

OCD Artesia

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

NMA91078

6. If Indian, Allottee or Tribe Name

TES
2/13/2013

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

8. Lease Name and Well No.

LONGVIEW FEDERAL 12-15H

C386847

9. API Well No.

30-05-41092

10. Field and Pool or Exploration

UNDESIGNATED BONE SPRING

B.S., South
2/15/17

11. Sec., T. R. M. or Blk. and Survey or Area

BHL: SECTION 1, T. 23 S., R. 28 E.

SHL: SECTION 12, T. 23 S., R. 28 E.

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

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

C2462897

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

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

At surface 835 FNL & 2010 FWL, SECTION 12, T. 23 S., R. 28 E.

At proposed prod. zone 330 FNL & 2310 FWL, SECTION 1, T. 23 S., R. 28 E.

14. Distance in miles and direction from nearest town or post office*

5 MILES NORTHEAST OF LOVING, NM

12. County or Parish

EDDY

13. State

NM

15. Distance from proposed*
location to nearest
property or lease line, ft.
(Also to nearest drig. unit line, if any)SHL: 485'
BHL: 330'

16. No. of acres in lease

800 798.88

17. Spacing Unit dedicated to this well

200 199.65

18. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft.SHL: 505'
BHL: 330'

19. Proposed Depth

MD: 14,142'
TVD: 8,498

20. BLM/BIA Bond No. on file

NLM-NMB-000460

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

3057.4' GL

22. Approximate date work will start*

23. Estimated duration

25 DAYS

24. Attachments

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

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

25. Signature

Barry W. Hunt

Name (Printed/Typed)

BARRY W. HUNT

Date

11/27/12

Title

PERMIT AGENT FOR RKI EXPLORATION & PRODUCTION, LLC.

Approved by (Signature)

/s/ Don Peterson

Name (Printed/Typed)

/s/ Don Peterson

Date

FEB - 7 2013

Title

FIELD MANAGER

Office

CARLSBAD FIELD OFFICE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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

(Continued on page 2)

Carlsbad Controlled Water Basin

RECEIVED

FEB 11 2013

NMOCD ARTESIA

Approval Subject to General Requirements
& Special Stipulations AttachedSEE ATTACHED FOR
CONDITIONS OF APPROVAL

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

DISTRICT II
811 S. First St., Artesia, NM 88210
Phone: (575) 746-1283 Fax: (575) 748-9720

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

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

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-41092	Pool Code 15011	Pool Name Culebra Bluff, B.S., South UNDESIGNATED BONE SPRING
Property Code 38684	Property Name LONGVIEW FEDERAL 12	Well Number 15H
OGRID No. 246289	Operator Name RKI EXPLORATION & PRODUCTION	Elevation 3057.4'

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	12	23 S	28 E		835	NORTH	2010	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
03	1	23 S	28 E		330	NORTH	2310	WEST	EDDY

Dedicated Acres 199.65	Joint or Infill	Consolidated Code	Order No.
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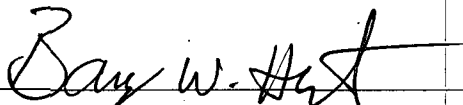
No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

	BHL: LONGVIEW FEDERAL 12-15H NMSP-E (NAD 83) Y = 487961.4' N X = 631384.0' E N LAT. = 32° 20' 28.11\"	<p>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.</p> <p>Signature Barry W. Hest Date 11/27/12</p> <p>Print Name _____</p> <p>E-mail Address _____</p>
	SHL: LONGVIEW FEDERAL 12-15H NMSP-E (NAD 83) Y = 482121.0' N X = 631062.4' E N LAT. = 32° 19' 30.32\"	
	NMSP-E (NAD 27) Y = 487901.7' N X = 590201.5' E N LAT. = 32.3410194° W LONG. = -104.0412703°	<p>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.</p> <p>March 20, 2012 Date of Survey</p> <p>Signature and Seal of Professional Surveyor </p> <p>Job No. WTC48404 JAMES E. TOMPKINS 14729 Certificate Number _____</p>
	NMSP-E (NAD 27) Y = 482061.4' N X = 589879.8' E N LAT. = 32.3249674° W LONG. = -104.0423633°	

CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct, and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or RKI Exploration and Production, LLC am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U. S. C. 1001 for the filing of false statements. Executed this 27th day of November 2012.

Signed: _____



Printed Name: Barry Hunt

Position: Agent for RKI Exploration & Production, LLC.

Address: 1403 Springs Farm Place, Carlsbad, NM 88220

Telephone: (575) 361-4078

E-mail: specialtpermitting@gmail.com

RKI Exploration & Production LLC

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

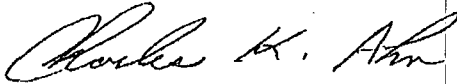
June 25th, 2012

To Whom It May Concern:

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

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

Sincerely,

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

Charles K. Ahn
EH&S/Regulatory Manager

DRILLING PLAN

Well Longview Federal 12-15H

Location Surface: 835 FNL 2,010 FWL Section 12-23S-28E
 Bottom Hole: 330 FNL 2,310 FWL Section 1-23S-28E

County Eddy

State New Mexico

- 1) The elevation of the unprepared ground is 3,057.4 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 14,142 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: 8,498 TVD 14,142 feet MD

5) Estimated tops:

	TVD	MD	
Alluvium	*		
Rustler	203	203	
Salado	245	245	
Top of Salt	512	512	
Base of Salt	2,635	2,635	BHP = .44 psi/ft x depth
Lamar Lime	2,740	2,740	1,206 psi
Base of Lime	2,780	2,780	1,223 psi
Delaware Top **	2,840	2,840	1,250 psi
Bell Canyon Sand **	2,840	2,840	1,250 psi
Cherry Canyon Sand **	3,850	3,850	1,694 psi
Brushy Canyon Sand **	4,815	4,815	2,119 psi
Bone Spring **	6,400	6,400	
Bone Spring 1st Sand **	7,510	7,510	3,304 psi
KOP	8,020	8,020	
Bone Spring 2nd Sand **	8,280	8,300	3,643 psi
Landing Point	8,498	8,770	
TD	8,498	14,142	3,739 psi 180 degree F

*Fresh water is anticipated at approximately 150 feet.

** Hydrocarbon zones

6) Pressure control equipment:

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a double ram type (3,000 psi WP) preventer, a bag-type annular preventer (3,000 psi WP), and rotating head. Both units will be hydraulically operated and the ram type preventer will be equipped with blind rams on top and pipe rams (sized to accommodate the drill pipe size being utilized) on bottom. A 13 3/8" SOW x 13 5/8" 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. *Also 5 1/2"*

Pipe rams will be operated and checked each 24 hour period and each time the drill string is out of the hole.

These function test will be documented on the daily driller's log.

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

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

2 chokes on the manifold along with a pressure gauge.

Upper kelly cock valve with handle available.

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

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

Fill up line above the upper most preventer.

not
needed
after
setting
prod
csg

7) Casing program: ALL NEW CASING

Hole Size	Top	Bottom	OD Csg	Wt/Grade	Connection	Collapse Design Factor	Burst Design Factor	Tension Design Factor
17 1/2"	0	250	13 3/8"	54.5#/J-55	ST&C	10.27	49.64	37.72
12 1/2"	0	4,000	9 5/8"	40#/J-55	LT&C	1.15	4.49	3.25
8 3/4"	0	14,142	5 1/2"	17#/HCP-110	LT&C	1.38	1.55	5.02
Collapse	1.125							
Burst	1.0							
Tension	2.0							

8) Cement program:

Surface 17 1/2" hole
 Pipe OD 13 3/8"
 Setting Depth 250 ft
 Annular Volume 0.69462 cf/ft
 Excess 1 100 %

Lead 122 sx 1.75 cf/sk 13.5 ppg
 Tail 100 sx 1.34 cf/sk 14.8 ppg

Lead: "C" + 4% PF20 (gel) + 2% PF1 (CC) + .125 pps PF29 (CelloFlake) + .2% PF46 (antifoam)

Tail: "C" + 1% PF1 (CC)

Top of cement: Surface

Intermediate 12 1/2" hole
 Pipe OD 9 5/8"
 Setting Depth 4,000 ft
 Annular Volume 0.31318 cf/ft
 Excess 0.5 50 %

Lead 788 sx 2.07 cf/sk 12.6 ppg
 Tail 200 sx 1.33 cf/sk 14.8 ppg

Lead: 35/65 Poz "C" + 5% PF44 (salt) + 6% PF20 (gel) + 3 pps PF42 (KoalSeal) + .125 pps PF29 (CelloFlake) + .2% PF46 (antifoam) + 1% PF1 (CC)

Tail: "C" + .2% PF13 (retarder)

Top of cement: Surface

Production 8 3/4" hole
 Pipe OD 5 1/2"
 Setting Depth 14,142 ft
 Annular Volume 0.1733 cf/ft 0.26074 cf/ft 300 ft
 Excess 0.35 35 %
 DV Tool Depth 5,500 ft

Stage 1

Lead: ~~1,375~~ ²⁰⁰⁰ sx 1.47 cf/sk 13.0 ppg

Lead: PVL + 2% PF174 (expanding agent) + .3% PF167 (Uniflac) + .1% PF65 (dispersant) + .2% PF13 (retarder) + .25 pps PF46 (antifoam)

Top of cement: DV tool

Stage 2

Lead: ~~1,380~~ ¹⁵⁰ sx 2.04 cf/sk 12.6 ppg

Tail: 200 sx 1.47 cf/sk 13.0 ppg

Lead: 35/65 Poz "C" + 5% PF44 (salt) + 6% PF20 (gel) + .125 pps PF29 (CelloFlake) + .2% PF13 (retarder) + .25 pps PF46 (antifoam)

Tail: PVL + 1.3% PF44 (salt) + 5% PF174 (expander) + .5% FP606 (gel suppressing agent) + .25 pps PF46 (antifoam) + .2% PF13 (retarder)

Top of cement: 3,700 ft

9) Mud program:

Top	Bottom	Mud Wt.	Vis	PV	YP	Fluid Loss	Type System
0	250	8.5 to 8.9	32 to 36	1 - 6	1 - 6	NC	Fresh Water
250	4,000	9.8 to 10.0	28 to 30	1 - 3	1 - 3	NC	Brine
4,000	14,142	8.9 to 9.1	28 to 36	1 - 3	1 - 3	NC	Fresh Water

10) Logging, coring, and testing program:

See COA

No drillstem test are planned

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

Intermediate to surface: CNL, GR

No coring is planned

11) Potential hazards:

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

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

12) Anticipated start date

ASAP

Duration

25 days

RKI Exploration & Production

Project: Eddy County (NM83E)
 Site: Sec 12-T23S-R28E
 Well: Longview Fed 1-15H
 Wellbore: Wellbore #1
 Design: Prelim Plan



M Azimuths to True North
 Magnetic North: 7.64°
 Magnetic Field
 Strength: 48514.2snT
 Dip Angle: 60.17°
 Date: 2012/10/26
 Model: IGRF2010

Wolverine Directional

WELL DETAILS: Longview Fed 1-15H

Ground Level: 0.0
 +N/-S +E/-W Northing Easting Latitude Longitude
 0.0 482021.00 631062.40 32° 19' 30.319 N 104° 2' 34.289 W
 SHL: 835' FNL / 2010' FWL of Sec 12
 BHL: 330' FNL / 2310' FWL of Sec 1

SECTION DETAILS

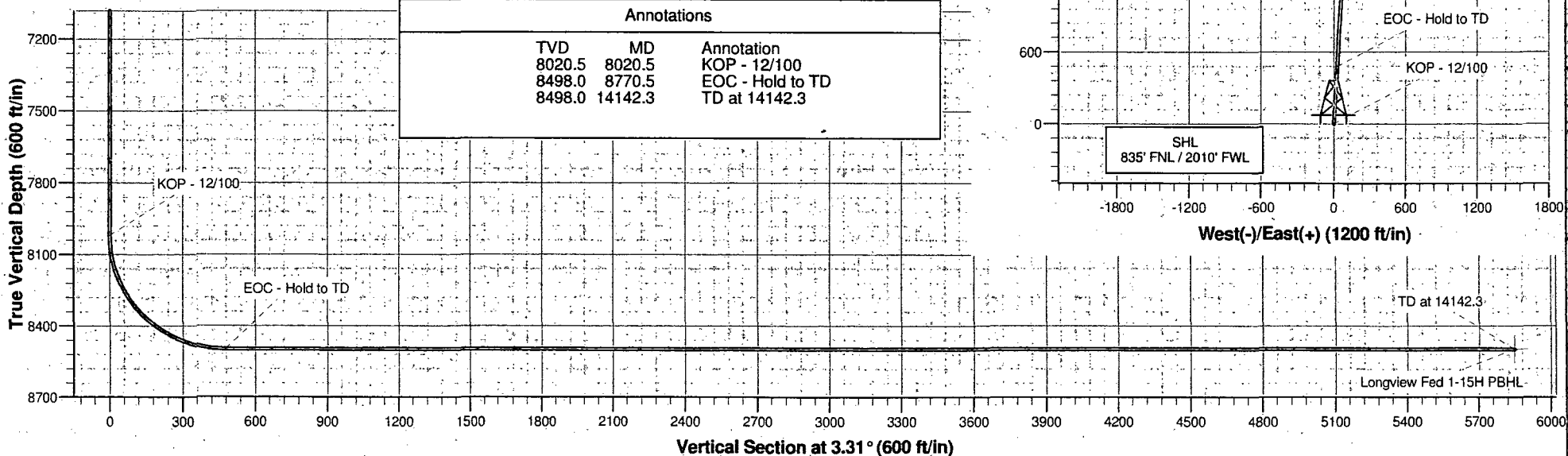
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	D Leg	T Face	V Sec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	8020.5	0.00	0.00	8020.5	0.0	0.0	0.00	0.00	0.0	
3	8770.5	90.00	3.31	8498.0	476.7	27.5	12.00	3.31	477.5	
	414142.3	90.00	3.31	8498.0	5839.5	337.4	0.00	0.00	5849.3	Longview Fed 1-15H PBHL

PROJECT TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Longview Fed 1-15H PBHL	8498.0	5839.5	337.4	487961.40	631384.00	Point

Annotations

TVD	MD	Annotation
8020.5	8020.5	KOP - 12/100
8498.0	8770.5	EOC - Hold to TD
8498.0	14142.3	TD at 14142.3



RKI Exploration & Production

Eddy County (NM83E)

Sec 12-T23S-R28E

Longview Fed/1-15H

Wellbore #1

Plan: Prelim Plan

Standard Planning Report

26 October, 2012

Wolverine Directional, LLC

Planning Report

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Longview Fed 1-15H
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 12-T23S-R28E	North Reference:	True
Well:	Longview Fed 1-15H	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 12-T23S-R28E			
Site Position:		Northing:	482,006.50ft	Latitude:	32° 19' 29.227 N
From:	Map	Easting:	629,491.90ft	Longitude:	104° 2' 52.596 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.15 °

Well	Longview Fed 1-15H					
Well Position	+N/-S	110.2 ft	Northing:	482,121.00 ft	Latitude:	32° 19' 30.319 N
	+E/-W	1,570.8 ft	Easting:	631,062.40 ft	Longitude:	104° 2' 34.289 W
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level:	0.0 ft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2012/10/26	7.64	60.17	48,514

Design:	Prelim Plan			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	3.31

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	
8,020.5	0.00	0.00	8,020.5	0.0	0.0	0.00	0.00	0.00	0.00	
8,770.5	90.00	3.31	8,498.0	476.7	27.5	12.00	12.00	0.00	3.31	
14,142.3	90.00	3.31	8,498.0	5,839.5	337.4	0.00	0.00	0.00	0.00	Longview Fed 1-15H

Wolverine Directional, LLC

Planning Report

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Longview Fed 1-15H
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 12-T23S-R28E	North Reference:	True
Well:	Longview Fed 1-15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Prelim Plan		

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	
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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	Local Co-ordinate Reference:	Well Longview Fed-1-15H
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 12-T23S-R28E	North Reference:	True
Well:	Longview Fed-1-15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Prelim Plan		

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
8,020.5	0.00	0.00	8,020.5	0.0	0.0	0.0	0.00	0.00	0.00
KOP 12/100									
8,025.0	0.54	3.31	8,025.0	0.0	0.0	0.0	12.00	12.00	0.00
8,050.0	3.54	3.31	8,050.0	0.9	0.1	0.9	12.00	12.00	0.00
8,075.0	6.54	3.31	8,074.9	3.1	0.2	3.1	12.00	12.00	0.00
8,100.0	9.54	3.31	8,099.6	6.6	0.4	6.6	12.00	12.00	0.00
8,125.0	12.54	3.31	8,124.2	11.4	0.7	11.4	12.00	12.00	0.00
8,150.0	15.54	3.31	8,148.4	17.4	1.0	17.4	12.00	12.00	0.00
8,175.0	18.54	3.31	8,172.3	24.7	1.4	24.8	12.00	12.00	0.00
8,200.0	21.54	3.31	8,195.8	33.3	1.9	33.3	12.00	12.00	0.00
8,225.0	24.54	3.31	8,218.8	43.0	2.5	43.1	12.00	12.00	0.00
8,250.0	27.54	3.31	8,241.3	54.0	3.1	54.1	12.00	12.00	0.00
8,275.0	30.54	3.31	8,263.1	66.1	3.8	66.2	12.00	12.00	0.00
8,300.0	33.54	3.31	8,284.3	79.3	4.6	79.5	12.00	12.00	0.00
8,325.0	36.54	3.31	8,304.8	93.7	5.4	93.8	12.00	12.00	0.00
8,350.0	39.54	3.31	8,324.5	109.0	6.3	109.2	12.00	12.00	0.00
8,375.0	42.54	3.31	8,343.3	125.4	7.2	125.6	12.00	12.00	0.00
8,400.0	45.54	3.31	8,361.3	142.8	8.3	143.0	12.00	12.00	0.00
8,425.0	48.54	3.31	8,378.3	161.0	9.3	161.3	12.00	12.00	0.00
8,450.0	51.54	3.31	8,394.4	180.2	10.4	180.5	12.00	12.00	0.00
8,475.0	54.54	3.31	8,409.4	200.1	11.6	200.4	12.00	12.00	0.00
8,500.0	57.54	3.31	8,423.4	220.8	12.8	221.2	12.00	12.00	0.00
8,525.0	60.54	3.31	8,436.2	242.2	14.0	242.6	12.00	12.00	0.00
8,550.0	63.54	3.31	8,448.0	264.2	15.3	264.7	12.00	12.00	0.00
8,575.0	66.54	3.31	8,458.5	286.9	16.6	287.4	12.00	12.00	0.00
8,600.0	69.54	3.31	8,467.9	310.0	17.9	310.5	12.00	12.00	0.00

Wolverine Directional, LLC

Planning Report

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Longview Fed-1-15H
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 12-T23S-R28E	North Reference:	True
Well:	Longview Fed 1-15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Prelim Plan		

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)
8,625.0	72.54	3.31	8,476.0	333.6	19.3	334.2	12.00	12.00	0.00
8,650.0	75.54	3.31	8,482.9	357.6	20.7	358.2	12.00	12.00	0.00
8,675.0	78.54	3.31	8,488.5	381.9	22.1	382.6	12.00	12.00	0.00
8,700.0	81.54	3.31	8,492.8	406.5	23.5	407.2	12.00	12.00	0.00
8,725.0	84.54	3.31	8,495.8	431.3	24.9	432.0	12.00	12.00	0.00
8,750.0	87.54	3.31	8,497.6	456.2	26.4	456.9	12.00	12.00	0.00
8,770.5	90.00	3.31	8,498.0	476.7	27.5	477.5	12.00	12.00	0.00
EOC - Hold to TD									
8,800.0	90.00	3.31	8,498.0	506.1	29.2	506.9	0.00	0.00	0.00
8,900.0	90.00	3.31	8,498.0	605.9	35.0	606.9	0.00	0.00	0.00
9,000.0	90.00	3.31	8,498.0	705.8	40.8	706.9	0.00	0.00	0.00
9,100.0	90.00	3.31	8,498.0	805.6	46.6	806.9	0.00	0.00	0.00
9,200.0	90.00	3.31	8,498.0	905.4	52.3	906.9	0.00	0.00	0.00
9,300.0	90.00	3.31	8,498.0	1,005.3	58.1	1,006.9	0.00	0.00	0.00
9,400.0	90.00	3.31	8,498.0	1,105.1	63.9	1,106.9	0.00	0.00	0.00
9,500.0	90.00	3.31	8,498.0	1,204.9	69.6	1,206.9	0.00	0.00	0.00
9,600.0	90.00	3.31	8,498.0	1,304.8	75.4	1,306.9	0.00	0.00	0.00
9,700.0	90.00	3.31	8,498.0	1,404.6	81.2	1,406.9	0.00	0.00	0.00
9,800.0	90.00	3.31	8,498.0	1,504.4	86.9	1,506.9	0.00	0.00	0.00
9,900.0	90.00	3.31	8,498.0	1,604.3	92.7	1,606.9	0.00	0.00	0.00
10,000.0	90.00	3.31	8,498.0	1,704.1	98.5	1,706.9	0.00	0.00	0.00
10,100.0	90.00	3.31	8,498.0	1,803.9	104.2	1,806.9	0.00	0.00	0.00
10,200.0	90.00	3.31	8,498.0	1,903.8	110.0	1,906.9	0.00	0.00	0.00
10,300.0	90.00	3.31	8,498.0	2,003.6	115.8	2,006.9	0.00	0.00	0.00
10,400.0	90.00	3.31	8,498.0	2,103.4	121.5	2,106.9	0.00	0.00	0.00
10,500.0	90.00	3.31	8,498.0	2,203.3	127.3	2,206.9	0.00	0.00	0.00
10,600.0	90.00	3.31	8,498.0	2,303.1	133.1	2,306.9	0.00	0.00	0.00
10,700.0	90.00	3.31	8,498.0	2,402.9	138.9	2,406.9	0.00	0.00	0.00
10,800.0	90.00	3.31	8,498.0	2,502.8	144.6	2,506.9	0.00	0.00	0.00
10,900.0	90.00	3.31	8,498.0	2,602.6	150.4	2,606.9	0.00	0.00	0.00
11,000.0	90.00	3.31	8,498.0	2,702.4	156.2	2,706.9	0.00	0.00	0.00
11,100.0	90.00	3.31	8,498.0	2,802.3	161.9	2,806.9	0.00	0.00	0.00
11,200.0	90.00	3.31	8,498.0	2,902.1	167.7	2,906.9	0.00	0.00	0.00
11,300.0	90.00	3.31	8,498.0	3,001.9	173.5	3,006.9	0.00	0.00	0.00
11,400.0	90.00	3.31	8,498.0	3,101.8	179.2	3,106.9	0.00	0.00	0.00
11,500.0	90.00	3.31	8,498.0	3,201.6	185.0	3,206.9	0.00	0.00	0.00
11,600.0	90.00	3.31	8,498.0	3,301.4	190.8	3,306.9	0.00	0.00	0.00
11,700.0	90.00	3.31	8,498.0	3,401.3	196.5	3,406.9	0.00	0.00	0.00
11,800.0	90.00	3.31	8,498.0	3,501.1	202.3	3,506.9	0.00	0.00	0.00
11,900.0	90.00	3.31	8,498.0	3,600.9	208.1	3,606.9	0.00	0.00	0.00
12,000.0	90.00	3.31	8,498.0	3,700.8	213.8	3,706.9	0.00	0.00	0.00
12,100.0	90.00	3.31	8,498.0	3,800.6	219.6	3,806.9	0.00	0.00	0.00
12,200.0	90.00	3.31	8,498.0	3,900.4	225.4	3,906.9	0.00	0.00	0.00
12,300.0	90.00	3.31	8,498.0	4,000.3	231.2	4,006.9	0.00	0.00	0.00
12,400.0	90.00	3.31	8,498.0	4,100.1	236.9	4,106.9	0.00	0.00	0.00
12,500.0	90.00	3.31	8,498.0	4,199.9	242.7	4,206.9	0.00	0.00	0.00
12,600.0	90.00	3.31	8,498.0	4,299.8	248.5	4,306.9	0.00	0.00	0.00
12,700.0	90.00	3.31	8,498.0	4,399.6	254.2	4,406.9	0.00	0.00	0.00
12,800.0	90.00	3.31	8,498.0	4,499.4	260.0	4,506.9	0.00	0.00	0.00
12,900.0	90.00	3.31	8,498.0	4,599.3	265.8	4,606.9	0.00	0.00	0.00
13,000.0	90.00	3.31	8,498.0	4,699.1	271.5	4,706.9	0.00	0.00	0.00
13,100.0	90.00	3.31	8,498.0	4,798.9	277.3	4,806.9	0.00	0.00	0.00
13,200.0	90.00	3.31	8,498.0	4,898.8	283.1	4,906.9	0.00	0.00	0.00
13,300.0	90.00	3.31	8,498.0	4,998.6	288.8	5,006.9	0.00	0.00	0.00

Wolverine Directional, LLC

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Project:	Eddy County (NM83E)	MD Reference:	WELL @ 0.0ft (Original Well Elev)
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Wellbore:	Wellbore #1		
Design:	Prelim Plan		

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)
13,400.0	90.00	3.31	8,498.0	5,098.4	294.6	5,106.9	0.00	0.00	0.00
13,500.0	90.00	3.31	8,498.0	5,198.3	300.4	5,206.9	0.00	0.00	0.00
13,600.0	90.00	3.31	8,498.0	5,298.1	306.1	5,306.9	0.00	0.00	0.00
13,700.0	90.00	3.31	8,498.0	5,397.9	311.9	5,406.9	0.00	0.00	0.00
13,800.0	90.00	3.31	8,498.0	5,497.8	317.7	5,506.9	0.00	0.00	0.00
13,900.0	90.00	3.31	8,498.0	5,597.6	323.5	5,606.9	0.00	0.00	0.00
14,000.0	90.00	3.31	8,498.0	5,697.4	329.2	5,706.9	0.00	0.00	0.00
14,100.0	90.00	3.31	8,498.0	5,797.3	335.0	5,806.9	0.00	0.00	0.00
14,142.3	90.00	3.31	8,498.0	5,839.5	337.4	5,849.3	0.00	0.00	0.00

TD at 14142.3 - Longview Fed 1-15H PBHL

Targets

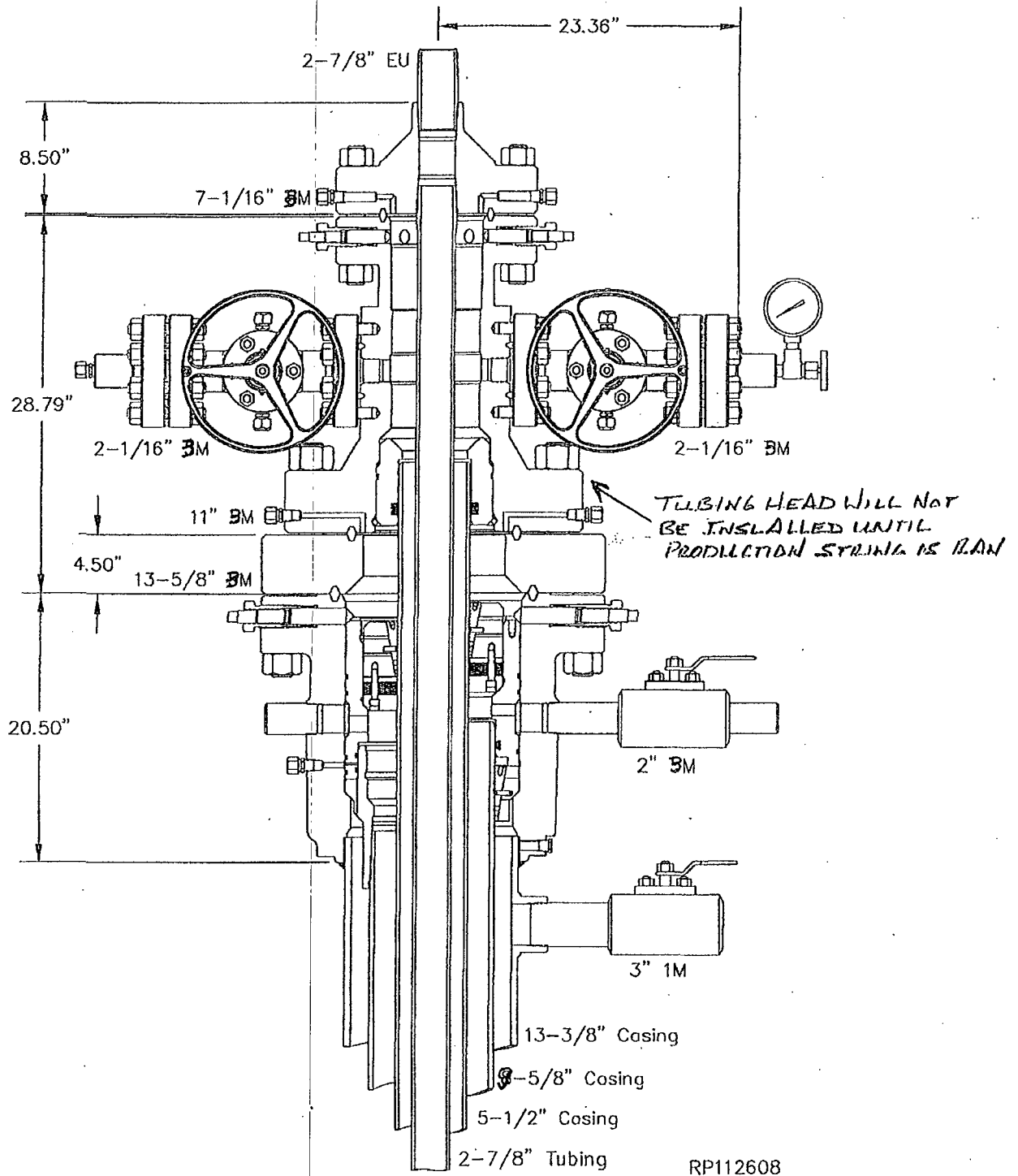
Target Name

hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Longview Fed 1-15H I	0.00	0.00	8,498.0	5,839.5	337.4	487,961.40	631,384.00	32° 20' 28.105 N	104° 2' 30.355 W
- plan hits target									
- Point									

Plan Annotations

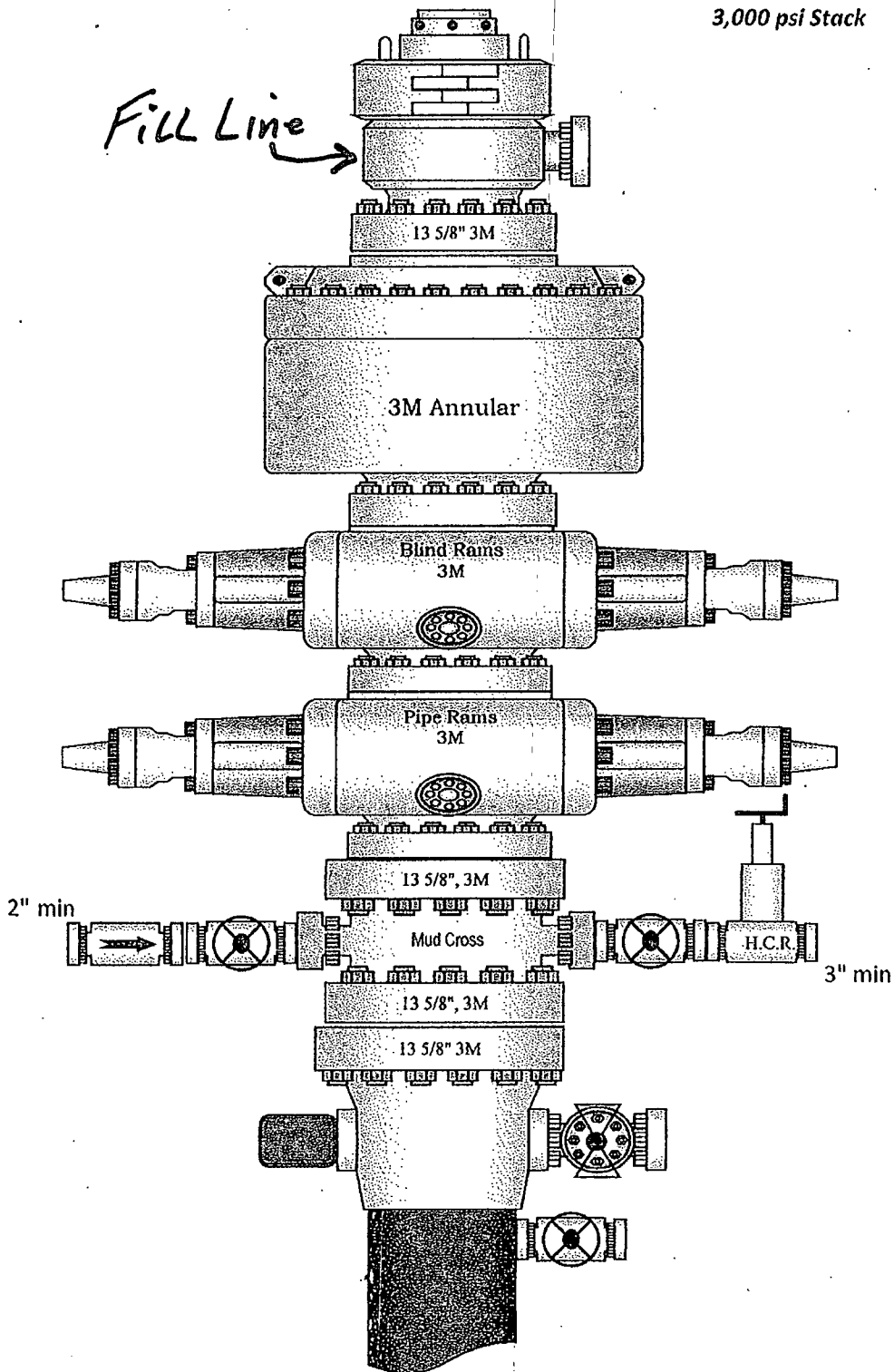
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
8,020.5	8,020.5	0.0	0.0	KOP - 12/100
8,770.5	8,498.0	476.7	27.5	EOC - Hold to TD
14,142.3	8,498.0	5,839.5	337.4	TD at 14142.3

System Drawing

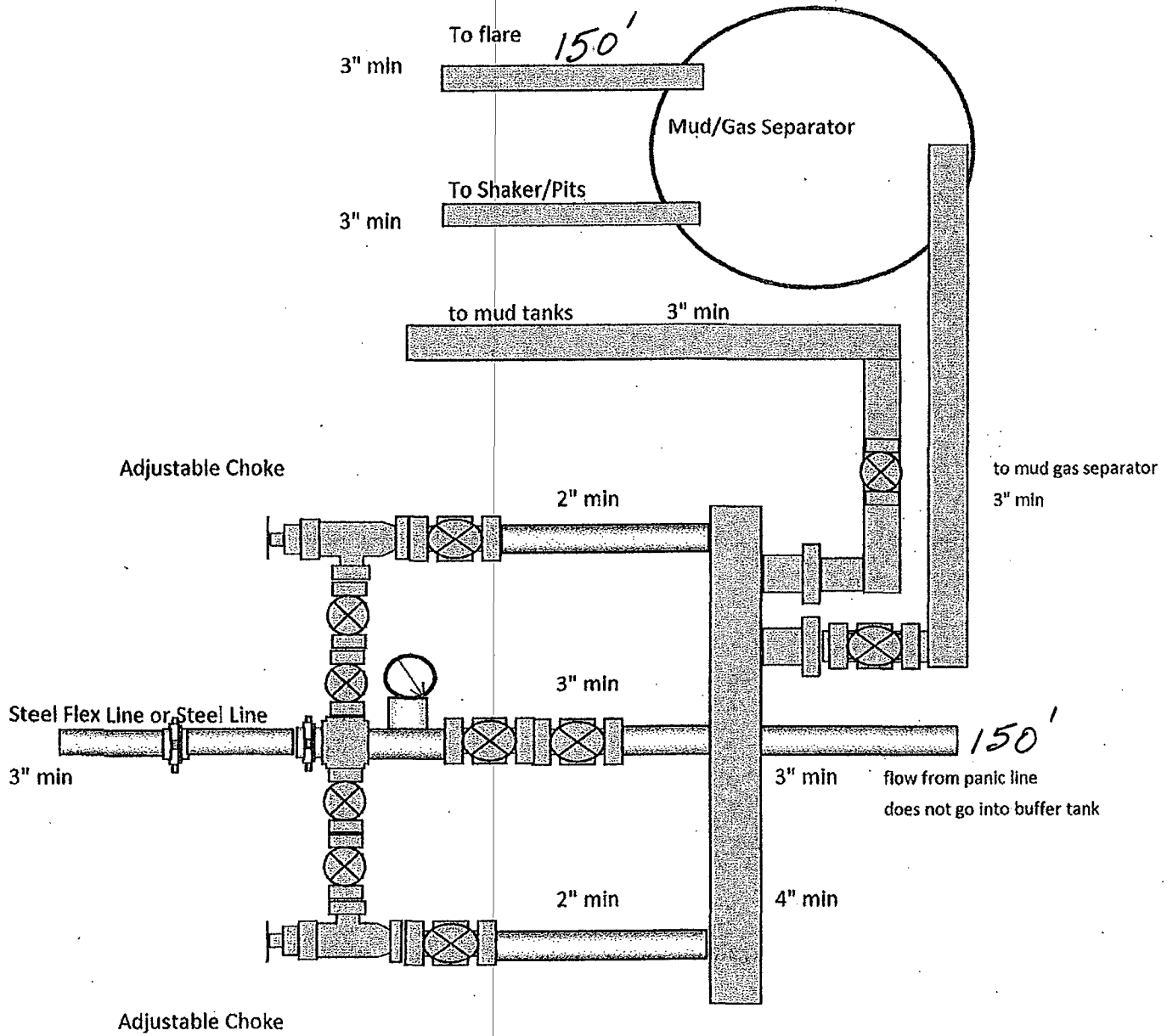


3,000 psi Stack

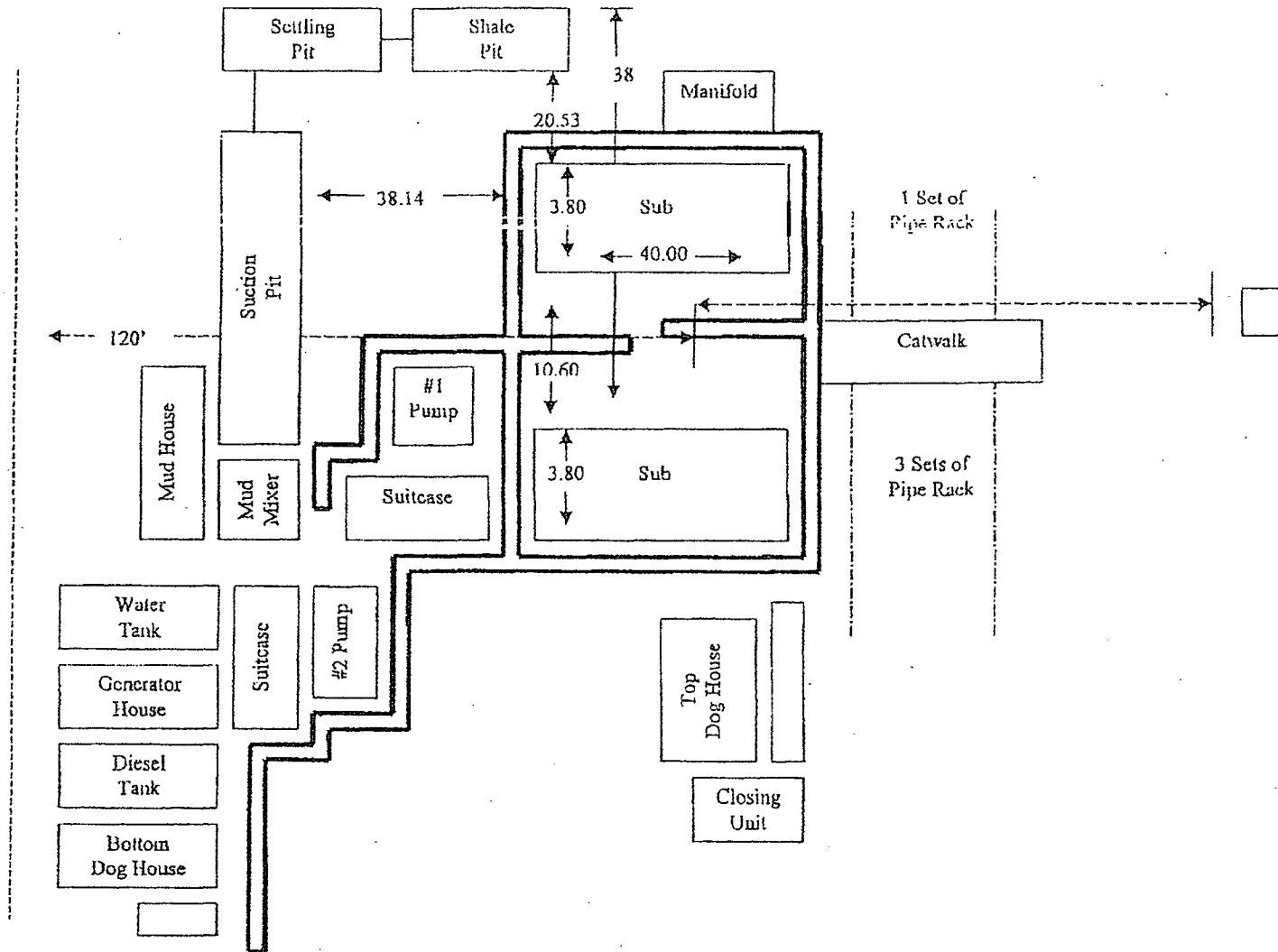
Fill Line



3,000 psi Manifold



Plat for Closed Loop System



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

Closed Loop System

Design Plan

Equipment List

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

Operation and Maintenance

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

Closure Plan

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

RKI Exploration & Production

HYDROGEN SULFIDE (H₂S) CONTINGENCY DRILLING PLAN

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 & Production will have a company representative available to rig personnel throughout the drilling and production operations. If hydrogen sulfide is detected or suspected, monitoring equipment will be acquired for monitoring and or testing.

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)

All communication will be via two-way radio or cell phone.

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 an upwind "safe area". Maintain strict security and safety procedures while dealing with the source.
5. No entry to any unauthorized personnel
6. Notify the appropriate agencies.
7. Call NMOCD

If at this time the supervising person determines the release of the H₂S cannot be contained to the site location and the general public is in danger 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)

RKI Exploration & Production	1-800-667-6958
Frank Collins	575-725-9334
Ken Fairchild	405-693-6051
Lonnie Catt	575-202-1444
Brent Umberham	405-623-5080
Tim Haddican	405-823-2872

EMERGENCY RESPONSE NUMBERS

State Police	Eddy County	575-748-9718
State Police	Lea County	575-392-5588
Sheriff	Eddy County	575-746-2701
Emergency Medical	Eddy County	911 or 505-746-2701
Ambulance	Lea County	911 or 505-394-3258
Emergency Response	Eddy County SERC	575-476-2701
Carlsbad Police Dept		575-885-2111
Carlsbad Fire Dept		575-885-3125
Loco Hills Police Dept		575-677-2349
Jal Police Dept		575-395-2501
Jal Fire Dept		575-394-3258
Jal Abulance		575-395-2221
NMOCD	District 1 (Lea, Roosevelt, Curry)	575-393-6161
	District 2 (Eddy, Chavez)	575-392-2973
Baker	Artesia	575-746-3140
Halliburton	Artesia	1-800-523-2482
	Hobbs	1-800-523-2482
ParFive	Artesia	575-748-1288
Wild Well Control	Midland	432-550-6202

PROTECTION OF THE GENERAL PUBLIC

1. 100 ppm at any public area (any place not associated with this site)
2. 500 ppm at any public road (any road the general public may travel)
3. 100 ppm radius of ¼ mile in New Mexico will be assumed if there is insufficient data to calculate radius of exposure and there is reasonable expectation that H2S could be present in concentrations greater than 100 ppm in the gas mixture.

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

$$X = ((1.589)(\text{mole fraction})(Q - \text{volume in scf}))^{0.6258}$$

CALCULATION FOR THE 500 PPM (ROE)

$$X = ((.4546)(\text{mole fraction})(Q - \text{volume in scf}))^{0.6258}$$

Example:

A well is determined to have 150 / 500 ppm H2S in the gas mixture and the well/facility is producing at a gas rate of 100 mcf/d

150 ppm

$$X = ((1.589)(150/100,000)(100,000))^{0.6258} = 7 \text{ ft}$$

500 ppm

$$X = ((.4546)(500/100,000)(100,000))^{0.6258} = 3.3 \text{ ft}$$

These calculations will be forwarded to the appropriate NMOCD office when applicable

PUBLIC EVACUATION PLAN

1. Notification of the emergency response agencies of the hazardous condition and implement evacuation procedures.
2. A trained person in H2S safety shall monitor with detection equipment the H2S concentration, wind and area of exposure. This person will determine the outer perimeter of the hazardous area. The extent of the evaluation area will be determined from the data being collected.
3. 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 supervisor shall stay in communications with all agencies through the duration of the situation and inform them when the situation has been contained and the affected area(s) is safe to enter.

IGNITION OF THE GAS

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
3. Two people are required. They must be equipped with positive pressure, self-contained breathing apparatus and "D" ring style full body, OSHA approved safety harness. Non-flammable rope will be attached.
4. One of the people will be qualified safety person who will test the atmosphere for H2S, oxygen and LFL. The other person will be the company supervisor, he is responsible for igniting the well.
5. Ignite up wind from a distance no closer than necessary. Before igniting, make a final check of combustible gases.
6. Following ignition, continue with the emergency actions and procedures as before.

Characteristics of H₂S and SO₂

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H ₂ S	1.189 Air= 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	2.21 Air= 1	2ppm	N/A	1000 ppm

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 with radio communications.

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 and Flagging

One color cod condition sign will be placed at the entrance to the site indicating possible conditions at the site

A colored conditions flag will be on display, indicating the conditions at the site at the time

3. Briefing Area (see attachment)

4. Wind Socks

Two windsocks will be placed in strategic locations, visible from all angles

5. H₂S 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 is being discharged

6. Auxiliary Rescue Equipment and misc.

Stretcher
Two OSHA full body harnesses
100 ft. 5/8" OSHA approved rope
1 – 20# class ABC fire extinguisher
Communication via cell phones on location and vehicles on location
Flare gun/flares

Well Control Equipment

1. BOP Equipment

- 5,000 psi blowout preventer (pipe and blind rams)
- 5,000 psi annular preventer
- 5,000 psi rotating head
- 5,000 choke manifold (equipped with hydraulic choke)
- Mud/gas separator
- Flare stack with solar powered igniter (with battery backup igniter) 150' from the well

Mud info and H2S Operating Mud Conditions

Though no H₂S is anticipated during the drilling operation, this contingency plan will provide for methods to ensure the well is kept under control in the event an H₂S reading of 100 ppm or more are encountered. Once personnel are safe and the proper protective gear is in place and on personnel, the operator and rig crew essential personnel will ensure the well is under control, suspend drilling operations and shut-in the well (unless pressure build up or other operational situations dictate suspending operations will prevent well control), increase the mud weight and circulate all gas from the hole utilizing the mud/gas separator downstream of the choke, the choke manifold and the emergency flare system located 150' from the well. Bring the mud system into compliance and the H₂S level below 10 ppm, then notify all emergency officers that drilling ahead is practical and safe. Proceed with drilling ahead only after all provisions of Onshore Order 6, Section III.C. have been satisfied. Mud will be a fresh water/brine system with the proper H₂S scavengers on location and utilized when necessary. Mud pH will also be kept at a level to minimize sulfide stress cracking and embrittlement when H₂S is present in the mud system.

H2S Briefing Areas & Alarm Locations

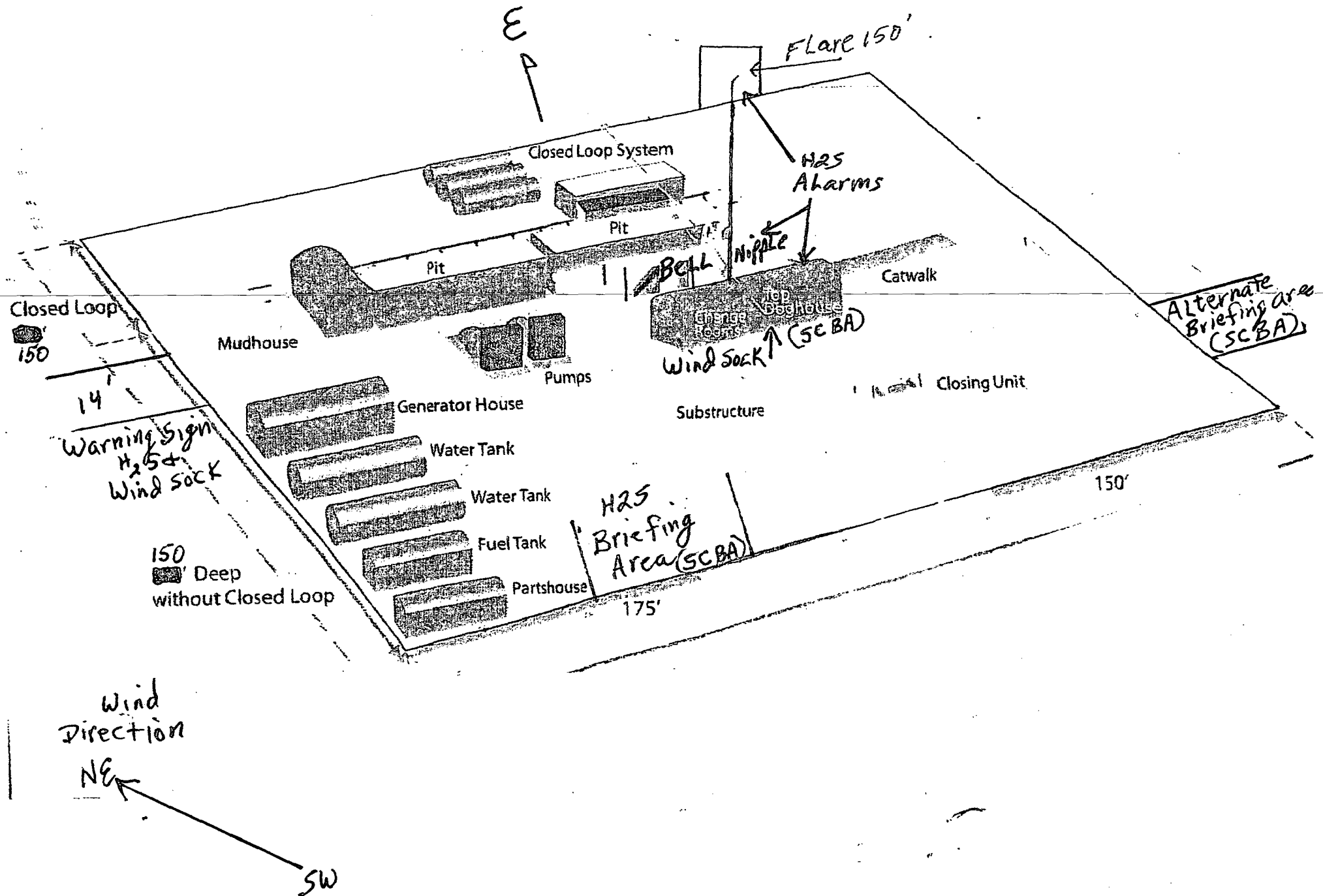
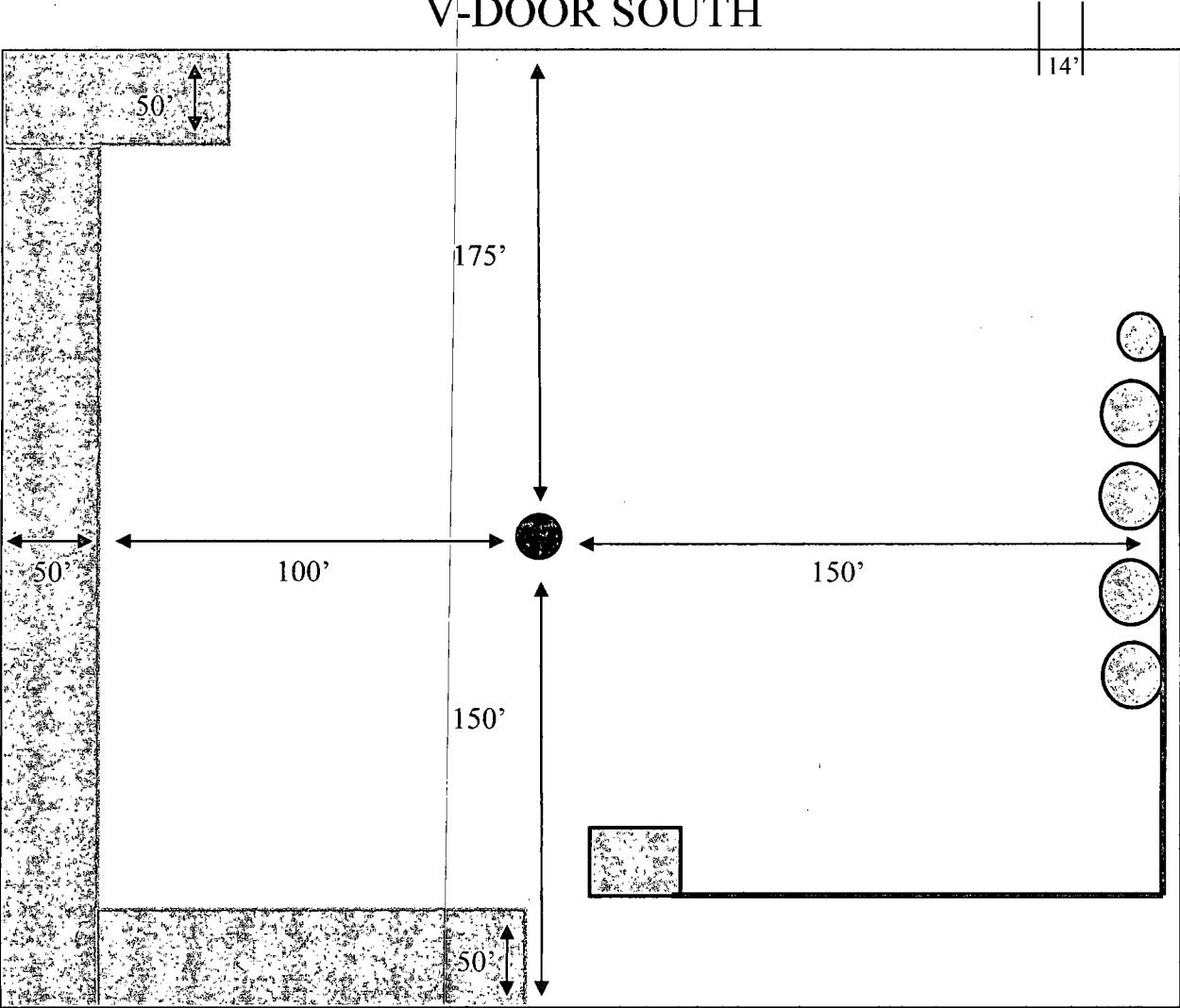
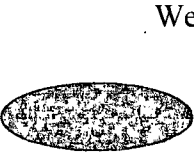


EXHIBIT C

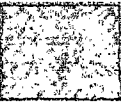
**Interim Reclamation & Production Facilities
LONGVIEW FEDERAL 12-15H
V-DOOR SOUTH**



LEGEND



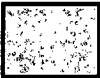
Well Bore



Topsoil



Interim Reclamation



Production Facilities



Berm



NORTH

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	RKI EXPLORATION
LEASE NO.:	NM91078
WELL NAME & NO.:	15H-LONGVIEW FEDERAL 12
SURFACE HOLE FOOTAGE:	835'/N. & 2310'/W.
BOTTOM HOLE FOOTAGE	330'/N. & 2310'/W. (Sec. 1)
LOCATION:	Section 12, T. 23 S., R. 28 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

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

- ☐ **General Provisions**
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