505-395-2221
Jal Ambulance		505-395-2221
Eunice Police Dept		505-394-0112
Eunice Fire Dept		505-394-3258
Eunice Ambulance		505-394-3258
Hobbs Police Dept		505-397-3365
Hobbs Fire Dept		505-397-9308
NMOCD	District 1 (Lea, Roosevelt, Curry)	505-393-6161
	District 2 (Eddy, Chavez)	505-748-1283
Lea County Information		505-393-8203
Callaway Safety	Eddy/Lea Counties	505-392-2973
BJ Services	Artesia	505-746-3140
	Hobbs	505-392-5556
Halliburton	Artesia	1-800-523-2482
	Hobbs	1-800-523-2482
Wild Well Control	Midland	432-550-6202
	Mobile	432-553-1166

**RKI Exploration & Production**  
**Hydrogen Sulfide Contingency Plan**  
**For Drilling/Workover/Facility**

**PROTECTION OF THE GENERAL PUBLIC (ROE)**

- 100 ppm at any public area (any place not associated with this site)
- 500 ppm at any public road (any road with the general public may travel)
- 100 ppm radius of ¼ mile in New Mexico will be assumed if there is insufficient data to do the calculations, and there is a reasonable expectation that H2S could be present in concentrations greater than 100 ppm in the gas mixture

**CALCULATIONS FOR THE 100 PPM (ROE) "PASQUILL-GIFFORD EQUATION"**

$X = [(1.589) (\text{mole fraction}) (Q\text{-volume in std cu ft}) \text{ to the power of } (0.6258)]$

**CALCULATION FOR THE 500 PPM ROE:**

$X = [(0.4546) (\text{mole fraction}) (Q - \text{volume in std cu ft}) \text{ to the power of } (0.6258)]$

**Example:**

If a well/facility has been determined to have 150 / 500 ppm H2S in the gas mixture and the well/facility is producing at a gas rate of 100 MCFPD then:

150 ppm  $X = [(1.589) (.00015) (100,000 \text{ cfd}) \text{ to the power of } (.6258)]$   
 $X = 7 \text{ ft.}$

500 ppm  $X = [(0.4546) (.0005) (100,000 \text{ cfd}) \text{ to the power of } (.6258)]$   
 $X = 3.3 \text{ ft.}$

**(These calculations will be forwarded to the appropriate District NMOCD office when Applicable)**

**PUBLIC EVACUATION PLAN:**

- Notification of the emergency response agencies of the hazardous condition and implement evacuation procedures.
- A trained person in H2S safety shall monitor with detection equipment the H2S concentration, wind and area exposure (ROE). This person will determine the outer perimeter of the hazardous area. The extent of the evacuation area will be determined from the data being collected. Monitoring shall continue until the situation has been resolved. (All monitoring equipment shall be UL approved, for use in class 1 groups A, B, C & D, Division 1, hazardous locations. All monitor will have a minimum capability of measuring H2S, oxygen and flammable values.)

**RKI Exploration & Production**  
**Hydrogen Sulfide Contingency Plan**  
**For Drilling/Workover/Facility**

- Law enforcement shall be notified to set up necessary barriers and maintain such for the duration of the situation as well as aid in the evacuation procedure.
- The company supervising personnel shall stay in communication with all agencies through out the duration of the situation and inform such agencies when the situation has been contained and the effected area(s) is safe to enter.

**PROCEDURE FOR IGNITING AN UNCONTROLABLE CONDITION:**

1. Human life and/or property are in danger.
2. There is no hope of bringing the situation under control with the prevailing conditions at the site.

**INSTRUCTION FOR IGNITION:**

1. Two people are required. They must be equipped with positive pressure, self contained breathing apparatus and a "D" ring style full body, OSHA approved safety harness. Non flammable rope will be attached.
2. One of the people will be qualified safety person who will test the atmosphere for H<sub>2</sub>S, oxygen and LFL. The other person will be the company supervisor; he is responsible for igniting the well.
3. Ignite up wind from a distance no closer than necessary. Make sure that where you ignite from has the maximum escape avenue available. A 25 mm flare gun shall be used, with a  $\pm$  500 ft. range to ignite the gas.
4. Prior to ignition, make a final check with combustible gases.
5. Following ignition, continue with the emergency actions & procedures as before.

**RKI Exploration & Production**  
**Hydrogen Sulfide Contingency Plan**  
**For Drilling/Workover/Facility**

**REQUIRED EMERGENCY EQUIPMENT:**

1. **Breathing apparatus:**
  - Rescue packs (SCBA) – 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
  - Work/Escapes packs – 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity
  - Emergency Escape Packs – 4 packs shall be stored in the doghouse for emergency evacuation.
2. **Signage & Flagging:**
  - One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
  - A colored conditioned flag will be on display, reflecting the condition at the site at the time.
3. **Briefing Area:**
  - Two perpendicular areas will be designated by signs and readily accessible.
4. **Wind Socks:**
  - Two windsocks will be placed in strategic locations, visible from all angles.
5. **H<sub>2</sub>S Detectors & Alarms:**
  - The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible at 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: (Gas sample tubes will be stored in the safety trailer)
    - Rig Floor
    - Bell Nipple
    - End of flow line or where well bore fluid are being discharged.
6. **Auxiliary Rescue Equipment:**
  - Stretcher
  - Two OSHA full body harness
  - 100 ft. 5/8 inch OSHA approved rope.
  - 1 – 20# class ABC fire extinguisher
  - Communication via cell phones on location and vehicles on location.

**RKI Exploration & Production**  
**Hydrogen Sulfide Contingency Plan**  
**For Drilling/Workover/Facility**

**USING SELF CONTAINED BREATHING AIR EQUIPMENT (SCBA):**

- (SCBA) SHOULD BE WORN WHEN ANY OF THE FOLLOWING ARE PERFORMED:
  - Working near the top or on the top of a tank
  - Disconnecting any line where H<sub>2</sub>S can reasonably be expected
  - Sampling air in the area to determine if toxic concentration of H<sub>2</sub>S can exist.
  - Working in areas where over 10 ppm on H<sub>2</sub>S has been detected.
  - At any time there is a doubt as the level of H<sub>2</sub>S in the area.
- All personnel shall be trained in the use of SCBA prior to working in a potentially hazardous location.
- Facial hair and standard eyeglasses are not allowed with SCBA.
- Contact lenses are never allowed with SCBA.
- Air quality shall be continuously checked during the entire operation.
- After each use, the SCBA unit shall be cleaned, disinfected, serviced and inspected.
- All SCBA shall be inspected monthly.

**RESCUE AND FIRST AID FOR VICTIMS OF HYDROGEN SULFIDE (H<sub>2</sub>S) POISONING:**

- Do not panic
- Remain calm and think
- Get on the breathing apparatus



**RKI Exploration & Production**  
**Hydrogen Sulfide Contingency Plan**  
**For Drilling/Workover/Facility**

- Remove the victim to the safe breathing area as quickly as possible. Up wind and uphill from source or cross wind to achieve upwind.
- Notify emergency response personnel.
- Provide artificial respiration and or CPR, as necessary.
- Remove all contaminated clothing to avoid further exposure.
- A minimum of two personnel on location shall be trained in CPR and First Aid.

## RKI Exploration & Production

### Hydrogen Sulfide Contingency Plan For Drilling/Workover/Facility

H<sub>2</sub>S is extremely toxic. The acceptable ceiling for eight hours of exposure is 10 ppm, which is .001% by volume. H<sub>2</sub>S is approximately 20% heavier than air (Sp. Gr = 1.19) (Air = 1) and colorless. It forms an explosive mixture with air between 4.3% and 46%. By volume hydrogen sulfide is almost as toxic as hydrogen cyanide and is 5-6 times more toxic than carbon monoxide.

COMMON NAME	CHEMICAL ABBREV.	SPECIFIC GRVTY.	THRESHOLD LIMITS	HAZARDOUS LIMITS	LETHAL CONCENTRATIONS
Hydrogen Sulfide	H <sub>2</sub> S	1.19	10 ppm 15 ppm	100 ppm/hr	600ppm
Hydrogen Cyanide	HCN	0.94	10 ppm	150 ppm/hr	300 ppm
Sulfur Dioxide	SO <sub>2</sub>	2.21	2 ppm	N/A	1000 ppm
Chlorine	CL <sub>2</sub>	2.45	1 ppm	4 ppm/hr	1000 ppm
Carbon Monoxide	CO	0.97	50 ppm	400 ppm/hr	1000 ppm
Carbon Dioxide	CO <sub>2</sub>	1.52	5000 ppm	5%	10%
Methane	CH <sub>4</sub>	0.55	90,000	Combustible @ 5%	N/A

**Threshold Limit:** Concentrations at which it is believed that all workers may be repeatedly exposed, day after day without adverse effects.

**Hazardous Limit:** Concentrations that may cause death.

**Concentrations:** Concentrations that will cause death with short term exposure.

**Threshold Limit:** NIOSH guide to chemical hazards  
(10 ppm)

#### PHYSICAL EFFECTS OF HYDROGEN SULFIDE:

CONCENTRATION	PHYSICAL EFFECTS
.001% 10 ppm	Obvious and unpleasant odor. Safe for 8 hr. exposure
.005% 50 ppm	Can cause some flu like symptoms and can cause pneumonia.
.01% 100 ppm	Kills the sense of smell in 3-15 minutes. May irritate the eyes and throat.
.02% 200 ppm	Kills the sense of smell rapidly. Severely irritates the eyes and throat. Severe flu-like symptoms after 4 or more hours. May cause lung damage and or death.
.06% 600 ppm	Loss of consciousness quickly, death will result if not rescued promptly.

SURFACE USE PLAN

RKI EXPLORATION & PRODUCTION, LLC.

RDX "10" # 2

UNIT "N"  
T26S-R30E

SECTION 10  
EDDY CO. NM

1. EXISTING AND PROPOSED ROADS:

- A. Exhibit "B" is a reproduction of a County General Hi-way map showing existing roads. Exhibit "C" is a reproduction of a USGS topographic map showing existing roads and and proposed roads. All existing roads will be maintained in a condition equal to or better than current conditions. All new roads will be constructed to BLM specifications.
- B. Exhibit "A" shows the proposed well site as staked.
- C. Directions to location: From LOving New Mexico take U. S. Hi-way 285 South for 17.1± miles to CR-725, turn Left (East) go 4.2 miles take pipeline road East for an additional 6.5 miles. Turn Right (South) go 1 mile, turn Left (East) go 1.4- miles to location on the North side of road.
- D. Exhibit "C" shows roads and the proposed route of flowlines.

2. PLANNED ACCESS ROADS: Approximately 250' of access road will be constructed.

- A. The access roads will be crowned and sitched to a 14' wide travel surface, within a 30' R-O-W.
- B. Gradient of all roads will be less than 5%.
- C. Turn-outs will be constructed where necessary.
- D. If require new access roads will be surface with a minimum of 4-6" of caliche. this material will be obtained from a local source.
- E. Center line for new roads will be flagged, road construction will be done as field conditions require.
- F. Culverts will be placed in the access road as drainage conditions require. Roads will be constructed to use low water crossings for drainage as required by the topographic conditions.

3. LOCATION OF EXISTING WELLS WITHIN A ONE MILE RADIUS: EXHIBIT "A-1"

- A. Water wells - None known
- B. Disposal wells - None known
- C. Drilling wells - None known
- D. Producing wells - As shown on Exhibit "A-1"
- E. Abandoned wells - As shown on Exhibit "A-1"

## SURFACE USE PLAN

RKI EXPLORATION & PRODUCTION, LLC.

RDX "10" # 2

UNIT "N"  
T26S-R30E

SECTION 10  
EDDY CO. NM

4. If on completion this well is a producer the operator will lay pipelines and construct powerlines along existing road R-O-W's or other existing R-O-W's. Exhibit "C" shows proposed roads , flowlines and powerlines.

### 5. LOCATION & TYPE OF WATER SUPPLY:

Water will be purchased locally from a commercial source and trucked over the location access roads or piped to location in flexible lines laid on top of the ground.

### 6. SOURCE OF CONSTRUCTION MATERIAL:

If possible construction material will be obtained from the excavation of the drill site, if additional material is required it will be obtained from a local source and transported over the location access roads as shown on Exhibit "C".

### 7. METHODS OF HANDLING WASTE:

- A. All trash, junk and other waste material will be contained in trash cages or trash bins in order to prevent scattering. When the job is completed all contents will be removed and disposed of in an approved sanitary land fill.
- B. Sewage from living quarters will be drained into holding tanks and will be cleaned out periodically. A Porta-John will be provided for the rig crews. This equipment will be properly maintained during the drilling operations and removed upon completion of well.
- C. Remaining drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry enough to be broken out for further drying. If the drilling fluids do not evaporate in a reasonable time they will be hauled off by transports to a State approved disposal site. Later the pits will be broken out to speed drying. Water produced during completion will be stored in tanks and disposed of in State approved disposal site. Oil and condensate produced during completion will be put in storage tanks and sold.
- D. Drill cuttings will be disposed of in reserve pits or if necessary will be taken to a State approved landfarm and disposed of properly.
- E. Any remaining salts or mud additives will be collected by the supplier and to stock, this includes all broken bags.

### 8. ANCILLARY FACILITIES:

- A. No camps or air strips will be constructed on location.

## SURFACE USE PLAN

RKI EXPLORATION & PRODUCTION, LLC.

RDX "10" # 2

UNIT "N"  
T26S-R30E

SECTION 10  
EDDY CO. NM

### 9. WELL SITE LAYOUT:

- A. Exhibit "D" shows the proposed well site layout.
- B. This Exhibit shows the location of reserve pit, sump pits, and living facilities.
- C. Mud pits in the active circulating system will be steel pits and the reserve pits will be unlined unless subsurface conditions encountered during pit construction indicate that a plastic liner is required to contain lateral migration.
- D. If needed the reserve pits will be lined with polyethelene. The pit liner will be no less than 12 mils thick and the liner will be extended at least 3 feet over the top of the dikes and secured in place to keep edge of liner in place.
- E. The reserve pit will be fenced on three sides and fenced with four strands of barbed wire during drilling and completion phases. The 4th side will be fenced after drilling operations are complete and the drilling rig has moved out. If the well is a producer the mud pits will remain fenced in until the mud has dried up enough to break out the pits and reclaimed according to BLM requirements.

### 10. PLANS FOR RESTORATION OF SURFACE:

Rehabilitation of the location and reserve pits will be allowed to dry properly, fluids may be moved and disposed of in accordance with article 7-E as previously noted. The pit area will then be leveled and contoured to conform to the original and surrounding area. Drainage systems, if any will be reshaped to the original configuration with provisions made to alleviate future erosion. In case of the well completed as a producer the drilling pad will be necessary to construct production facilities. After the area has been shaped and contoured top soil from the spoil pile will be placed over the disturbed area to the extent possible so that revegetation procedures can be accomplished to comply with the BLM specifications.

If the well is a dry hole the pad and road area will be contoured to match the existing terrain. Top soil will be spread to the extent possible and revegetation will be carried out according to the BLM specifications.

Should the well be a producer the previously noted procedures will apply to those areas which are not required for production facilities.

## SURFACE USE PLAN

RKI EXPLORATION &amp; PRODUCTION, LLC.

RDX "10" # 2

UNIT "N"

SECTION 10

T26S-R30E

EDDY CO. NM

11. OTHER INFORMATION:

- A. Topography consists of a broad ridgeline running East/West, drainage is into the Pecos River to the West. The soil consists of sandy loams, mixed with gravel. Vegetation consists of broom weed, prickly pear, mesquite, creosote, dominated by typical desert scrub.
  - B. The surface is owned by The U. S. Department of Interior and is administered By The Bureau of Land Management. The surface is used for the grazing of livestock and the production of Oil & Gas.
  - C. An Archaeological survey will be conducted or has been conducted and will be filed with The Bureau of Land Management at the Carlsbad Field office.
  - D. There are no dwellings located within 2 miles of location. Roads will be constructed as shown on Exhibits within this APD.
-

## CERTIFICATION

I HEREBY CERTIFY THAT I OR PERSONS UNDER MY DIRECT SUPERVISION HAVE INSPECTED THE PROPOSED DRILL SITE AND THE ACCESS ROAD ROUTES, THAT I AM FAMILIAR WITH THE CONDITIONS THAT CURRENTLY EXIST, AND THAT THE STATEMENTS MADE IN THIS PLAN ARE TO THE BEST OF MY KNOWLEDGE ARE TRUE AND CORRECT, AND THAT THE WORK ASSOCIATED WITH THE OPERATIONS PROPOSED HEREIN WILL BE PERFORMED BY RKI EXPLORATION & PRODUCTION, LLC. ITS CONTRACTORS AND/OR ITS SUB-CONTRACTORS AND IS IN CONFORMANCE WITH THIS PLAN AND THE TERMS AND THE CONDITIONS UNDER WHICH IT IS APPROVED. THIS STATEMENT IS SUBJECT TO THE PROVISIONS OF U.S.C. 1001 FOR FILING OF A FALSE REPORT.

### OPERATOR'S REPRESENTATIVES

#### BEFORE CONSTRUCTION

TIERRA EXPLORATION, INC  
HOBBS, NEW MEXICO 88241  
P. O. BOX 2188  
HOBBS, NEW MEXICO 88241  
JOE T. JANICA  
CELL 505-390-1598  
OFFICE PHONE 505-391-8503

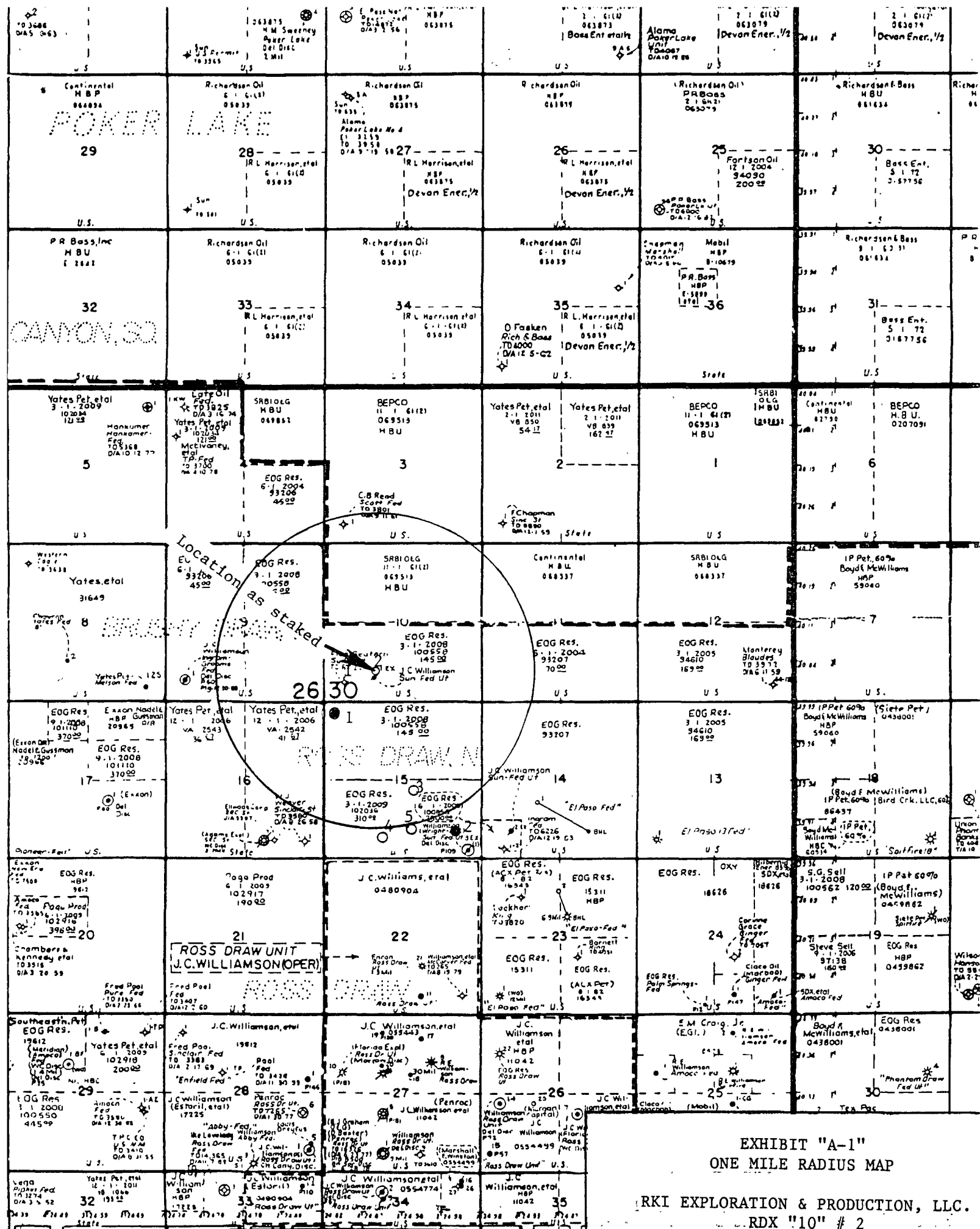
#### DURING & AFTER CONSTRUCTION

RKI EXPLORATION & PROD.  
P. O. BOX 370  
309 SOUTH HALAGUENO STREET  
CARLSBAD, NEW MEXICO 88221-0370  
GENE SIMER  
CELL 505-706-3225  
OFFICE 505-885-1313

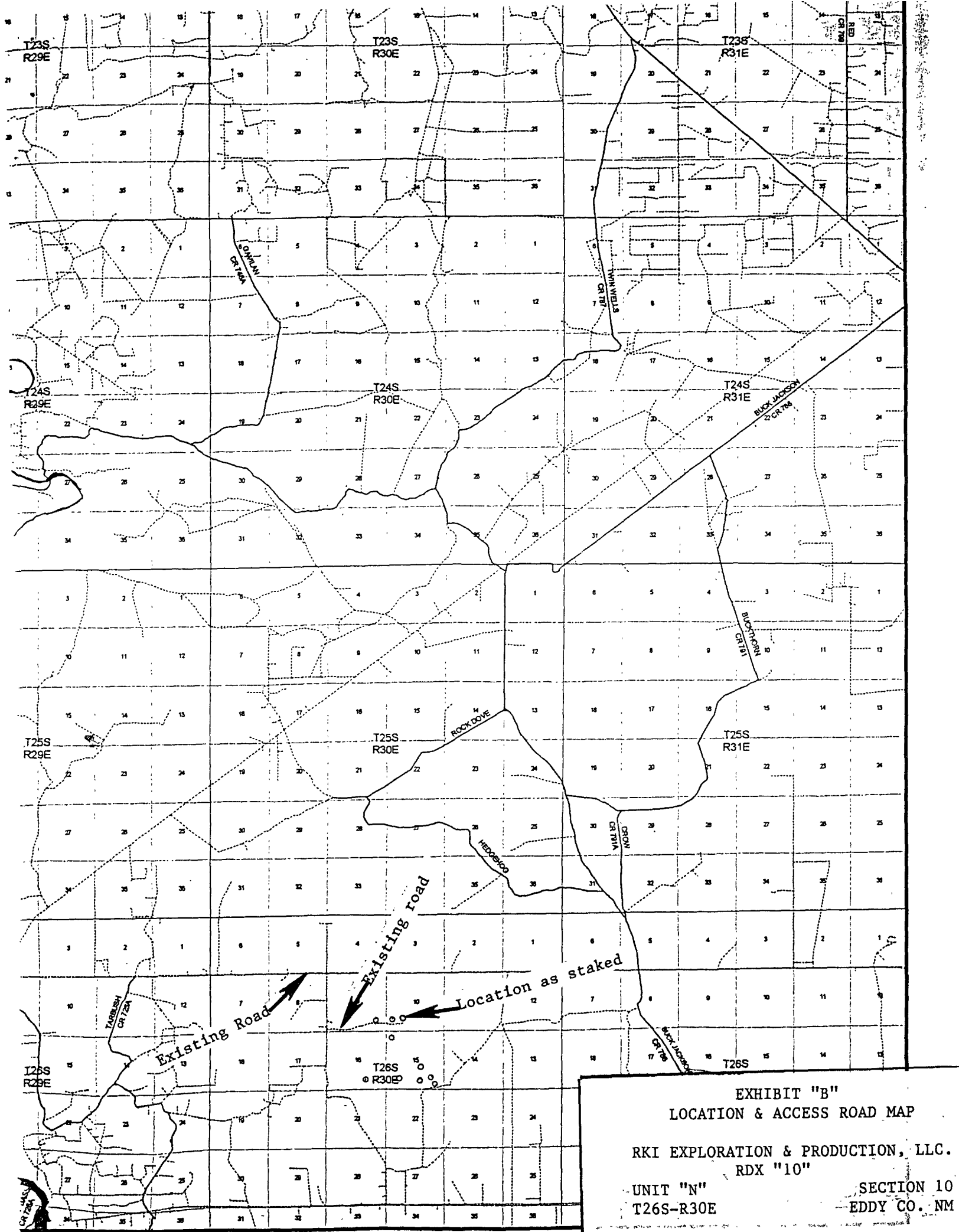
NAME: Joe T Janica

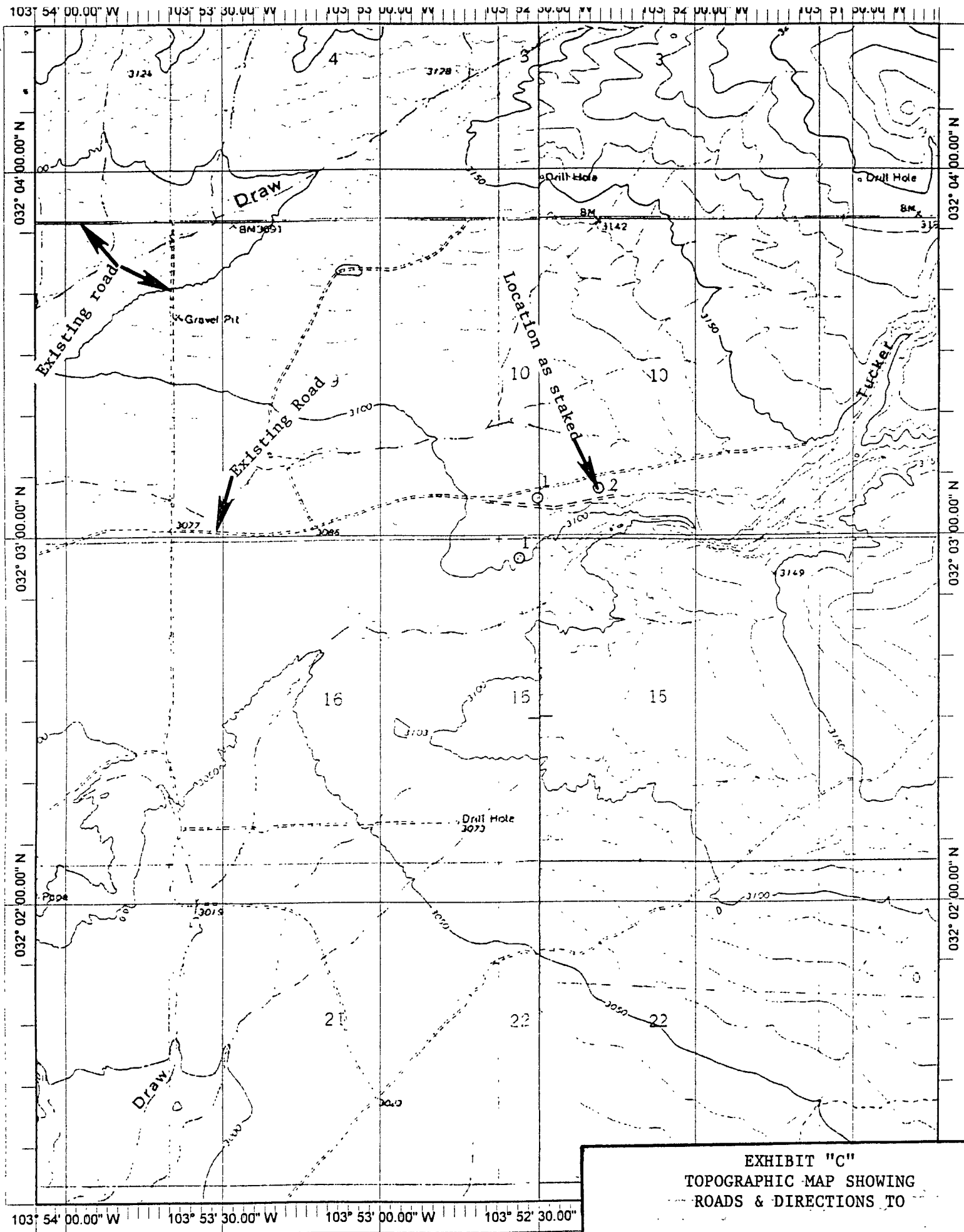
DATE: 05/14/08

TITLE Permit Engineer









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EXHIBIT "C"  
TOPOGRAPHIC MAP SHOWING  
ROADS & DIRECTIONS TO

RKI EXPLORATION & PRODUCTION, LLC.  
RDX "10" # 2

UNIT "N"  
T26S-R30E

SECTION 10  
EDDY CO., NM

## PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	RKI Exploration & Production, LLC.
LEASE NO.:	NM100558
WELL NAME & NO.:	RDX 10 No. 2
SURFACE HOLE FOOTAGE:	990' FSL & 1890' FWL
BOTTOM HOLE FOOTAGE:	Same
LOCATION:	Section 10, 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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## **I. GENERAL PROVISIONS**

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

## **II. PERMIT EXPIRATION**

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

## **III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES**

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

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## **IV. NOXIOUS WEEDS**

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

## V. SPECIAL REQUIREMENT(S)

Phantom Banks Heronries

Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

## **VI. CONSTRUCTION**

### **A. NOTIFICATION**

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (505) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

### **B. TOPSOIL**

The operator shall stockpile the topsoil of the well pad. The topsoil to be stripped is approximately 6 inches in depth. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

### **C. RESERVE PITS**

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

### **D. FEDERAL MINERAL MATERIALS PIT**

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (505) 234-5972.

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### **E. WELL PAD SURFACING**

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

## F. ON LEASE ACCESS ROADS

### Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

### Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

### Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

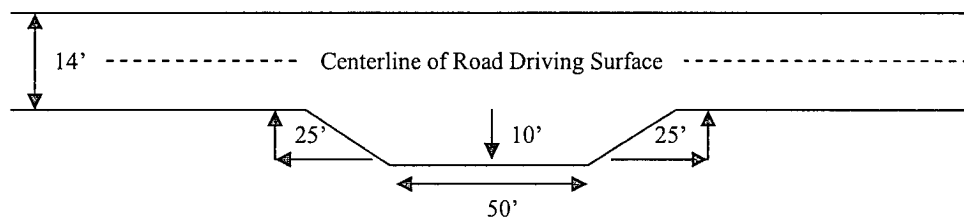
### Ditching

Ditching shall be required on both sides of the road.

### Turnouts

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

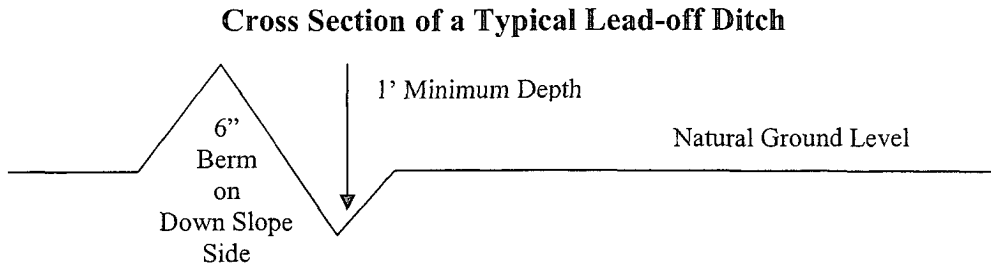
**Standard Turnout – Plan View**



### Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

#### **Formula for Spacing Interval of Lead-off Ditches**

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

#### **Culvert Installations**

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

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#### **Cattleguards**

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.



A gate shall be constructed and fastened securely to H-braces.

**Fence Requirement**

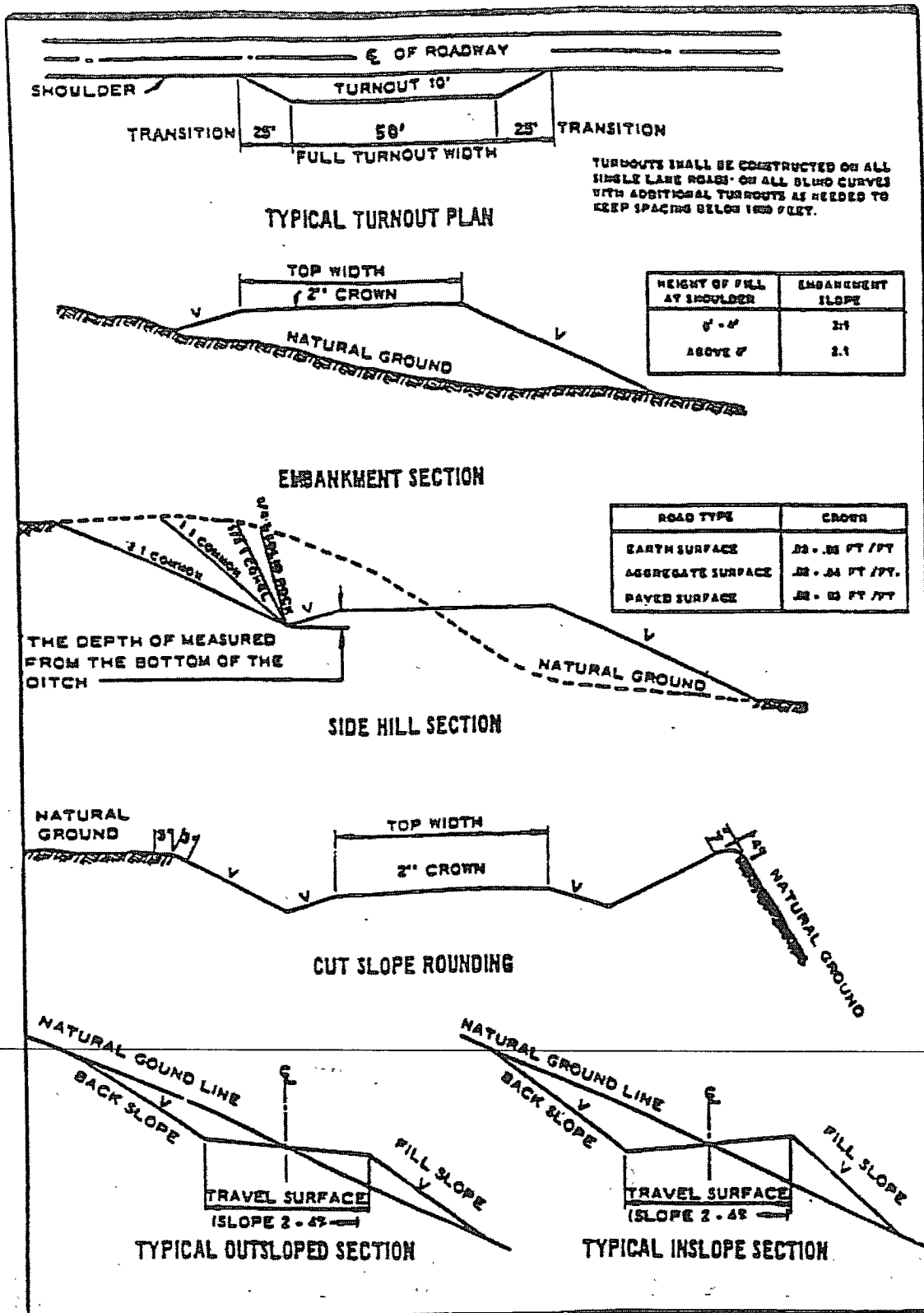
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

**Public Access**

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



## VII. DRILLING

### A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

**Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,  
(575) 361-2822**

1. **Although Hydrogen Sulfide has not been reported in this section, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

### B. CASING

**Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.**

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**Centralizers required on surface casing per Onshore Order 2.III.B.1.f.**

**Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string.**

**No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.**

Possible lost circulation in Redbeds & Evaporites down to the base of the Castile.  
Possible lost circulation in Delaware & Bone Spring (if penetrated).  
Medium potential of cave/karst structures.

1. The 13-3/8 inch surface casing shall be set at approximately 875 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
    - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
    - b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement).
    - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
    - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
  2. The minimum required fill of cement behind the 8-5/8 inch intermediate casing is:  
☒ Cement to surface. If cement does not circulate see B.1.a-d above.
  3. The minimum required fill of cement behind the 5-1/2 inch production casing is:  
☒ Cement should tie-back at least **200** feet into previous casing string. **Operator shall provide method of verification.**
  4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
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### **C. PRESSURE CONTROL**

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 13-3/8" surface casing shoe shall be 3000 (3M) psi.
3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. The tests shall be done by an independent service company.
  - b. The results of the test shall be reported to the appropriate BLM office.
  - c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
  - d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

### **D. DRILL STEM TEST**

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

**LB 7/21/08**

## **VIII. PRODUCTION (POST DRILLING)**

### **A. WELL STRUCTURES & FACILITIES**

#### **Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

#### **Containment Structures**

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

#### **Painting Requirement**

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color  
Shale Green, Munsell Soil Color Chart # 5Y 4/2

## **IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE**

### **A. INTERIM RECLAMATION**

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

The operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

## Seed Mixture 1, for Loamy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)\* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed\* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains lovegrass ( <i>Eragrostis intermedia</i> )	0.5
Sand dropseed ( <i>Sporobolus cryptandrus</i> )	1.0
Sideoats grama ( <i>Bouteloua curtipendula</i> )	5.0

\*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed  
(Insert Seed Mixture Here)



## **X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS**

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.