

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural
Resources

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Form C-101
Revised March 17, 1999

Submit to appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies

☐ AMENDED REPORT

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

¹ Operator Name and Address SONAT RATON, L.L.C. P. O. BOX 190; RATON, NEW MEXICO 87740		² OGRID Number 180514
		³ API Number 30-007-20134
³ Property Code 24648	⁵ Property Name Vermejo Park Ranch	⁴ Well No. VPR A-23X

⁷ Surface Location

UL or lot no. L	Section 32	Township 32N	Range 20E	Lot Idn	Feet from the 1829	North/South line FSL	Feet from the 68	East/West line FWL	County Colfax
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⁸ Proposed 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
⁹ Proposed Pool 1 Vermejo Coals						¹⁰ Proposed Pool 2 Raton Coals			

¹¹ Work Type Code N	¹² Well Type Code G	¹³ Cable/Rotary air / rotary	¹⁴ Lease Type Code P	¹⁵ Ground Level Elevation 8037'(GL)
¹⁶ Multiple yes	¹⁷ Proposed Depth 2600'	¹⁸ Formation Trinidad	¹⁹ Contractor	²⁰ Spud Date July 10, 1999

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
11"	8 5/8"	23#	350'	135 sx.	Surface
7 7/8"	5 1/2"	15.5#	2600	416 sx.	Surface

- 22 Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.
- Drill 11" surface hole to 350'. Cement to surf. With 135 sx. Class 'G'. Skid location approx. 25' W. from original J & A location.
 - Drill 7 7/8" hole to through the Raton and Vermejo coals to penetrate the top of the Trinidad. Set 5 1/2" production csg. Cement with 270 sx. 12.5 ppg Mid-Con 2 cement (30% excess).
 - Open hole logs to include caliper, density, and gamma ray. Cement bond log will be run if unable to circulate cement to surface.
 - Perforate coal zones and perform sand frac job.
 - Run 2 7/8" tubing and pumping equipment and place on test.

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. Signature: <i>Paul R. Bruce</i>		OIL CONSERVATION DIVISION	
Printed name: Donald R. Lankford		Approved by: <i>[Signature]</i>	
Title: Senior Petroleum Engineer		Title: DISTRICT SUPERVISOR	
Date: 8/4/99		Approval Date: 8/4/99	Expiration Date: 8/4/00
Phone:		Conditions of Approval: Attached ☐	

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State of New Mexico
Energy, Minerals & Natural Resources

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-102
Revised March 17, 1994

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number		² Pool Code	³ Pool Name
⁴ Property Code 24648	⁵ Property Name VERMEJO PARK RANCH		⁶ Well Number VPR 'A' 23X
⁷ OGRID No. 180514	⁸ Operator Name SONAT RATON, LLC.		⁹ Elevation 8035.0

¹⁰ Surface Location

UL or lot no. L	Section 32	Township T 32 N	Range R 20 E	Lot Idn L	Feet from the 1829.0	North/South line SOUTH	Feet from the 67.7	East/West line WEST	County COLFAX
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¹¹ 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
¹² Dedicated Acres		¹³ Joint or Infill	¹⁴ Consolidation Code		¹⁵ Order No.				

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16				¹⁷ OPERATOR CERTIFICATION <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</i> Signature _____ Printed Name DONALD R. LANKFORD Title SENIOR PETROLEUM ENGINEER Date _____
				¹⁸ SURVEYOR CERTIFICATION <i>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.</i> Date of Survey AUGUST 4, 1999 Signature and Seal of Professional Surveyer: _____ Certificate Number L.S. NO. 5103

67.7'

1829.0'



Saturation Index Calculations

Champion Technologies, Inc.
(Based on the Tomison-Oddo Model)

Site Information

Company	Sonal Raton LLC
Field	VPR A
Point	23X
Date	9/24/1999

Water Analysis (mg/L)

Calcium	96
Magnesium	56
Barium	0
Strontium	0
Sodium*	944
Bicarbonate Alkalinity	1,390
Sulfate	15
Chloride	970

* - Calculated Value

Appended Data

CO2	2 mg/L
H2S	0 mg/L
Iron	5 mg/L

TDS-3,476

Physical Properties

Ionic Strength*	0.05
pH†	7.70
Temperature	99°F
Pressure	50 psia

* - Calculated Value † - Known/Specified Value

Calcite Calculation Information

Calculation Method	Value
pH	7.70
Bicarbonate Alkalinity Correction(s)	Value
None Used	---

SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	1.04	74.6
Gypsum (Calcium Sulfate)	-3.17	N/A
Hemihydrate (Calcium Sulfate)	-2.95	N/A
Anhydrite (Calcium Sulfate)	-3.42	N/A
Barite (Barium Sulfate)	N/A	N/A
Celestite (Strontium Sulfate)	N/A	N/A

**Sonat Raton
P.O. Box 190
Raton, NM 87740**

Oct. 6, 1999

NOTICE OF GAS CONNECTION

This is to notify the New Mexico Oil Conservation Division that connection for purchase of gas from Sonat Raton's Vermejo Park Ranch Well No. A-23~~X~~ meter station no. 'A-23~~X~~' located in unit letter L, Section 32, Township 32 North, Range 20 East, Colfax County, New Mexico, 160 acre area, was made on 09/22/99, by Sonat Raton, L.L.C. First delivery date: 10/1/99.

Purchaser: **Sonat Raton, L.L.C.**

Representative: DR Lumbert

Title: **Facilities Engineer**