

**Arrant, Bryan, EMNRD**

30-015-35334

**From:** Arrant, Bryan, EMNRD  
**Sent:** Friday, December 29, 2006 9:01 AM  
**To:** 'Linda Stiles'  
**Subject:** RE: SCB 23-18 Contingency Plan Statement & Drilling Prognosis

Thanks Linda for the detailed information.  
Please let me know when you get the NSL approval for this well.  
I can approve this for "drill only" until then.  
Have a happy and safe one.  
Bryan

---

**From:** Linda Stiles [mailto:LStiles@rangeresources.com]  
**Sent:** Friday, December 29, 2006 8:12 AM  
**To:** Arrant, Bryan, EMNRD  
**Cc:** Greywolf 42  
**Subject:** SCB 23-18 Contingency Plan Statement & Drilling Prognosis

Good Morning,

Here is what I think you need, please let me know as soon as possible if it isn't, we get to leave at 2:00 PM (1:00 PM your time) and I want to have everything done before then.

Thanks,  
Is

*Linda Stiles*  
*Sr. Engineering Tech*  
*Range Resources Corporation*  
(817) 810-1908 - Office  
(817) 810-1943 - Fax  
(817) 291-4618 - Cell  
[lstyles@rangeresources.com](mailto:lstyles@rangeresources.com)

12/29/2006



**SCB #23-18**  
**Drilling Program**  
Prepared 12/28/2006

**WELL:** SCB 23-18  
**COUNTY:** Eddy, NM  
**GROUND ELEVATION:** 3031.6'  
**KB:** 13'

**PROPOSED DEPTH:** 6400' MD  
6400' TVD

**LOCATION:**

1833' FNL & 1052' FWL, Sec. 23-T23S-R28E, Eddy County, NM

**ANTICIPATED PRODUCTIVE FORMATION:** Brushy Canyon

**NMOCD PROPERTY CODE #:** 200270

**API NO:** 30-015-35334

**DIRECTIONS TO LOCATION:**

From the intersection of Eddy County State Highway #31 (Potash Mines) and Eddy County Rd #740, (Donalson Rd.), go south on County Road #740 for approximately 1.3 miles. Turn left and go east approximately 0.2 miles to the SCB 23-4 well pad. Location is approximately 7' east of well pad.

**GENERAL:**

The SCB 23-18 will be a 6400' Brushy Canyon producer in Eddy Co., New Mexico drilled on a daywork basis by Patterson Rig #65. After building the surface location Rig #65 will move in and drill a 12-1/4" surface hole to +/-570. Actual TD will be spaced so that casing will be landed where the casing head can be screwed on. A string of 8-5/8" casing will be run and cemented to surface.

Nipple up BOPs and test same, drilling will continue with a 7-7/8" hole to a total depth of 64500'. Actual TD will be spaced so that casing will be landed where the casing head can be screwed on. After electric-logging the open-hole interval, a string of 5-1/2" casing will be run and cemented from total depth to surface and the tubing head installed.

Well will be drilled on a daywork contract plus fuel basis.



**RANGE** RESOURCES

**ESTIMATED FORMATION TOPS: (Log Depths)**

Pardue	4670'
BC 'A'	5905'
BC 'B'	5990'
BC 'C'	6105'
BC 'D'	6170'
Total Depth	6400'

**DETAILED DRILLING PROCEDURE**

**TIMES AND EVENTS TO NOTE ON DRILLING REPORT:**

- A. SPUD
- B. TD
- C. RIG RELEASE

**MUD PROGRAM**

INTERVAL	MUD WEIGHT	FUNNEL VIS.	PV/YP	API Fluid Loss
0' - 570'	8.4 – 9.0	36-45		NC
570'-6000'	9.9 – 10.1	28-32		NC
6000'-6400'	9.9 - 10.2	34-38		Less than 20

Level and build an all-weather location and access road.

MIRU Patterson Rig #65. Perform rig safety inspection and ensure that everything is in proper working order prior to spudding well. In some areas it may be necessary to set a conductor due to sand. The well will be drilled with a closed loop mud system. RU rails and cuttings catch tanks and additional mud cleaning equipment.

**Notify NMOCD of intent to spud, run casing and cement each 24 hours in**

**Range Resources Corporation**

777 Main Street

Suite 800

Fort Worth, Texas 76102

Tel: (817) 870-2601

Fax: (817) 870-2316



**RANGE** RESOURCES

**advance 505-748-1283.**

Spud well with 12.25" mill tooth bit. BHA should consist of 4-8" drill collars and 6" drill collars. Drill to +/- 570' (Actual depth will be determined by the length of the casing). Circulate hole clean. Sweep and condition hole to run casing. Drop a TOTCO prior to POOH (must run 1st survey prior to 500' per NMOCD rules). Pull out of hole, lay down 12.25" BHA.

**NOTE:** Mud through this interval will be a native spud mud supplemented with Bentonite. Lime may be used to flocculate the mud and increase the yield point to clean the hole. Mix paper for seepage control. Utilize all solids control equipment to control drill solids. Run as fine of mesh shaker screens as possible. Use water to control mud weight and viscosity. Maintain mud weight at 8.4 – 9.0 ppg.

Make sure to get mill test papers with surface casing. Rig up casing crew and run 8-5/8", 24.0#, J-55, ST&C as follows:

- 1-8-5/8" Texas Pattern Shoe
- 1-8-5/8" Insert Float Collar
- 1-8-5/8" x 12-1/4" Centralizer 10' above shoe
- 1-8-5/8" x 12-1/4" Centralizer next two joints
- 1-8-5/8" Stop Ring

Circulate for at least bottoms up plus one casing volume with mud prior to cementing. Cement surface casing according to cement recommendation. NOTE: Have field bin, cement, and circulating equipment on location prior to casing job. DO NOT call for pump truck until needed. Attempt to cut down on hours over minimum.

- a) Review rates, pressures, displacement volumes and casing pressure rating with Service Company and rig personnel. All cement slurries are to be lab tested; both a pilot test and a test of the actual field blend. Report results, including 24 hour compressive strengths, to the office. **(See Cement Testing Requirements below).** Also keep two samples of each dry cement.
- b) Cement well as follows: Pump 10 bbl fresh water , mix 600 sxs class "C" with 2% CcCl<sub>2</sub>, ¼# celloseal mixed @ 14.8ppg & 1.32 ft<sup>3</sup>/ sx Tail, Displace with fresh water, Bump plug with w/ 500 psi over final pump pressure.
- c) If cement is not circulated to surface, contact the office and the NMOCD and prepare to run 1" and top out cement. Have 1" pipe on location for top-out.

**Range Resources Corporation**

777 Main Street

Suite 800

Fort Worth, Texas 76102

Tel: (817) 870-2601

Fax: (817) 870-2316



**RANGE** RESOURCES

d) If cement falls, fill 12.25" X 8-5/8" annulus with cement.

Release pressure and check for flow back. If float is holding WOC six (6) hours before NU wellhead and BOP. Otherwise shut in well, hold & WOC 12 hours. Well must stand at least 8 hours total before any testing of casing is performed per NMOCD.

After Cementing casing, screw on 8-5/8" Larkin Model 92 style casing head. Test BOP blind Rams & choke manifold 250# low & 3000# high. Pick up bit (Reed TD53B, jetted w/ 3-12's) & BHA , trip in hole, test BOP pipe rams 250# low & 3000#. Pressure test casing -to 1000 psi for 30 minutes prior to drilling out shoe.

**MUD NOTES: See Mud Program for details**

After cementing 8-5/8" casing circ pit with brine water. Mix paper for seepage control. Utilize pre-hydrated Gel/Lime sweeps for flushing the hole. Run all available solids control equipment to control weight. Add brine water as needed to maintain volume. Add LCM to system only as needed. Use batch LCM treatment if losses occur and maintain as needed.

Drill ahead with brine water in 7-7/8" hole taking deviation surveys every  $\pm 500'$  or nearest bit run per NMOCD rules. Use sweeps as needed to clean hole. Drill to  $\pm 6400'$ ; exact TD will be determined by the length of the casing. Sweep and condition hole in preparation for logging. Spot a 50 bbl, 40-42 visc pill prior to POOH for logs. Strap out of hole.

- 10) RU Wire line Truck and Tools. Log well as instructed by RB Operating. Rotary sidewall cores may be required along with RFTs.
- 11) Make a conditioning trip prior to running casing. Trip into hole with BHA and drill pipe, break circulation at 2400'. Ream last two stands to bottom. Circulate and condition hole. Maintain viscosity of 38. TOH laying down 4-1/2" drill pipe and drill collars. Clear floor and prepare to run casing.
- 12) Rig up casing crew and run 5-1/2" 15.5#, J-55, LT&C as follows:
  - a) Float shoe (thread-lock)
  - b) 2 jts. 5-1/2", 15.5#, J-55, LT&C casing (thread-lock)
  - c) Float collar (thread-lock)
  - d) 5-1/2", 15.5#, J-55, LT&C Casing to 3350'.

**Range Resources Corporation**

777 Main Street

Suite 800

Fort Worth, Texas 76102

Tel: (817) 870-2601

Fax: (817) 870-2316



RANGE RESOURCES

- e) DV tool.
- f) 5-1/2", 15.5#, J-55, LT&C Casing to surface.

The two bottom joints of 5-1/2" casing and the float shoe and float collar should be thread-locked (do not weld pipe). Run 1 centralizer 5' above shoe with limit clamp, one on the next collar, one just below the float collar with limit clamp and one per joint up to 4500'. Run 1 centralizer above and below the DV tool.

- 13) Circulate mud for at least bottoms up plus one casing volume prior to cementing.
- 14) Cement the production casing as follows. Re-figure cement volumes on a basis of: caliper + 20% + 50 sx. Precede Cement with 20 bbl fresh water, 500 gals superflush, 20 bbl fresh water

Stage One:

Lead: 600 sx 50:50 Poz C + 2% Gel + 0.40% TF-4 + 57% water + 0.3% CF-2 + 10 pps Gilsonite, mixed at 13.6 ppg, 1.48 ft3/sk.

Tail: 150 sx. Class "C" + 0.2% TF-4 + .3% CF-14 + 56% water, mixed at 14.8 ppg, 1.33 ft3/sk.

Release pressure and check for flow back. After bumping plug, drop DV tool opening dart and allow to fall. **Open DV tool and circulate 4 to 6 hours.** Mix and pump stage two.

Stage Two:

Lead: 820 sx 35:65 Poz C + 10% D44 + 6% D20 + 0.2% D46, mixed at 12.7 ppg, 2.08 ft3/sk.

Tail: 100 sx Class C + 2% CaCl<sub>2</sub>, mixed at 14.8 ppg, 1.34 ft3/sk.

- a) Review rates, pressures, displacement volumes and casing pressure rating with Service Company and rig personnel. All cement slurries are to be lab tested; both a pilot test and a test of the actual field blend. Report results, including 24 hour compressive strengths, to the office. **(See Cement Testing Requirements below).** Also keep two samples of each dry cement.
- b) Have additional water storage on location as necessary for mixing cement. Have water analyzed by cementing company for compatibility with cement and chemicals.
- c) Reciprocate pipe during Stage #1 of job. Pump spacer and cement at 7-8 BPM. When the last cement has been pumped, maintain rate at 7-8 BPM. Displace



**RANGE** RESOURCES

with fresh water. When reaching displacement to shoe joint minus 10 bbls slow pump rate to 2 barrels per minute or less prior to bumping plug.

- d) Bump plug with 500 psi over final displacement pressure and hold pressure for 15 minutes.
  - e) If cement does not circulate notify NMOCD office.
- 15) Release pressure and check for flow back. If floats are holding, continue to make preparations to hang 5-1/2" casing one foot off bottom. If floats do not hold, wait 12 hours on cement.
- 16) Set 5-1/2" slips in "A" section. Nipple down BOP, Nipple up well head.
- 17) Install cap. Clean mud pits and release rig.

#### **CEMENT TESTING REQUIREMENTS:**

**Laboratory Blend:** Obtain thickening time, rheology, water loss, and compressive strengths of the laboratory cement blend with a water sample of the actual water to be used in cementing for each cement slurry to be pumped.

**Field Blend:** Obtain thickening time of the field cement blend with a water sample of the actual water to be used in cementing for each slurry to be pumped. If the thickening time of the field blend is consistent with the thickening time of the laboratory blend, proceed with the cement job. If not, wait on the compressive strength results. Regardless of thickening time results, obtain all of the compressive strengths of field blend to compare with the compressive strengths of the laboratory blend.



**RANGE RESOURCES**

NAME	POSITION	CELL PHONE	HOME PHONE	OFFICE PHONE
George Allen Teer	VP of Operations	(817) 723-1107	(817) 491-3740	(817) 870-2601
Bill Frye	District Engineer	(817) 320-7919	(817) 741-4940	(817) 870-2601
Don Robinson	Drilling Engineer	(469) 450-2281	(972) 317-8345	(817) 870-2601
Rennie Hubnik	District Geologist	(817) 907-8272	(817) 735-9584	(817) 870-2601
Terri Mayfield-Cowan	District Geologist	(682) 429-7493	(817) 448-9842	(817) 870-2601
Linda Stiles	Safety/Environmental	(817) 291-4618	(817) 561-5544	(817) 810-1908

COMPANY NAME	SERVICE	CONTACT PERSON	TELEPHONE NO.
<b>Patterson., Midland, TX</b>	Sales	Steve McCoy	(432)-682-9401
<b>Patterson Rig #65</b>	Rig Floor		(505) 390-7108
	Tool Pusher	Robert Lambright	(505) 420-0801
<b>Suttles Logging, Inc. – Midland, TX</b>	Mudlogging	Sam Samford	432-687-3148
<b>Schlumberger-Artesia, NM</b>	Cementing Service	Lynn Northcutt	(505)-748-1392 cell 505-365-7510
<b>Nova Mud, Inc- Hobbs, NM</b>	Drlg Mud	Dale Welch	(800) 530-8786
<b>National – Hobbs, NM</b>	Well Heads		(505) 393-9928
<b>Master Tubulars – Midland, TX</b>	Casing & Tubing	Randy Martin	(800) 682-8996
<b>TFH –Hobbs, NM</b>	Dirt Contractor		(505) 397-3270
<b>Schlumberger –Artesia, NM</b>	Float Equipment		
<b>Halliburton Logging –Hobbs, NM</b>	Open Hole Logs	Michael Escriva Tommy Johnson	(505) 392-7543
<b>Allen's Casing Crew -Hobbs, TX</b>	Csg Crew		
<b>CRI –Odessa, TX</b>	Closed Mud System	Larry Parker	(505) 631-6984
<b>I&amp;W- Carlsbad, TX</b>	Water -		(505) 885-6663
<b>SWACO-Odessa, TX</b>	Mud Cleaning	Keith Solley	(915) 550-2944
<b>National –Hobbs, NM</b>	General Supplies		(505) 393-9928
<b>TFH –Hobbs, NM</b>	Fork Lift		(505) 397-3270

**Range Resources Corporation**

777 Main Street

Suite 800

Fort Worth, Texas 76102

Tel: (817) 870-2601

Fax: (817) 870-2316



## DISTRICT I

1003 N. FRANKLIN DR., BOHMER, NM 86240

## DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 86210

## DISTRICT III

1000 Rio Bravos Rd., Aztec, NM 87410

## DISTRICT IV

1300 E. ST. FRANCIS DR., SANTA FE, NM 87505

## State of New Mexico

Energy, Minerals and Natural Resources Department

## OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.  
Santa Fe, New Mexico 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

## WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
Property Code	Property Name SCB 23	Well Number 18
OGRIID No.	Operator Name RANGE OPERATING NEW MEXICO, INC.	Elevation 3032'

## Surface Location

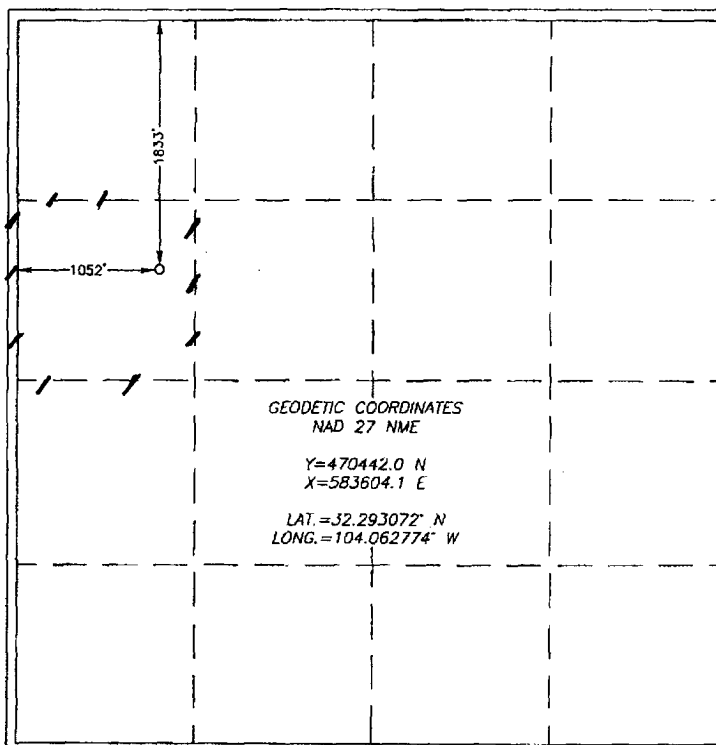
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	23	23-S	28-E		1833	NORTH	1052	WEST	EDDY

## 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
---------------	---------	----------	-------	---------	---------------	------------------	---------------	----------------	--------

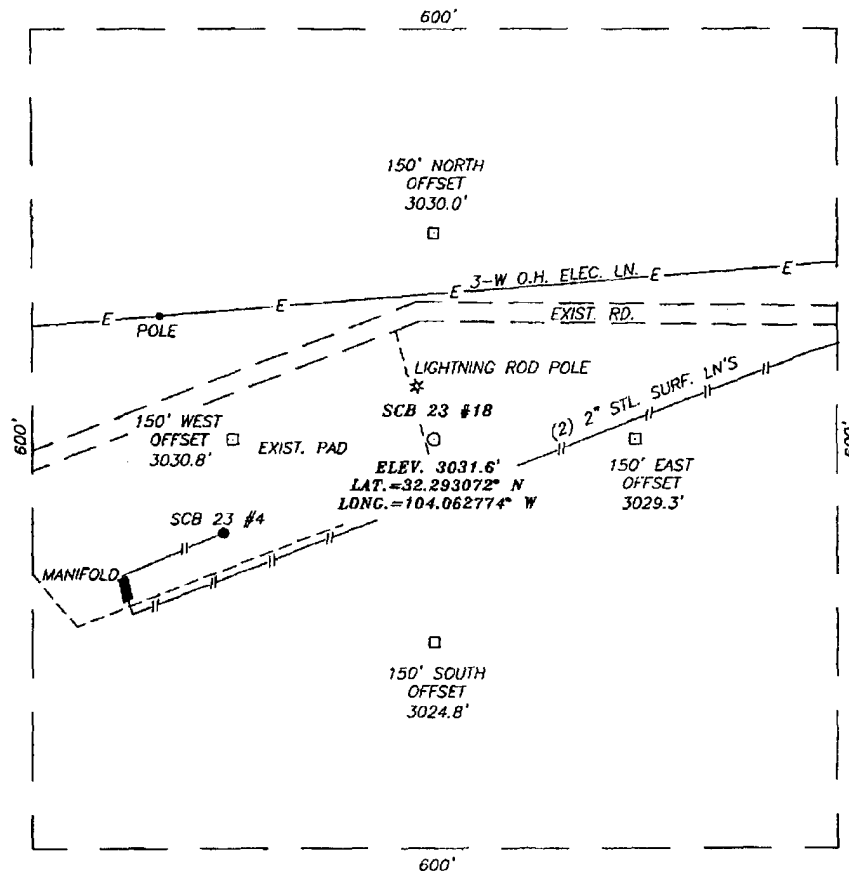
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
40			

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

	<b>OPERATOR CERTIFICATION</b> I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided 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 mineral or working interest, or in a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.  Signature: <i>Linda C. Stiles</i> Date: <i>12/28/06</i> Printed Name: <i>Linda C. Stiles</i>
	<b>SURVEYOR CERTIFICATION</b> I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.  DECEMBER 12, 2006 Date Surveyed: <i>LA</i> Signature & Seal of Professional Surveyor: <i>GARY KIDSON 12/20/06</i> 06.11.1399 Certificate No. GARY KIDSON 18641

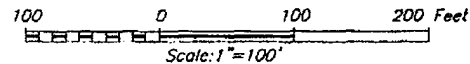
GEODETIC COORDINATES  
NAD 27 NMEY=470442.0 N  
X=583604.1 ELAT.=32.293072° N  
LONG.=104.062774° W

**SECTION 23, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.,**  
**EDDY COUNTY, NEW MEXICO**



**DIRECTIONS TO LOCATION**

FROM THE INTERSECTION OF ST. HWY #31  
(POTASH MINES) AND CO. RD. #740 (DONALSON  
RD.), GO SOUTH ON CO. RD. #740 APPROX. 1.3  
MILES. TURN LEFT AND GO EAST APPROX. 0.2  
MILES TO THE SCB 23 #4 WELL PAD. THIS  
LOCATION IS APPROX. 7 FEET EAST OF WELL PAD.



PROVIDING SURVEYING SERVICES  
SINCE 1946

**JOHN WEST SURVEYING COMPANY**

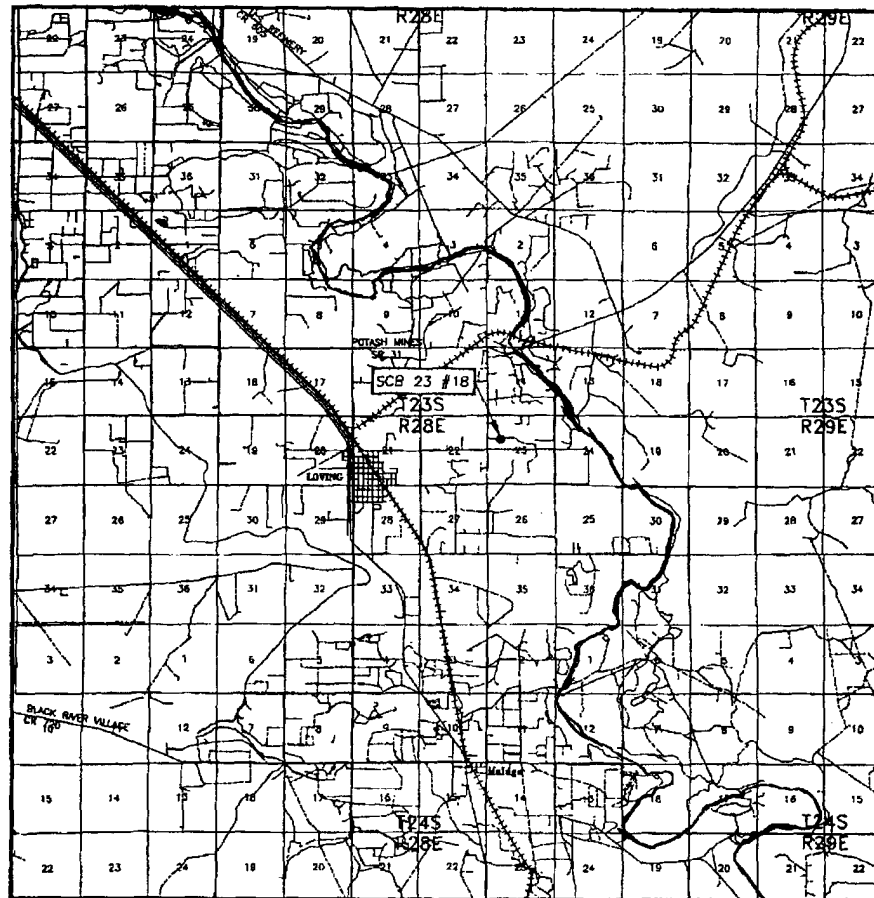
412 N. DAL PASO  
HOBBS, N.M. 88240  
(505) 303-3117

**RANGE OPERATING NEW MEXICO, INC.**

SCB 23 #18 WELL  
LOCATED 1833 FEET FROM THE NORTH LINE  
AND 1052 FEET FROM THE WEST LINE OF SECTION 23,  
TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.

Survey Date: 12/12/06	Sheet 1 of 1 Sheets
W.O. Number: 06.11.1399	Dr By: LA
Date: 12/19/06	Disk: CD#5
06111399	Scale: 1"=100'

## VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 23 TWP. 23-S RGE. 28-E

SURVEY N.M.P.M.

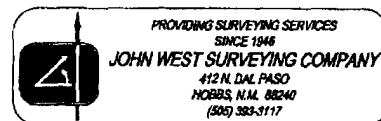
COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1833' FNL &amp; 1052' FWL

ELEVATION 3032'

OPERATOR RANGE OPERATING  
NEW MEXICO, INC.

LEASE SCB 23



PROVIDING SURVEYING SERVICES

SINCE 1946

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO

HOBBBS, N.M. 88240

(505) 393-1117





**RANGE RESOURCES**

December 28, 2006

New Mexico Oil Conservation Division  
1301 West Grand Avenue  
Albuquerque, New Mexico 88210

Attention: Mr. Bryan Arrant

RE:	South Culebra Bluff 23-17	2440' FNL & 1500' FWL	Section 23 T23S R28E
	South Culebra Bluff 23-18	1833' FNL & 1052' FWL	Section 23 T23S R28E
	South Culebra Bluff 23-19	1520' FNL & 2550' FWL	Section 23 T23S R28E
	South Culebra Bluff 23-20	2440' FNL & 2364' FWL	Section 23 T23S R28E
	South Culebra Bluff 23-18	2440' FNL & 1604' FWL	Section 23 T23S R28E

Dear Mr. Arrant:

Range Operating New Mexico, Inc. has reviewed the New Mexico Oil Conservation Division's Rules and Regulation, Title 19 Natural Resources & Wildlife; Chapter 15 Oil and Gas; Part 3 Drilling; Rule 19.15.3.118 Hydrogen Sulfide Gas to determine if an H<sub>2</sub>S Contingency Plan is required for the above referenced wells. Of the wells that Range Operating New Mexico, Inc. has drilled in the past 2 years in this Section, Township and Range, we are able to conclude that any potential hazardous volume of hydrogen sulfide (H<sub>2</sub>S) would be minimal. H<sub>2</sub>S concentrations of wells in this area from surface to TD are low to none; therefore we do not believe that a Contingency Plan is necessary.

Hopefully we have addressed the needed information to expedite the completion of our applications. Please call me at (817) 8170-1908 if you have any questions or need additional information.

Sincerely,

Linda Stiles  
Sr. Engineering Tech

LS/

**Range Resources Corporation**

777 Main Street Suite 800 Fort Worth, Texas 76102 Tel: (817) 870-2601 Fax: (817) 810-1943