

Submit 1 Copy To Appropriate District Office
District I - (575) 393-6161
1625 N French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

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

Form C-103
Revised August 1, 2011

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-015-39958
1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐		5. Indicate Type of Lease STATE ☒ FEE ☐
2. Name of Operator RKI Exploration & Production, LLC		6. State Oil & Gas Lease No.
3. Address of Operator 210 Park Avenue, suite 900, Oklahoma City, OK 73102		7. Lease Name or Unit Agreement Name RDX 16
4. Well Location Unit Letter C : 330 feet from the North line and 1650 feet from the West line Section 16 Township 26S Range 30E NMPM County Eddy		8. Well Number 14
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3090 feet GL		9. OGRID Number 246289
		10. Pool name or Wildcat Undesignated Bone Spring WILDCAT; G-03 S263016K; B.S.

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☒
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

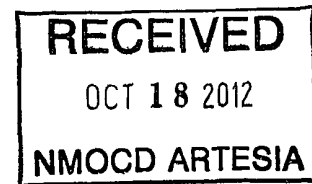
OTHER: ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

RKI is requesting to directionally drill the subject well with a new bottom hole location of 330 feet FSL and 2,245 feet FWL (please refer to the revised C-102 form as shown on the attached). Consequently, this well will need to be renamed as RDX 16-14H

Please also refer to the revised drilling program & directional plan/plot for additional details regarding the proposed changes.



Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Charles K. Ahn TITLE EH&S/Regulatory Manager DATE 10/18/2012

Type or print name Charles K. Ahn E-mail address: cahn@rkixp.com PHONE: 405-996-5771

For State Use Only

APPROVED BY: T. C. Shepard TITLE Geologist DATE 10/19/2012

Conditions of Approval (if any):

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-6720
DISTRICT II
611 S. First St., Artesia, NM 88210
Phone: (575) 718-1283 Fax: (575) 748-9720
DISTRICT III
1000 Rio Delos Rios Rd., Artesia, NM 88210
Phone: (505) 331-6178 Fax: (505) 331-6170
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 30-015-39958	Pool Code 97683	Property Name WILDCAT, G-03 Undesignated Bone Spring	Well Number 14H
Property Code 36900	Operator Name RKI EXPLORATION & PRODUCTION	Elevation 3090'	
GRID No. 246289			

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	16	26 S	30 E		330	NORTH	1,650	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
N	16	26 S	30 E		330	SOUTH	2,245	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidated Code	Order No
160			

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.

	SHL LOCATION NMSPC E (NAD-83) N = 381838.3' E = 678829.2' Lat. = N 32° 02' 56.31" Long. = W 103° 53' 22.42" NMSPC E (NAD-27) N = 381780.7' E = 637843.3' Lat. = N 32° 02' 55.87" Long. = W 103° 53' 20.69"	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 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>Charles K. Ahn</i> Date: 10/18/2012 Charles K. Ahn Print Name cahn@rkixp.com E-mail Address
	BHL LOCATION NMSPC E (NAD-83) N = 377185.3' E = 679433.0' Lat. N 32° 02' 10.25" Long. = W 103° 53' 15.62" NMSPC E (NAD-27) N = 377127.9' E = 638247.0' Lat. = N 32.0380542° Long. = W 103.8871951°	SURVEYORS 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. JANUARY 16, 2012 Date of Survey Signature and Seal of Professional Surveyor Job No.: 48631 JAMES E. TOMPKINS 14729 Certificate Number

RECEIVED
OCT 18 2012
NMOCD ARTESIA

RKI Exploration & Production, LLC

Well RDX 16-14H
 Location Surface: 330 FNL 1,650 FWL
 Bottom Hole: 330 FSL 2,245 FWL
 Section 16-26S-30E
 County Eddy
 State New Mexico

1) The elevation fo the unprepared ground is 3,090 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 13,214 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 13,214 feet

5) Estimated tops:

	MD	TVD	
Rustler	800		
Salado	1,100		
Castile	1,440		
Lamar Lime	3,467		
Base of Lime	3,492		
Delaware Top	3,517		
Bell Canyon Sand	3,517		
Cherry Canyon Sand	4,611		
Brushy Canyon Sand	5,678		
Bone Spring Lime	7,357		
Bone Spring Avalon Sand	7,490		
KOP	8,249		
1st Bone Spring Sand	8,276	8,275	
1st Bone Spring Shale	8,568	8,557	
TVD Landing Point	9,000	8,727	
TD	13,214	8,677	

BHP = .44 psi/ft x depth

Oil 1,547 psi
 Oil 2,029 psi
 Oil 2,498 psi
 Oil 3,296 psi
 Oil 3,960 psi

6) 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	13 3/8"	54.5#/J-55	ST&C		2.70	13.06
12 1/2"	0	3,300	9 5/8"	40#/J-55	LT&C		1.39	5.44
8 3/4"	0	13,214	5 1/2"	17#/HCP-110	LT&C		1.48	1.55
Collapse	1.125							
Burst	1.0							
Tension	2.0							

7) Cement program:

Surface	17 1/2"	hole
Pipe OD	13 3/8"	
Setting Depth	950	ft
Annular Volume	0.69462	cf/ft
Excess	0.5	
Total Annular Volume	590	cf
With Excess	886	cf
Lead	506	sx
Tail	200	sx
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"	
Setting Depth	3,300	ft
Annular Volume	0.31318	cf/ft
Excess	0.5	
Total Annular Volume	1081	cf
With Excess	1621	cf

Lead	654 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	

Prodcution	8 3/4"	hole
Pipe OD	5 1/2"	
Setting Depth	13,214	ft
Annular Volume	0.2526 cf/ft	0.26074 cf/ft 300 ft
Excess	0.25	25 %
Total Annular Volume	2,582	cf
With Excess	3,228	cf
DV Tool Depth	5000	ft

Stage 1			
Lead:	1,387 sx	1.87	cf/sk 13.0 ppg
Lead: PVL + 30% PF151 + 5% PF174 + .7% PF606 + .5% PF13 + .2% PF153			
Top of cement:		DV tool	
Stage 2			
Lead:	246 sx	2.04	cf/sk 12.6 ppg
Tail:	100 sx	1.33	cf/sk 14.8 ppg
Lead: 35/65 Poz "C" + 5% PF44 + 6% PF20 + .2% PF13 + .125 pps PF29 + .25 pps PF46			
Tail: "C" + .3% PF13			
Top of cement:		3,000 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" 5M 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

each casing 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.

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 vavle 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:

Top	Bottom	Mud Wt.	Vis	PV	YP	Fluid Loss	Type System
0	950	8.5 to 8.9	32 to 36	1 - 6	1 - 6	NC	Fresh Water
950	3,300	9.8 to 10.0	28 to 30	1 - 3	1 - 3	NC	Brine
3,300	13,214	8.9 to 9.1	28 to 36	1 - 3	1 - 3	NC	Fresh Water

10) Logging, coring, and testing program:

No drillstem test are planned

KOP to intermediate: CNL, Caliper, GR, DLL,

Intermediate to surface: CNL, GR

No coring is planned

11) Potential harzards:

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

Lost circulation can occur in, lost circulation will be on location and readily available if needed.

12) Anticipated start date ASAP
Duration 25 days

RKI Exploration & Production

Eddy County (NM83E)

Sec 16-T26S-R30E

RDX 16-14H

Wellbore #1

Plan: Prelim Plan

Standard Planning Report

16 October, 2012

Wolverine Directional, LLC

Planning Report

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well RDX 16-14H
Company:	RKI Exploration & Production	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Project:	Eddy County (NM83E)	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 16-T26S-R30E	North Reference:	True
Well:	RDX 16-14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Prelim Plan		

Project	Eddy County (NM83E)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 16-T26S-R30E		
Site Position:		Northing:	381,848.41ft
From:	Map	Easting:	680,403.16ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	32° 2' 56.352 N
		Longitude:	103° 53' 4.129 W
		Grid Convergence:	0.24 °

Well	RDX 16-14H		
Well Position	+N/-S	-3.6 ft	Northing:
	+E/-W	-1,574.0 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	32° 2' 56.316 N
		Longitude:	103° 53' 22.418 W
		Ground Level:	0.0ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2012/10/16	7.56	59.94	48,367

Design	Prelim Plan			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	172.84

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
8,249.5	0.00	0.00	8,249.5	0.0	0.0	0.00	0.00	0.00	0.00	
9,005.2	90.68	172.84	8,727.0	-479.4	60.2	12.00	12.00	0.00	172.84	
13,214.4	90.68	172.84	8,677.0	-4,655.5	584.7	0.00	0.00	0.00	0.00	RDX 16-14H PBHL

Wolverine Directional, LLC

Planning Report

Database: EDM 2003.21 Single User Db
Company: RKI Exploration & Production
Project: Eddy County (NM83E)
Site: Sec 16-T26S-R30E
Well: RDX 16-14H
Wellbore: Wellbore #1
Design: Prelim Plan

Local Co-ordinate Reference: Well RDX 16-14H
TVD Reference: WELL @ 0.0ft (Original Well Elev)
MD Reference: WELL @ 0.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

Wolverine Directional, LLC

Planning Report

Database: EDM 2003.21 Single User Db
 Company: RKL Exploration & Production
 Project: Eddy County (NM83E)
 Site: Sec 16-T26S-R30E
 Well: RDX 16-14H
 Wellbore: Wellbore #1
 Design: Prelim Plan

Local Co-ordinate Reference: Well RDX 16-14H
 TVD Reference: WELL @ 0.0ft (Original Well Elev)
 MD Reference: WELL @ 0.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00
8,249.5	0.00	0.00	8,249.5	0.0	0.0	0.0	0.00	0.00	0.00
KOP - 12/100									
8,275.0	3.06	172.84	8,275.0	-0.7	0.1	0.7	11.99	11.99	0.00
8,300.0	6.06	172.84	8,299.9	-2.6	0.3	2.7	12.00	12.00	0.00
8,325.0	9.06	172.84	8,324.7	-5.9	0.7	6.0	12.00	12.00	0.00
8,350.0	12.06	172.84	8,349.3	-10.5	1.3	10.5	12.00	12.00	0.00
8,375.0	15.06	172.84	8,373.6	-16.3	2.0	16.4	12.00	12.00	0.00
8,400.0	18.06	172.84	8,397.5	-23.3	2.9	23.5	12.00	12.00	0.00
8,425.0	21.06	172.84	8,421.1	-31.6	4.0	31.9	12.00	12.00	0.00
8,450.0	24.06	172.84	8,444.2	-41.2	5.2	41.5	12.00	12.00	0.00
8,475.0	27.06	172.84	8,466.7	-51.9	6.5	52.3	12.00	12.00	0.00
8,500.0	30.06	172.84	8,488.7	-63.7	8.0	64.2	12.00	12.00	0.00
8,525.0	33.06	172.84	8,510.0	-76.7	9.6	77.3	12.00	12.00	0.00
8,550.0	36.06	172.84	8,530.6	-90.8	11.4	91.5	12.00	12.00	0.00
8,575.0	39.06	172.84	8,550.4	-105.9	13.3	106.7	12.00	12.00	0.00
8,600.0	42.06	172.84	8,569.4	-122.0	15.3	123.0	12.00	12.00	0.00
8,625.0	45.06	172.84	8,587.5	-139.1	17.5	140.2	12.00	12.00	0.00
8,650.0	48.06	172.84	8,604.7	-157.1	19.7	158.3	12.00	12.00	0.00
8,675.0	51.06	172.84	8,620.9	-176.0	22.1	177.4	12.00	12.00	0.00
8,700.0	54.06	172.84	8,636.1	-195.7	24.6	197.2	12.00	12.00	0.00
8,725.0	57.06	172.84	8,650.2	-216.1	27.1	217.8	12.00	12.00	0.00
8,750.0	60.06	172.84	8,663.3	-237.3	29.8	239.1	12.00	12.00	0.00
8,775.0	63.06	172.84	8,675.2	-259.1	32.5	261.1	12.00	12.00	0.00
8,800.0	66.06	172.84	8,685.9	-281.5	35.4	283.7	12.00	12.00	0.00

Wolverine Directional, LLC

Planning Report

Database: EDM 2003.21 Single User Db
Company: RKI Exploration & Production
Project: Eddy County (NM83E)
Site: Sec 16-T26S-R30E
Well: RDX 16-14H
Wellbore: Wellbore #1
Design: Prelim Plan

Local Co-ordinate Reference: Well RDX 16-14H
TVD Reference: WELL @ 0.0ft (Original Well Elev)
MD Reference: WELL @ 0.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,825.0	69.06	172.84	8,695.4	-304.4	38.2	306.8	12.00	12.00	0.00
8,850.0	72.06	172.84	8,703.8	-327.8	41.2	330.4	12.00	12.00	0.00
8,875.0	75.06	172.84	8,710.8	-351.6	44.2	354.3	12.00	12.00	0.00
8,900.0	78.06	172.84	8,716.7	-375.7	47.2	378.7	12.00	12.00	0.00
8,925.0	81.06	172.84	8,721.2	-400.1	50.2	403.2	12.00	12.00	0.00
8,950.0	84.06	172.84	8,724.4	-424.7	53.3	428.0	12.00	12.00	0.00
8,975.0	87.06	172.84	8,726.4	-449.4	56.4	453.0	12.00	12.00	0.00
9,000.0	90.06	172.84	8,727.0	-474.2	59.6	477.9	12.00	12.00	0.00
9,005.2	90.68	172.84	8,727.0	-479.4	60.2	483.1	11.98	11.98	0.00
EOC - Hold to TD									
9,100.0	90.68	172.84	8,725.8	-573.4	72.0	577.9	0.00	0.00	0.00
9,200.0	90.68	172.84	8,724.6	-672.6	84.5	677.9	0.00	0.00	0.00
9,300.0	90.68	172.84	8,723.5	-771.9	96.9	777.9	0.00	0.00	0.00
9,400.0	90.68	172.84	8,722.3	-871.1	109.4	877.9	0.00	0.00	0.00
9,500.0	90.68	172.84	8,721.1	-970.3	121.9	977.9	0.00	0.00	0.00
9,600.0	90.68	172.84	8,719.9	-1,069.5	134.3	1,077.9	0.00	0.00	0.00
9,700.0	90.68	172.84	8,718.7	-1,168.7	146.8	1,177.9	0.00	0.00	0.00
9,800.0	90.68	172.84	8,717.5	-1,267.9	159.2	1,277.9	0.00	0.00	0.00
9,900.0	90.68	172.84	8,716.3	-1,367.1	171.7	1,377.9	0.00	0.00	0.00
10,000.0	90.68	172.84	8,715.1	-1,466.4	184.2	1,477.9	0.00	0.00	0.00
10,100.0	90.68	172.84	8,714.0	-1,565.6	196.6	1,577.9	0.00	0.00	0.00
10,200.0	90.68	172.84	8,712.8	-1,664.8	209.1	1,677.9	0.00	0.00	0.00
10,300.0	90.68	172.84	8,711.6	-1,764.0	221.5	1,777.9	0.00	0.00	0.00
10,400.0	90.68	172.84	8,710.4	-1,863.2	234.0	1,877.8	0.00	0.00	0.00
10,500.0	90.68	172.84	8,709.2	-1,962.4	246.5	1,977.8	0.00	0.00	0.00
10,600.0	90.68	172.84	8,708.0	-2,061.6	258.9	2,077.8	0.00	0.00	0.00
10,700.0	90.68	172.84	8,706.8	-2,160.8	271.4	2,177.8	0.00	0.00	0.00
10,800.0	90.68	172.84	8,705.7	-2,260.1	283.8	2,277.8	0.00	0.00	0.00
10,900.0	90.68	172.84	8,704.5	-2,359.3	296.3	2,377.8	0.00	0.00	0.00
11,000.0	90.68	172.84	8,703.3	-2,458.5	308.8	2,477.8	0.00	0.00	0.00
11,100.0	90.68	172.84	8,702.1	-2,557.7	321.2	2,577.8	0.00	0.00	0.00
11,200.0	90.68	172.84	8,700.9	-2,656.9	333.7	2,677.8	0.00	0.00	0.00
11,300.0	90.68	172.84	8,699.7	-2,756.1	346.1	2,777.8	0.00	0.00	0.00
11,400.0	90.68	172.84	8,698.5	-2,855.3	358.6	2,877.8	0.00	0.00	0.00
11,500.0	90.68	172.84	8,697.3	-2,954.6	371.1	2,977.8	0.00	0.00	0.00
11,600.0	90.68	172.84	8,696.2	-3,053.8	383.5	3,077.8	0.00	0.00	0.00
11,700.0	90.68	172.84	8,695.0	-3,153.0	396.0	3,177.8	0.00	0.00	0.00
11,800.0	90.68	172.84	8,693.8	-3,252.2	408.4	3,277.7	0.00	0.00	0.00
11,900.0	90.68	172.84	8,692.6	-3,351.4	420.9	3,377.7	0.00	0.00	0.00
12,000.0	90.68	172.84	8,691.4	-3,450.6	433.4	3,477.7	0.00	0.00	0.00
12,100.0	90.68	172.84	8,690.2	-3,549.8	445.8	3,577.7	0.00	0.00	0.00
12,200.0	90.68	172.84	8,689.0	-3,649.1	458.3	3,677.7	0.00	0.00	0.00
12,300.0	90.68	172.84	8,687.9	-3,748.3	470.7	3,777.7	0.00	0.00	0.00
12,400.0	90.68	172.84	8,686.7	-3,847.5	483.2	3,877.7	0.00	0.00	0.00
12,500.0	90.68	172.84	8,685.5	-3,946.7	495.7	3,977.7	0.00	0.00	0.00
12,600.0	90.68	172.84	8,684.3	-4,045.9	508.1	4,077.7	0.00	0.00	0.00
12,700.0	90.68	172.84	8,683.1	-4,145.1	520.6	4,177.7	0.00	0.00	0.00
12,800.0	90.68	172.84	8,681.9	-4,244.3	533.0	4,277.7	0.00	0.00	0.00
12,900.0	90.68	172.84	8,680.7	-4,343.5	545.5	4,377.7	0.00	0.00	0.00
13,000.0	90.68	172.84	8,679.5	-4,442.8	558.0	4,477.7	0.00	0.00	0.00
13,100.0	90.68	172.84	8,678.4	-4,542.0	570.4	4,577.7	0.00	0.00	0.00
13,200.0	90.68	172.84	8,677.2	-4,641.2	582.9	4,677.6	0.00	0.00	0.00
13,214.4	90.68	172.84	8,677.0	-4,655.5	584.7	4,692.0	0.00	0.00	0.00

RDX 16-14H PBHL

Wolverine Directional, LLC

Planning Report

Database: EDM 2003.21 Single User Db
Company: RKI Exploration & Production
Project: Eddy County (NM83E)
Site: Sec 16-T26S-R30E
Well: RDX 16-14H
Wellbore: Wellbore #1
Design: Prelim Plan

Local Co-ordinate Reference: Well RDX 16-14H
TVD Reference: WELL @ 0.0ft (Original Well Elev)
MD Reference: WELL @ 0.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
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Targets

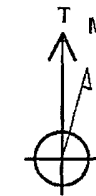
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
RDX 16-14H PBHL	0.00	0.00	8,677.0	-4,655.5	584.7	377,185.30	679,433.00	32° 2' 10.245 N	103° 53' 15.625 W
- plan hits target									
- Point									

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
8,249.5	8,249.5	0.0	0.0	KOP - 12/100
9,005.2	8,727.0	-479.4	60.2	EOC - Hold to TD
13,214.4	8,677.0	-4,655.5	584.7	TD at 13214.4

RKI Exploration & Production

Project: Eddy County (NM83E)
 Site: Sec 16-T26S-R30E
 Well: RDX 16-14H
 Wellbore: Wellbore #1
 Design: Prelim Plan



Azimuths to True North
 Magnetic North: 7.56°
 Magnetic Field
 Strength: 48367.3snT
 Dip Angle: 59.94°
 Date: 10/16/2012
 Model: IGRF2010

Wolverine
Directional

WELL DETAILS: RDX 16-14H

Ground Level: 0.0
 +N/-S +E/-W Northing Easting Latitude Longitude
 0.0 0.0 381838.30 678829.20 32° 2' 56.316 N 103° 53' 22.418 W
 SHL: 330' FNL / 1650' FWL
 BHL: 330' FSL / 2245' FWL

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	8249.5	0.00	0.00	8249.5	0.0	0.0	0.00	0.00	0.0	
3	9005.2	90.68	172.84	8727.0	-479.4	60.2	12.00	172.84	483.1	
4	13214.4	90.68	172.84	8677.0	-4655.5	584.7	0.00	0.00	4692.0	RDX 16-14H PBHL

PROJECT TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
RDX 16-14H PBHL	8677.0	-4655.5	584.7	377185.30	679433.00	Point

Annotations

TVD	MD	Annotation
8249.5	8249.5	KOP - 12/100
8727.0	9005.2	EOC - Hold to TD
8677.0	13214.4	TD at 13214.4

