

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

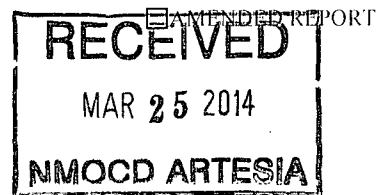
**District II**  
811 S. First St., Artesia, NM 88210  
Phone: (575) 748-1283 Fax: (575) 748-9720

**District III**  
1000 Rio Brazos Road, 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 and Natural Resources**  
**Oil Conservation Division**  
**1220 South St. Francis Dr.**  
**Santa Fe, NM 87505**

Form C-101  
Revised July 18, 2013



**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

<sup>1</sup> Operator Name and Address RKI Exploration & Production, LLC 210 Park Avenue, Suite 900 Oklahoma City, OK 73102		<sup>2</sup> OGRID Number 246289
<sup>3</sup> Property Code <b>40473</b>	<sup>4</sup> Property Name LVP SWD	<sup>5</sup> API Number <b>30-015-42234</b>
<sup>6</sup> Well No. 1		

<sup>7</sup> Surface Location									
UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
1	4	23 S	28 E		2100	SOUTH	385	EAST	EDDY

<sup>8</sup> Proposed Bottom Hole Location									
UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
1	4	23 S	28 E		2100	SOUTH	385	EAST	EDDY

<sup>9</sup> Pool Information Pool Name SWD DELAWARE		Pool Code 96100
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<b>Additional Well Information</b>				
<sup>11</sup> Work Type N	<sup>12</sup> Well Type SWD	<sup>13</sup> Cable/Rotary R	<sup>14</sup> Lease Type S	<sup>15</sup> Ground Level Elevation 3009 feet
<sup>16</sup> Multiple NO	<sup>17</sup> Proposed Depth 4,700 feet	<sup>18</sup> Formation DELAWARE	<sup>19</sup> Contractor	<sup>20</sup> Spud Date ASAP
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ We will be using a closed-loop system in lieu of lined pits

<sup>21</sup> Proposed Casing and Cement Program						
Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
surface	12-1/4 in.	9-5/8 in.	40#/J-55	450 feet	225	surface
production	8-3/4 in.	7 in.	23#/J-55	4,700 feet	790	surface

<sup>22</sup> Casing/Cement Program: Additional Comments
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<sup>22</sup> Proposed Blowout Prevention Program			
Type	Working Pressure	Test Pressure	Manufacturer
REFER TO ATTACHED DRILLING PLAN	3,000 PSI	3,000 PSI	

<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that I have complied with 19.15.14.9 (A) NMAC <input checked="" type="checkbox"/> and/or, 19.15.14.9 (B) NMAC <input checked="" type="checkbox"/> if applicable. Signature: <i>Charles K. AHN</i> Printed name: CHARLES K. AHN Title: EH&S/REGULATORY MANAGER E-mail Address: cahn@rkixp.com Date: March 12, 2014		<div align="center">OIL CONSERVATION DIVISION</div> <hr/> Approved By: <i>T. C. Shepard</i> <div align="center"><b>"Geologist"</b></div> <hr/> Title: Approved Date: <b>3-25-2014</b> Expiration Date: <b>3-25-2016</b> <hr/> Conditions of Approval Attached <b>XXX</b>	
Phone: 405-996-5771		Date:	

## Conditions of Approval

API: 30-015-42234

OCD Reviewer	Condition
CSHAPARD	OUT OF Compliance rule 5.9; 6 inactive wells. UNABLE to inject UNTIL back in compliance.

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number <b>30-015-42234</b>	Pool Code 96100	Pool Name SWD Delaware
Property Code <b>40473</b>	Property Name LVP SWD	Well Number #1
OGRID No. 246289	Operator Name RKI EXPLORATION & PRODUCTION	Elevation 3009.4'

Surface Location

UL or lot no. 1	Section 4	Township 23 S	Range 28 E	Lot Idn	Feet from the 2100	North/South line SOUTH	Feet from the 385	East/West line EAST	County EDDY
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Bottom Hole Location If Different From Surface

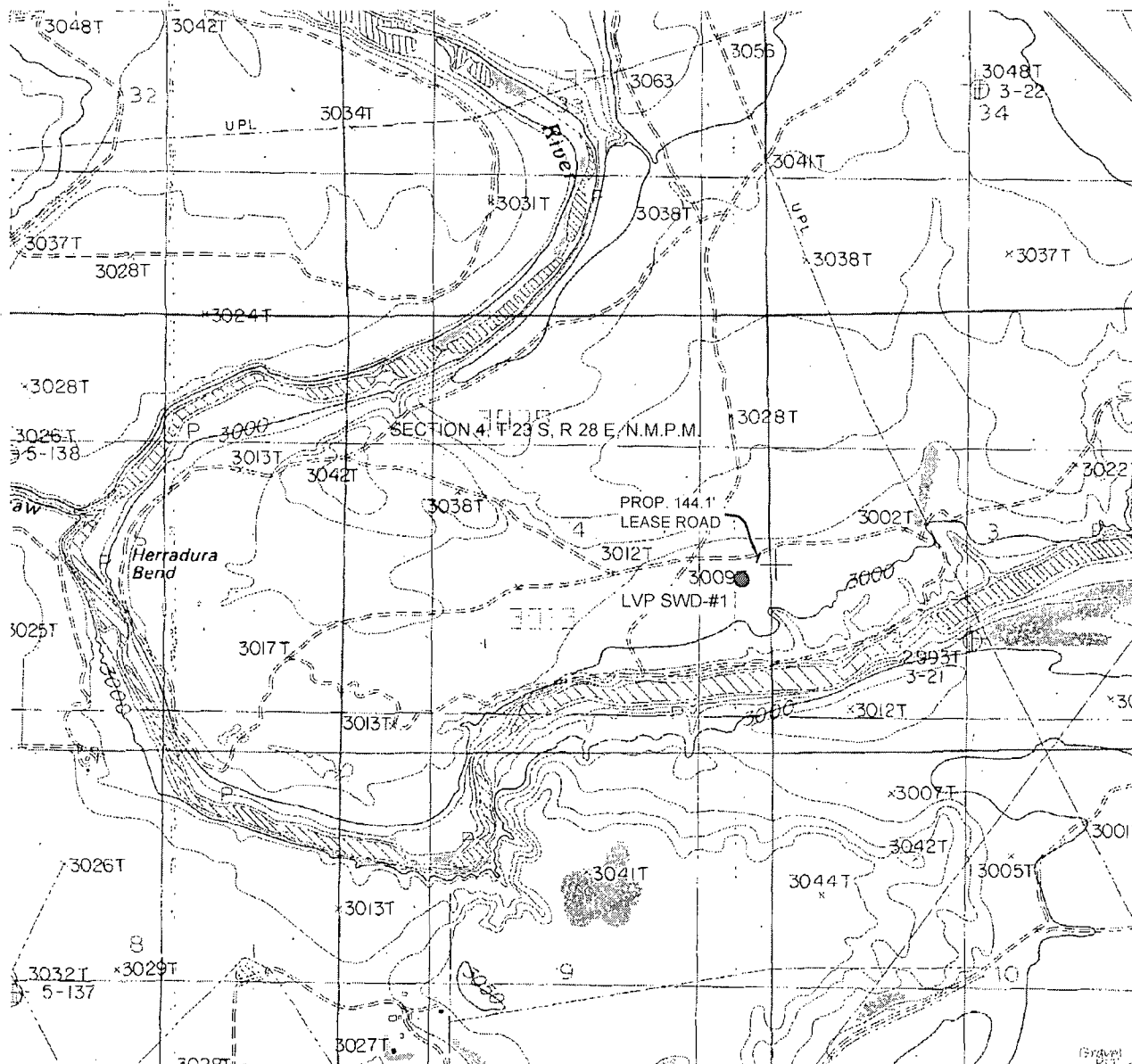
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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Dedicated Acres	Joint or Infill	Consolidated Code	Order No. <b>SWD-1457</b>
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

		NE COR SEC 4 NMSP-E (NAD 83) Y = 488208.2' N X = 618378.6' E LAT. = N32° 20' 30.87" LONG. = W104° 05' 01.95"	<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 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><i>Charles K. Ahn</i> 3/11/14 Signature Date Charles K. Ahn Print Name cahn@rkixp.com E-mail Address</p>
		LVP SWD #1 ELEV. = 3009.4' NMSP-E (NAD 83) Y = 484930.1' N X = 617969.3' E LAT. = N32° 19' 58.448" LONG. = W104° 05' 06.81"	<p><b>SURVEYORS 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>Nov. 2, 2012 Date of Survey Signature and Seal of Professional Surveyor</p> <p><i>James E. Tompkins</i> <b>JAMES E. TOMPKINS</b> REGISTERED PROFESSIONAL LAND SURVEYOR NEW MEXICO 14729</p> <p>Job No. WTC48785 JAMES E. TOMPKINS 14729 Certificate Number</p>
SW COR SEC 4 NMSP-E (NAD 83) Y = 482823.1' N X = 613073.3' E LAT. = N32° 19' 37.70" LONG. = W104° 06' 03.93"		SE COR SEC 4 NMSP-E (NAD 83) Y = 482830.7' N X = 618338.6' E LAT. = N32° 19' 37.66" LONG. = W104° 05' 02.56"	

# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

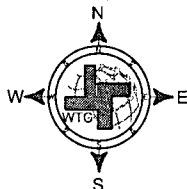
SECTION 4, T 23 S, R 28 E, N.M.P.M.

COUNTY: EDDY STATE: NM

DESCRIPTION: 2100' FSL & 385' FEL

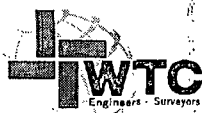
OPERATOR: RKI EXPLORATION & PRODUCTION

WELL NAME: LVP SWD-#1



## DRIVING DIRECTIONS:

From the intersection of New Mexico State Highway 31 and County Road 605. Go north on County Road 605 for 3.6 miles and turn left on to Herradura Bend Road. Go west for 0.7 miles and turn left. Go south 1.6 miles and the location is on the left approximately  $\pm 200'$ .

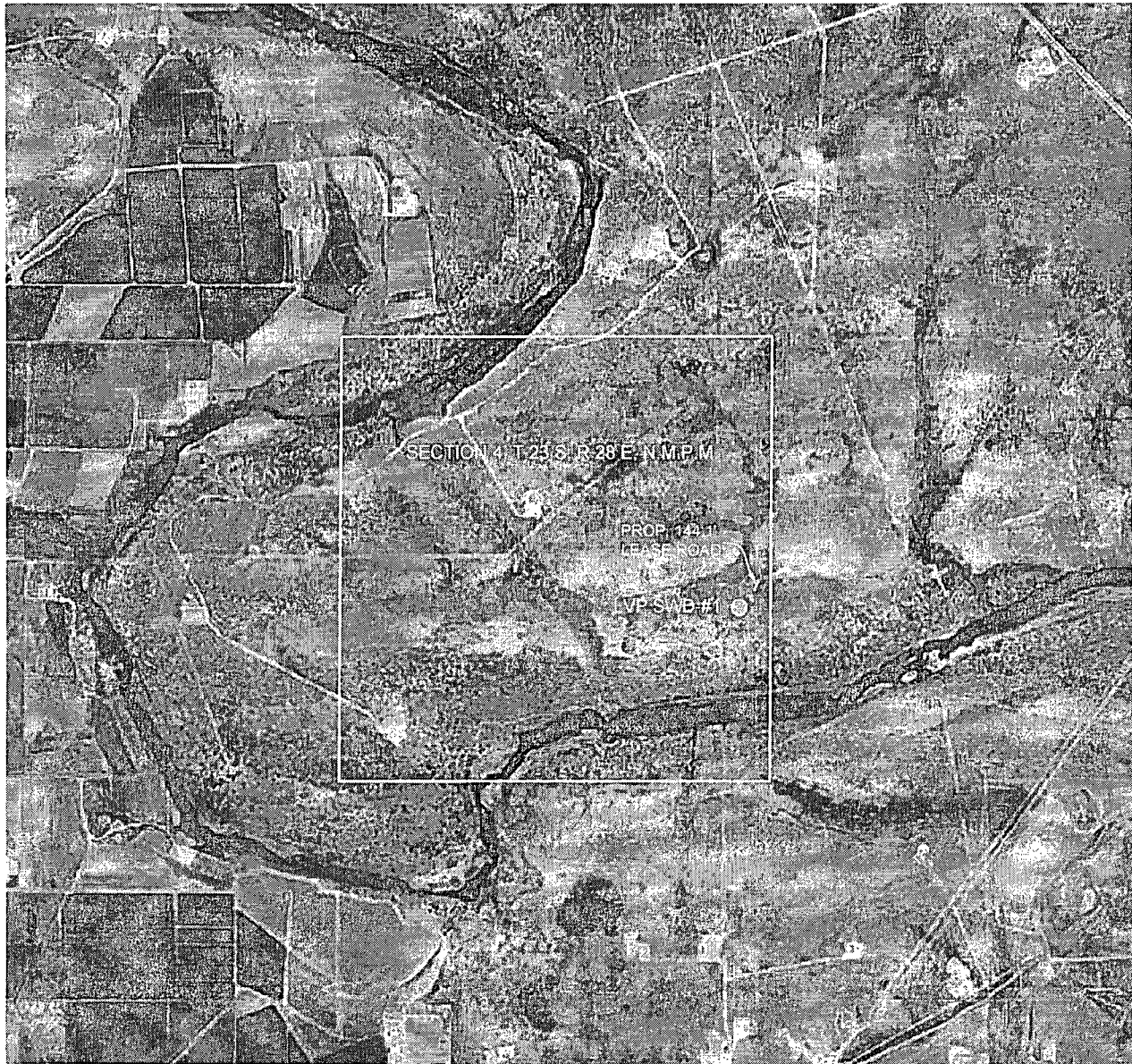


WEST TEXAS CONSULTANTS, INC.  
ENGINEERS PLANNERS SURVEYORS  
405 S.W. 1st STREET  
ANDREWS, TEXAS 79714  
(432) 523-2181

RKI EXPLORATION & PRODUCTION

JOB No.: WTC48785

# AERIAL MAP



SCALE: 1" = 2000'

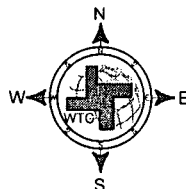
SECTION 4, T 23 S, R 28 E, N.M.P.M.

COUNTY: EDDY STATE: NM

DESCRIPTION: 2100' FSL & 385' FEL

OPERATOR: RKI EXPLORATION & PRODUCTION

WELL NAME: LVP SWD-#1



## DRIVING DIRECTIONS:

From the intersection of New Mexico State Highway 31 and County Road 605. Go north on County Road 605 for 3.6 miles and turn left on to Herradura Bend Road. Go west for 0.7 miles and turn left. Go south 1.6 miles and the location is on the left approximately  $\pm 200'$ .

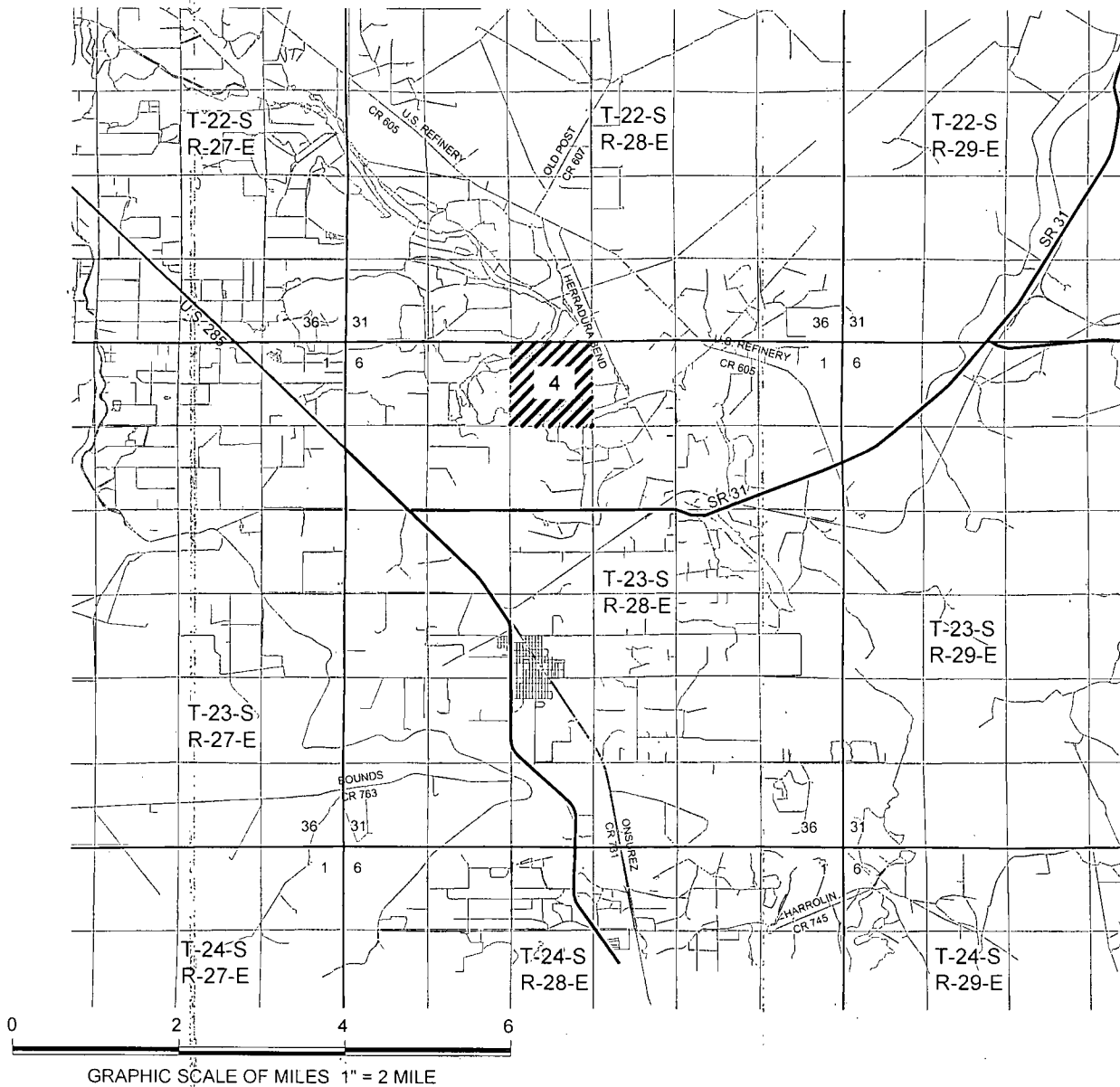


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**RKI EXPLORATION & PRODUCTION**

JOB No.: WTC48785

# VICINITY MAP



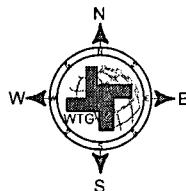
SECTION 4, T 23 S, R 28 E, N.M.P.M.

COUNTY: EDDY STATE: NM

DESCRIPTION: 2100' FSL & 385' FEL

OPERATOR: RKI EXPLORATION & PRODUCTION

WELL NAME: LVP SWD-#1



## DRIVING DIRECTIONS:

From the intersection of New Mexico State Highway 31 and County Road 605. Go north on County Road 605 for 3.6 miles and turn left on to Herradura Bend Road. Go west for 0.7 miles and turn left. Go south 1.6 miles and the location is on the left approximately  $\pm 200'$ .

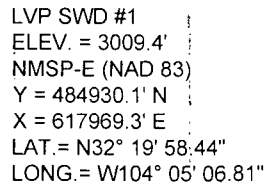


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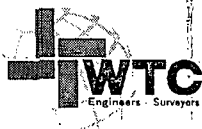
**RKI EXPLORATION & PRODUCTION**

JOB No.: WTC48785

PROPOSED 144.1'  
LEASE ROAD



From the intersection of New Mexico State Highway 31 and County Road 605. Go north on County Road 605 for 3.6 miles and turn left on to Herradura Bend Road. Go west for 0.7 miles and turn left. Go south 1.6 miles and the location is on the left approximately  $\pm 200'$ .



## RKI EXPLORATION & PRODUCTION

JOB No.: WTC48785

RKI Exploration & Production, LLC

Well LVP SWD 1  
 Location 2,100 FSL 385 FEL  
 Section 4-23S-28E  
 County Eddy  
 State New Mexico

- 1) The elevation to the unprepared ground is 3,009 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 4,700 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 4,700 feet

5) Estimated tops:

	TVD
Lamar Lime	2,820
Delaware Top	2,900
Bell Canyon Sand	2,900
Cherry Canyon Sand	3,890
TD	4,700

6) Casing program:

Hole Size	Top	Bottom	OD Csg	Wt/Grade	Connection	Collapse Design Factor	Burst Design Factor	Tension Design Factor
12 1/4"	0	450	9 5/8"	40#/J-55	ST&C	13.19	41.21	27.00
8 3/4"	0	4,700	7"	23#/J-55	LT&C	1.61	1.74	2.90



7) Cement program:

<b>Surface</b>	12 1/4"	hole
Pipe OD	9 5/8"	
Setting Depth	450	ft
Annular Volume	0.3132	cf/ft
Excess	1.5	150 %
Lead	125 sx	1.75 cf/sk 13.5 ppg
Tail	100 sx	1.34 cf/sk 14.8 ppg

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

Tail: "C" + 1% PF1

Top of cement: Surface

<b>Production</b>	8 3/4"	hole
Pipe OD	7"	
Setting Depth	4,700	ft
Annular Volume	0.1503	cf/ft
Excess	1	100 %

Stage 1

Lead:	442 sx	2.04 cf/sk	12.6 ppg
Tail:	348 sx	1.47 cf/sk	13.0 ppg

Lead: 35/65 Poz "C" + 5% PF44 + 6% PF20 + 3 pps PF42 + .2% PF13 + .125 pps PF130 + .25 pps PF46

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

Top Lead - ft

Top Tail 3,000 ft

Cement will be circulated to surface and bond log performed

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 9 5/8" SOW x 11" 3M casing head will be installed on the 9 5/8" casing and utilized until total depth is reached. All BOP and associated equipment will be tested to 3,000 psi and the annular will be tested to 1,500 psi after setting the 9 5/8" string. The 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 valve and subs to fit all drill string connections in use.

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

Fill up line above the upper most preventer.

9) Mud program:

Top	Bottom	Mud Wt.	Vis	PV	YP	Fluid Loss	Type System
0,	450	8.5 to 8.9	32 to 36	6 - 12	2 - 8	NC	Fresh Water
450	4,700	8.9 to 9.1	28 to 36	1 - 6	1 - 6	NC	Brine/Fresh Water

10) Logging, coring, and testing program:

No drillstem test are planned

Total depth to intermediate: CNL, Caliper, GR, DLL,

Intermediate to surface: CNL, GR

No coring is planned

11) Potential hazards:

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

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

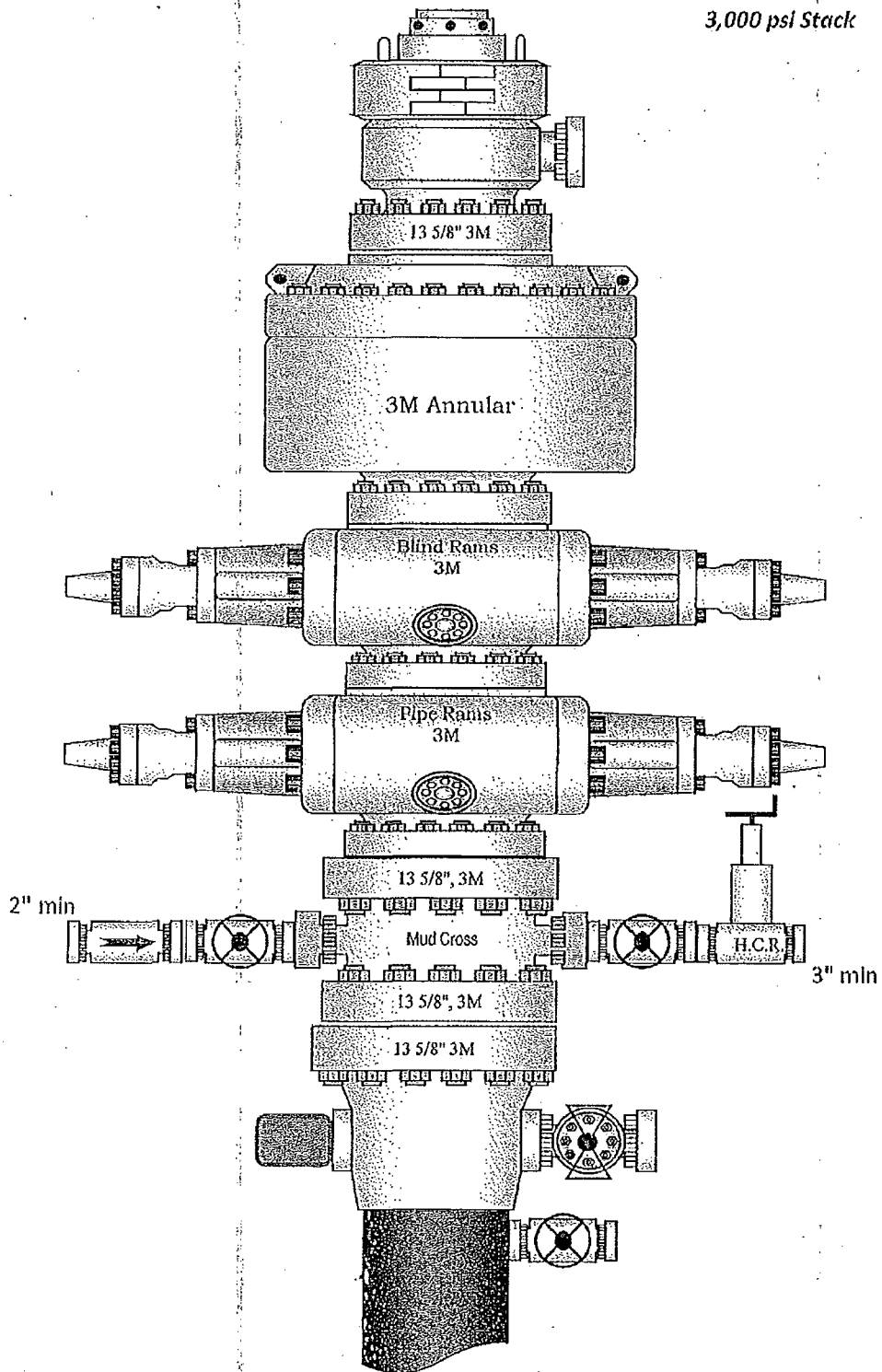
12) Anticipated Start Date

ASAP

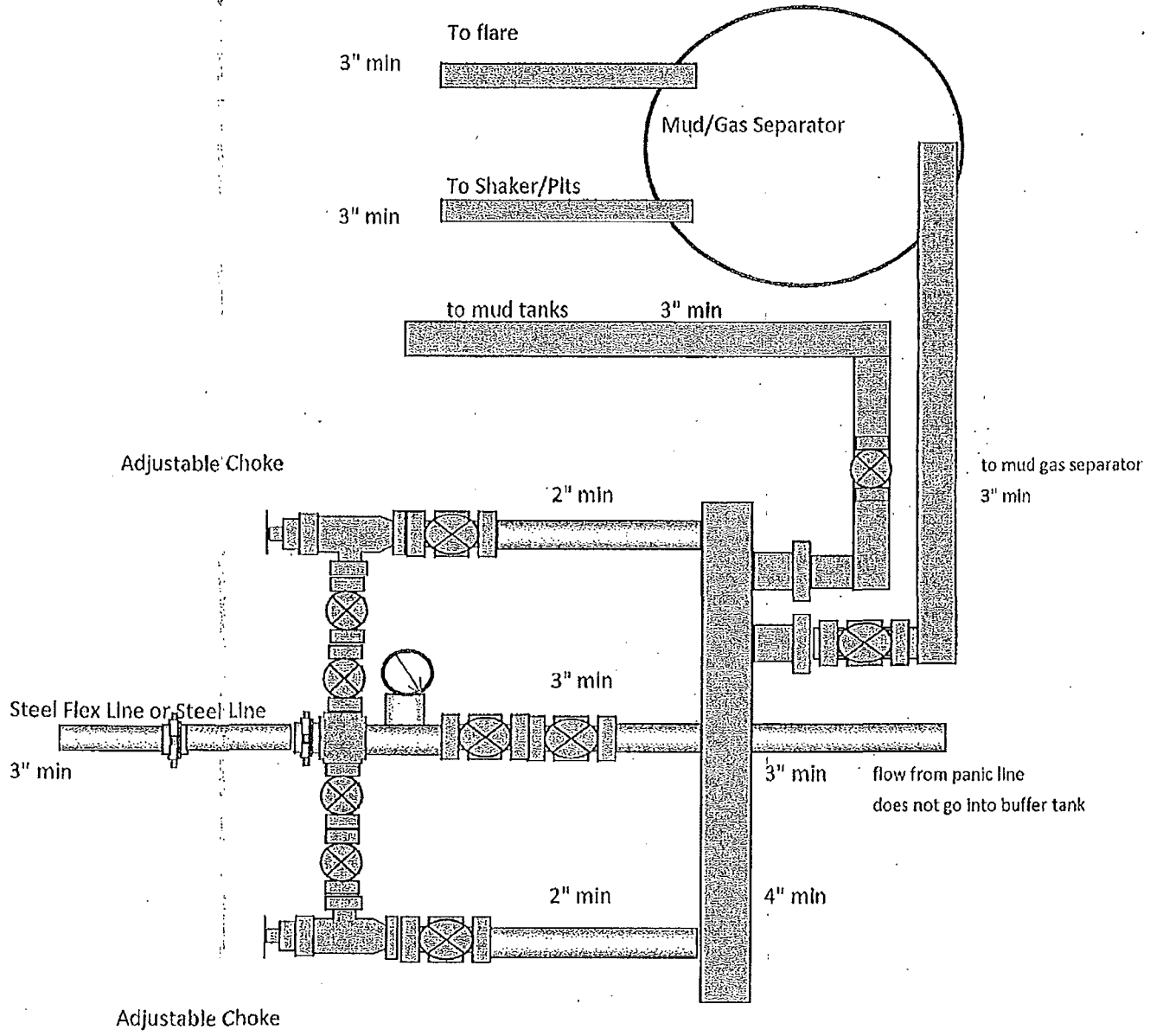
Duration

7 days

3,000 psi Stack



3,000 psi Manifold



State of New Mexico  
Energy, Minerals and Natural Resources Department

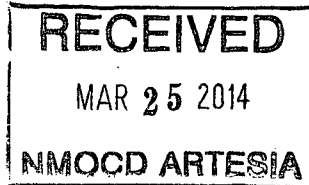
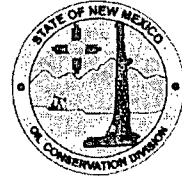
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Susana Martinez  
Governor

David Martin  
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.  
Deputy Cabinet Secretary

Jami Bailey, Division Director  
Oil Conservation Division



Administrative Order SWD-1457  
January 22, 2014

ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION

Pursuant to the provisions of 19.15.26.8B. NMAC, RKI Exploration and Production, LLC (the "operator") seeks an administrative order for its proposed LVP SWD Well No. 1 with a location of 2100 feet from the South line and 385 feet from the East line, Unit letter I of Section 4, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico, for produced water disposal purposes.

THE DIVISION DIRECTOR FINDS THAT:

The application has been duly filed under the provisions of 19.15.26.8B. NMAC and satisfactory information has been provided that affected parties as defined in said rule have been notified and no objections have been received within the prescribed waiting period. The applicant has presented satisfactory evidence that all requirements prescribed in 19.15.26.8 NMAC have been met and the operator is in compliance with 19.15.5.9 NMAC.

IT IS THEREFORE ORDERED THAT:

The applicant, RKI Exploration and Production, LLC (OGRID 246289), is hereby authorized to utilize its LVP SWD Well No. 1 (API 30-015-Pending) with a location of 2100 feet from the South line and 385 feet from the East line, Unit letter I of Section 4, Township 23 South, Range 28 East, NMPM, Eddy County, for disposal of oil field produced water (UIC Class II only) into the Bell Canyon and Cherry Canyon formations of the Delaware Mountain group through perforations from approximately 3400 feet to approximately 4650 feet. Injection will occur through 4 1/2-inch, internally-coated tubing and a packer set within 100 feet of the permitted interval.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the disposed water enters only the approved disposal interval and is not permitted to escape to other formations or onto the surface. This includes the well construction proposed and described in the application.

The operator shall supply the Division with a copy of a mudlog over the permitted disposal interval and an estimated insitu water salinity based on open-hole logs. If significant hydrocarbon shows occur while drilling, the operator shall notify the Division's district II and the operator shall be required to receive written permission prior to commencing disposal.

After installing tubing, the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge or an approved leak detection device in order to determine leakage in the casing, tubing, or packer. The casing shall be pressure tested from the surface to the packer setting depth to assure casing integrity.

The well shall pass an initial mechanical integrity test ("MIT") prior to initially commencing disposal and prior to resuming disposal each time the disposal packer is unseated. All MIT testing procedures and schedules shall follow the requirements in Division Rule 19.15.26.11A. NMAC. The Division Director retains the right to require at any time wireline verification of completion and packer setting depths in this well.

The wellhead injection pressure on the well shall be limited to **no more than 680 psig**. In addition, the disposal well or system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface tubing pressure to the maximum allowable pressure for this well.

The Director of the Division may authorize an increase in tubing pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the disposed fluid from the target formation. Such proper showing shall be demonstrated by sufficient evidence including but not limited to an acceptable Step-Rate Test.

The operator shall notify the supervisor of the Division's district II office of the date and time of the installation of disposal equipment and of any MIT test so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of disposal to the Division's district office. The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Division Rules 19.15.26.13 and 19.15.7.24 NMAC.

Without limitation on the duties of the operator as provided in Division Rules 19.15.29 and 19.15.30 NMAC, or otherwise, the operator shall immediately notify the Division's district II office of any failure of the tubing, casing or packer in the well, or of any leakage or release of water, oil or gas from around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

The injection authority granted under this order is not transferable except upon division approval. The Division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.


The Division may revoke this injection permit after notice and hearing if the operator is in violation of 19.15.5.9 NMAC.

The disposal authority granted herein shall terminate two (2) years after the effective date of this order if the operator has not commenced injection operations into the subject well. One year after the last date of reported disposal into this well, the Division shall consider the well abandoned, and the authority to dispose will terminate *ipso facto*. The Division, upon written

request mailed by the operator prior to the termination date, may grant an extension thereof for good cause.

Compliance with this order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the disposal authority granted herein.

  
JAMI BAILEY  
Director

JB/prg

cc: Oil Conservation Division – Artesia District Office  
[Administrative Appl. No. pMAM1334554325]