



SUSPENSE 1/20/04	ENGINEER WVS	LOGGED IN 1/5/04	TYPE SWD	APP NO. PWVJ0400739461
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NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505

ABOVE THIS LINE FOR DIVISION USE ONLY

30-045-31606

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
 [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
 [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
 NSL NSP SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
 DHC CTB PLC PC OLS OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
 WFX PMX SWD IPI EOR PPR

[D] Other: Specify _____

Zero AOR wells

Elm Ridge's
 Central Bisti WDW 161

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or _ Does Not Apply

- ☒ [A] Working, Royalty or Overriding Royalty Interest Owners
- ☒ [B] Offset Operators, Leaseholders or Surface Owner
- ☒ [C] Application is One Which Requires Published Legal Notice
- ☒ [D] Notification and/or Concurrent Approval by BLM or SLO
 U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- ☒ [E] For all of the above, Proof of Notification or Publication is Attached, and/or,
- ☐ [F] Waivers are Attached

*Looks OK
 1/16/04 WVS*

[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Print or Type Name

Signature

Title

Date

BRIAN WOOD
 (505) 466-8120
 FAX 466-9682

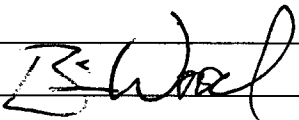
B. Wood

CONSULTANT

1-3-04

e-mail Address
 brian@permitswest.com

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance XXX Disposal _____ Storage
Application qualifies for administrative approval? XXX Yes _____ No _____
- II. OPERATOR: **ELM RIDGE RESOURCES, INC.**
ADDRESS: **P. O. BOX 189, FARMINGTON, NM 87499**
CONTACT PARTY: **BRIAN WOOD c/o PERMITS WEST, INC.** PHONE: **505 466-8120**
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? _____ Yes XXX No _____
If yes, give the Division order number authorizing the project: _____
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- *VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- *X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- *XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: **BRIAN WOOD** TITLE: **CONSULTANT**
SIGNATURE:  DATE: **1-3-04**
- * If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

INJECTION WELL DATA SHEET

ELM RIDGE RESOURCES, INC.

OPERATOR: _____

WELL NAME & NUMBER: _____ CENTRAL BISTI WDW #161

WELL LOCATION:	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE
	1067' FNL & 2286' FEL	B	16	25N	12W

WELLBORE SCHEMATICWELL CONSTRUCTION DATASurface Casing

Hole Size: 12-1/4" Casing Size: 9-5/8" @ 400'
 Cemented with: 213 sx. or 251 ft³
 Top of Cement: SURFACE Method Determined: VISUAL

Intermediate Casing

Hole Size: . Casing Size: .
 Cemented with: . sx. or . ft³
 Top of Cement: . Method Determined: .

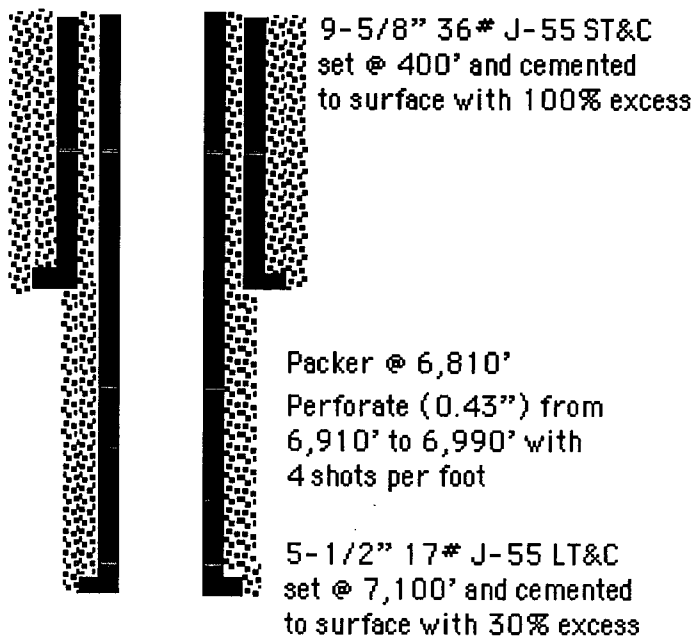
Production Casing

Hole Size: 8-3/4" Casing Size: 5-1/2" @ 7,100'
 Cemented with: 2,050 sx. or 2,385 ft³
 Top of Cement: SURFACE Method Determined: VISUAL & BOND LOG
 Total Depth: 7,100'

Injection Interval

6,910' feet to 6,990'

(Perforated or Open Hole, indicate which)



INJECTION WELL DATA SHEET

Tubing Size: 2-7/8" Lining Material: TUBOSCOPE

Type of Packer: ARROW SET MODEL DB OR ITS EQUIVALENT

Packer Setting Depth: ≈6,810'

Other Type of Tubing/Casing Seal (if applicable): _____

Additional Data

1. Is this a new well drilled for injection? XXX Yes _____ No _____
If no, for what purpose was the well originally drilled? _____

2. Name of the Injection Formation: SWD - ENTRADA
3. Name of Field or Pool (if applicable): WILDCAT
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. NO (NEW WELL)
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: _____
NOW PRODUCING OVERLYING: FRUITLAND (772' - 1,117') & GALLUP (4,735' - 4,845')
NONE PRODUCING UNDERLYING

ELM RIDGE RESOURCES, INC.
CENTRAL BISTI WDW #161
1067' FNL & 2286' FEL
SEC. 16, T. 25 N., R. 12 W.
SAN JUAN COUNTY, NEW MEXICO

PAGE 1

I. Purpose is water disposal.

II. Operator: Elm Ridge Resources, Inc.
Operator phone number: (505) 632-3476
Operator address: P. O. Box 189
Farmington, NM 87499
Contact: Brian Wood (Permits West, Inc.)
Phone: (505) 466-8120

III. A. (1) Lease: NM State Land Office lease E-6597-2
Lease Size: 640 acres
Lease Area: all Section 16, T. 25 N., R. 12 W.
Closest Lease Line: 1,067'
Well Name & Number: Central Bisti WDW #161
Well Location: 1067' FNL and 2286' FEL Sec. 16, T. 25 N., R. 12 W.
(see Exhibit A)

A. (2) Surface casing (9-5/8", 36#, J-55, S T & C) will be set at $\approx 400'$ in a 12-1/4" hole and cemented to the surface with ≈ 213 sacks (100% excess) Class G cement + Flocele + CaCl_2 . Top will be determined by visual observation. Cement will be mixed at 15.6 pounds per gallon and 1.18 cubic feet per sack.
Production casing (5-1/2", 17#, J-55, L T & C) will be set at $\approx 7,100'$ in a 8-3/4" hole and cemented to the surface with $\approx 30\%$ excess. Top will be determined by visual observation and bond log.
Production casing lead cement will be $\approx 2,000$ sacks BJ Hughes Premium light high strength + 10% gypsum + 5% polymer + 1/4 pound per sack cellophane mixed at 1.16 cubic feet per sack and 13.5 pounds per gallon. Will tail with ≈ 50 sacks 50/50 Poz + gilsonite + Flocele + gel mixed at 15.4 pounds per gallon and 1.3 cubic feet per sack.
Mechanical integrity of the casing will be assured by hydraulically pressure testing and charting before perforating.

ELM RIDGE RESOURCES, INC.
CENTRAL BISTI WDW #161
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- A. (3) Tubing will be 2-7/8" 6.5# J-55 tuboscope lined injection string. It will be set at $\approx 6,810'$ (disposal interval will be $\approx 6,910'$ to $\approx 6,990'$).
- A. (4) Arrow Set Model DB packer or its equivalent will be set at $\approx 6,810'$ (which will be $\approx 100'$ above top perforation).
- B. (1) Disposal zone will be the Entrada sandstone. Fracture gradient is expected to be a normal ≈ 0.70 psi per foot.
- B. (2) Disposal interval will be $\approx 6,910'$ to $\approx 6,990'$ (well logs will determine exact interval after drilling). It will be perforated (0.43") with four shots per foot.
- B. (3) Well has not yet been drilled. It will be drilled for the exclusive use by Elm Ridge and for the sole purpose of water disposal from present and future Elm Ridge wells. Water analyses from Elm Ridge wells in the Fruitland coal and Gallup sandstone are attached.
- B. (4) Well bore has not yet been perforated since it has not been drilled. It will be perforated from $\approx 6,910'$ to $\approx 6,990'$ (logs will determine exact interval after drilling).
- B. (5) Top of the Entrada is at $\approx 6,900'$. Oil is produced elsewhere in the San Juan Basin from the Entrada (e. g., Eagle Mesa). Closest Entrada production is a several dozen miles south. Bottom of the closest overlying actual productive formation (Gallup) is at $\approx 4,885'$. There will be a $\approx 2,025'$ interval between the highest injection perforation and the bottom of the Gallup. Bottom of the closest overlying potentially productive formation (Dakota) is at $\approx 5,900'$. There will be a $\approx 1,000'$ interval between the highest injection perforation and the bottom of the Dakota. There is no underlying productive formation within at least a dozen miles.

IV. This is not an expansion of an existing injection project. (Elm Ridge has a water flood in the Central Bisti Unit, but it is in the Lower Gallup - not the Entrada.)

ELM RIDGE RESOURCES, INC.
CENTRAL BISTI WDW #161
1067' FNL & 2286' FEL
SEC. 16, T. 25 N., R. 12 W.
SAN JUAN COUNTY, NEW MEXICO

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V. A map (See Exhibit B) is attached showing all 13 well bores (4 P & A + 7 oil + 2 gas) within a half mile radius and all 170 (1 water + 98 P & A + 71 oil or gas) well bores within a two mile radius. According to the Office of the State Engineer, the one water well (Section 11) is 102' deep. Details on the wells within a half mile radius are below.

<u>OPERATOR</u>	<u>WELL</u>	<u>LOCATION (25n-12w)</u>	<u>ZONE</u>	<u>TD</u>	<u>STATUS</u>
Elm Ridge	CBU 35	SESW Sec. 9	Gallup	5011	P & A
Elm Ridge	CBU 36	SWSE Sec. 9	Gallup	4930	Oil Well
Elm Ridge	CBU 71	SESE Sec. 9	Gallup	4880	Oil Well
Elm Ridge	CBU 38	NENE Sec. 16	Gallup	5150	Oil Well
Elm Ridge	CBU 40	NENW Sec. 16	Gallup	4860	Oil Well
Elm Ridge	CBU 44	SESW Sec. 16	Gallup	4897	Oil Well
Elm Ridge	CBU 69	NWNE Sec. 16	Gallup	4885	Oil Well
Elm Ridge	CBU 96	SENE Sec. 16	Gallup	4960	Oil Well
Elm Ridge	Bisti Coal 16-1	SWNE Sec. 16	Fruitland	1265	Gas Well
Elm Ridge	Bisti Coal 16-2	NESW Sec. 16	Fruitland	1265	Gas Well
Hixon	Kelly State 1	NENE Sec. 16	Pictured Cliff	1330	P & A
Hixon	CBU 47	NESW Sec. 16	Gallup	4880	P & A
Hixon	CB State 41	NWNW Sec. 16	Gallup	4900	P & A

A map (see Exhibit C) showing all leases (State, Navajo allotted, or BLM) within a half mile and all leases (State, Navajo allotted, or BLM) within two miles is attached. Details on the leases within a half mile are:

<u>AREA (all T. 25 N., R. 12 W)</u>	<u>TYPE LEASE</u>	<u>LEASE #</u>	<u>LESSEE(S)</u>
SW4 Sec. 9	Allotted	14-20-603-326	Elm Ridge
SE4 Sec. 9	Allotted	14-20-603-1228	Elm Ridge
W2SW4 Sec. 10 & W2NW4 Sec. 15	BLM	NM 070322A	Elm Ridge Central Resources Ciniza ConocoPhillips Giant E & P and Giant Mid-Continent Questar

**ELM RIDGE RESOURCES, INC.
CENTRAL BISTI WDW #161
1067' FNL & 2286' FEL
SEC. 16, T. 25 N., R. 12 W.
SAN JUAN COUNTY, NEW MEXICO**

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all Sec. 16

State

E 6597-2

Elm Ridge
El Paso

VI. Thirteen wells are within a half mile. None penetrated the Entrada.

<u>OPERATOR</u>	<u>WELL</u>	<u>LOCATION</u>	<u>ZONE</u>	<u>TD</u>	<u>STATUS</u>	<u>DISTANCE TO #161</u>
Elm Ridge	CBU 35	SESW Sec. 9	Gallup	5011	P & A	2002'
Elm Ridge	CBU 36	SWSE Sec. 9	Gallup	4930	Oil Well	1397'
Elm Ridge	CBU 71	SESE Sec. 9	Gallup	4880	Oil Well	1905'
Elm Ridge	CBU 38	NENE Sec. 16	Gallup	5150	Oil Well	1198'
Elm Ridge	CBU 40	NENW Sec. 16	Gallup	4860	Oil Well	1005'
Elm Ridge	CBU 44	SENW Sec. 16	Gallup	4897	Oil Well	1365'
Elm Ridge	CBU 69	NWNE Sec. 16	Gallup	4885	Oil Well	107'
Elm Ridge	CBU 96	SENE Sec. 16	Gallup	4960	Oil Well	2041'
Hixon 47	Kelly 4	NESW Sec. 16	Gallup	4880	P & A	2452'
Hixon 41	Kelly 6	NWNW Sec. 16	Gallup	4900	P & A	2369'

- VII.**
1. Average injection rate = 1,000 bwpd. Maximum rate = 2,000 bwpd.
 2. System will be open (water will be trucked). Facilities will include six 300 barrel water tanks, 2 filtration units, 2 injection pumps, and a 30' x 40' building.
 3. Average injection pressure = 1,700 psi
Maximum pressure = 2,100 psi
 4. Water source will be present and future Elm Ridge wells in the San Juan Basin. Three produced water analyses (Exhibit D) are attached. A summary follows.

<u>Parameter</u>	<u>Fruitland</u>	<u>Gallup</u>	<u>Gallup</u>
Bicarbonates	752.6 ppm	497.7 ppm	389.6 ppm
Calcium	258.7 ppm	517.4 ppm	239.5 ppm
Chlorides	5,970.1 ppm	12,736.3 ppm	13,173.7 ppm
Hydrogen Sulfide	0 ppm	0 ppm	0 ppm
Iron	0 ppm	0 ppm	5 ppm
Magnesium	495.7	411.0 ppm	873.1 ppm
pH	7.5	7.8	7.4
Potassium	160.0 ppm	100.0 ppm	150.0 ppm
Resistivity	0.45 ohm/meter	0.75 ohm/meter	0.62 ohm/meter
Sodium	2,919.8 ppm	7,069.4 ppm	6,760.6 ppm
Sulfates	0 ppm	0 ppm	0 ppm
Specific Gravity @ 67° F	1.005	1.005	1.002
Total Dissolved Solids	10,557.40 ppm	21,332.65 ppm	21,592.05 ppm

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No local sample exists from the Entrada. Elm Ridge will try to swab load water back after stimulation and take an Entrada water sample. If successful, then the analysis will be provided to the New Mexico Oil Conservation Division.

5. The Entrada has not been proven productive within two miles of the proposed well. In general, Entrada water near recharge zones (basin fringe) has a specific conductance of $<1,500 \mu\text{mhos}$. Entrada water from deeper parts of the basin has a specific conductance of $>10,000 \mu\text{mhos}$. Stone et al in Hydrogeology and water resources of San Juan Basin, New Mexico wrote, "Generally, however, water from the Entrada is not suitable for drinking, especially in deeper parts of the basin." Summaries of analyses of Entrada produced water follow. The samples (see Exhibit E) are from Dome's Santa Fe 20 #1 at SW4NE4 20-21n-8w (≈ 31 miles southeast) and Merrion's Eagle Mesa #1 at SW4SW4 12-19n-4w (≈ 60 miles southeast).

<u>Parameter</u>	<u>Santa Fe 20 #1</u>	<u>Eagle Mesa #1</u>
Bicarbonate	2546 mg/l	1220 mg/l
Calcium	27 mg/l	160 mg/l
Chloride	903 mg/l	1773 mg/l
Iron	0.9 mg/l	0 mg/l
Magnesium	8 mg/l	49 mg/l
pH	7.73	7.32
Sodium	3228 mg/l	3726 mg/l
Sulfate	4400 mg/l	5000 mg/l
Specific Gravity	1.009	1.010
Total Dissolved Solids	11,114 mg/l	11,928 mg/l

VIII. The Entrada sandstone is a very porous and permeable æolian sandstone. It produces oil elsewhere in the basin (e.g., Eagle Mesa, Leggs, Media, Ojo Encino, Papers Wash, Snake Eyes Fields). It is estimated to be 100' thick in the well bore. Top is $\approx 6,900'$ and bottom is $\approx 7,000'$. Estimated well bore formation

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tops are:

Kirtland shale: 0'
Fruitland formation: 772'
Pictured Cliffs Sandstone: 1,118'
Lewis Shale: 1,222'
Chacra Sandstone: 1,460'
LaVentana Sandstone: 1,847'
Allison Formation: 2,447'
Cliff House Sandstone: 2,948'
Menefee Formation: 3,077'
Point Lookout Sandstone: 3,534'
Mancos Shale: 3,722'
Upper Gallup: 4,575'
Hospah: 4,642'
Lower Gallup: 4,735'
Sanostee: 5,100'
Dakota: 5,900'
Morrison: 6,000'
Entrada: 6,900'
Chinle Shale: 7,000'
Total Depth: 7,100'

There is only one water well within a 2 mile radius. It is \approx 8,000' northeast and 102' deep. Water bearing strata are 25' to 80'. Perforations are from 52' to 92'. The well bore is in alluvium and the Kirtland shale. No existing underground drinking water sources are below the Entrada within a two mile radius. There will be over a mile of vertical separation between the bottom of the lowest existing underground water source and the top of the Entrada.

IX. The well will be stimulated with \approx 150,000 pounds 20/40 Ottawa sand with Ambormax gel.

ELM RIDGE RESOURCES, INC.
CENTRAL BISTI WDW #161
1067' FNL & 2286' FEL
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X. CNL/FDC, IES logs will be run. Copies will then be provided to the NMOCD.

XI. There are no water wells within two miles which penetrate the Entrada. The only water well within 2 miles is 102' deep.

XII. Elm Ridge is not aware of any geologic or engineering data which may indicate the Entrada is in hydrologic connection with any underground sources of water. There will be $\approx 6,798'$ of vertical separation and at least three shale zones (Kirtland (670' thick), Lewis (238' thick), and Menefee (457' thick)) between the top (6,900') of the Entrada and the bottom (102') of the closest water well.

XIII. Notice (this application) has been sent to the surface owner (Giant Mid-Continent, Inc.), operators of all wells (only Elm Ridge), and lease operating right holders (Elm Ridge, Central, Ciniza, ConocoPhillips, El Paso, Giant, and Questar), and lessors (BLM, Farmington Indian Minerals Office, and NM State Land Office) within a half mile. Giant Mid-Continent, Inc. owns all of Section 16. A legal ad (see Exhibit H) was published on March 12, 2003.

AFFIDAVIT OF PUBLICATION

Ad No. 48038

STATE OF NEW MEXICO County of San Juan:

CONNIE PRUITT, being duly sworn says:
That she is the Advertising Manager of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the meeting of Chapter 167 of the 1937 Session Laws of the State of New Mexico for publication on the following day(s):
Saturday, June 7, 2003.

And the cost of the publication is \$31.82

Connie Pruitt

ON 6-10-03 CONNIE PRUITT appeared before me, whom I know personally to be the person who signed the above document.

Dorothy Beck
My Commission Expires April 2, 2004.

COPY OF PUBLICATION

918 Legal
NOTICE
Elm Ridge Resources, Inc. is applying to drill the Central Bisti WDW #161 as a water disposal well. The Central Bisti WDW #161 will be located at 1067 FNL & 2286 FEL, Sec. 16, T. 25(N.), R. 11 W., San Juan County, NM. The well will dispose of water produced from oil and gas wells into the Entrada sandstone at a depth of 6,910' - 6,990' at a maximum rate of 2,000 barrels of water per day and at a maximum pressure of 2,100 psi. Interested parties must file objections or request for hearing with the NM Oil Conservation Division, 1220 South Saint Francis Dr., Santa Fe, NM 87505 within 15 days. Additional information can be obtained by contacting Brian Wood, Permits West, Inc., 37 Verano Loop, Santa Fe, NM 87508. Phone number is (505) 466-8120.
Legal No. 48038 published in The Daily Times, Farmington, New Mexico on Saturday, June 7, 2003.

R12W

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

January 3, 2004

BLM
1235 LaPlata Highway
Farmington, NM 87401

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

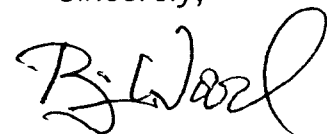
Elm Ridge Resources, Inc. is applying (see attached revised application) to drill its Central Bisti #161 WDW well.

Well Name: Central Bisti WDW #161 Total Depth: 7,100'
Proposed Disposal Zone: Entrada (from $\approx 6,910'$ to $\approx 6,990'$)
Location: 1067' FNL & 2286' FEL Sec. 16, T. 25 N., R. 12 W.,
San Juan County, NM on a state lease
Approximate Location: ≈ 22 air miles south-southwest of Bloomfield, NM
Applicant Name: Elm Ridge Resources, Inc. (505) 632-3476
Applicant's Address: P. O. Box 189, Farmington, NM 87499

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,



Brian Wood

7002 2410 0007 8721 1976

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com

OFFICIAL USE	
Postage	\$ 1.80
Certified Fee	2.30
Return Receipt Fee (Endorsement Required)	1.75
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 4.85

QUICK SEND CPU
SANTA FE NM 87508 USPS
JAN 05 2004
Postmark Here

Sent To: BLM
Street, Apt. No., or PO Box No.: 1235 LaPlata Hwy
Farmington, NM 87401

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

January 3, 2004

Central Resources Inc.
1775 Sherman St.
Denver, Co. 80203-4313

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

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Applicant Name: Elm Ridge Resources, Inc. (505) 632-3476
Applicant's Address: P. O. Box 189, Farmington, NM 87499

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

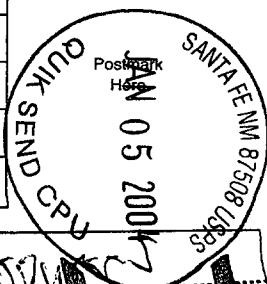
Please call me if you have any questions.

Sincerely,

Brian Wood
Brian Wood

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Restricted Delivery Fee (Endorsement Required)	
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Sent To

Central Resources Inc.
1775 Sherman St.
Denver, CO 80203-4313

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
47 Morano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

January 3, 2004

Ciniza Production Co.
Giant Expl. & Prod. Co.
Giant Mid-Continent
P. O. Box 12999
Scottsdale, Az. 85267-2999

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Elm Ridge Resources, Inc. is applying (see attached revised application) to drill its Central Bisti #161 WDW well.

Well Name: Central Bisti WDW #161 Total Depth: 7,100'

Proposed Disposal Zone: Entrada (from ≈6,910' to ≈6,990')

Location: 1067' FNL & 2286' FEL Sec. 16, T. 25 N., R. 12 W.,

San Juan County, NM on a state lease

Approximate Location: ≈22 air miles south-southwest of Bloomfield, NM

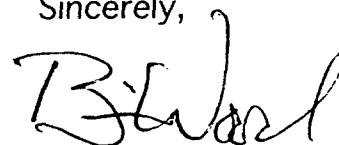
Applicant Name: Elm Ridge Resources, Inc. (505) 632-3476

Applicant's Address: P. O. Box 189, Farmington, NM 87499

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,



Brian Wood

2410 0007 8721 2010

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Total Postage & Fees	\$ 4.16

SANTA FE NM 87508 USPS
JAN 05 2004
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here
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TO
Ciniza Giant
P.O. Box 12999
Scottsdale, AZ 85267

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

January 3, 2004

Jim Ball
ConocoPhillips Company
P. O. Box 2197
Houston, Tx. 77252

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

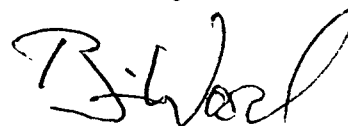
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Well Name: Central Bisti WDW #161 Total Depth: 7,100'
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Location: 1067' FNL & 2286' FEL Sec. 16, T. 25 N., R. 12 W.,
San Juan County, NM on a state lease
Approximate Location: ≈ 22 air miles south-southwest of Bloomfield, NM
Applicant Name: Elm Ridge Resources, Inc. (505) 632-3476
Applicant's Address: P. O. Box 189, Farmington, NM 87499

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,



Brian Wood

2003 0007.8721 2003

2410 0007.8721 2003

0002

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Total Postage & Fees	\$ 4.87

QUICK SERVICE
JAN 05 2004
SANTA FE, NM 87508 USPS

Sent To: ConocoPhillips
Original Rec. No.: 12 BX 2197
TX 77252

PERMITS WEST, INC.

PROVIDING PERMITS for LAND USERS

37 Verano Loop, Santa Fe, New Mexico 87508

(505) 466-8120

January 3, 2004

El Paso Natural Gas Production Co.
P. O. Box 1513
Houston, Tx. 77251-1513

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Elm Ridge Resources, Inc. is applying (see attached revised application) to drill its Central Bisti #161 WDW well.

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San Juan County, NM on a state lease

Approximate Location: ≈ 22 air miles south-southwest of Bloomfield, NM

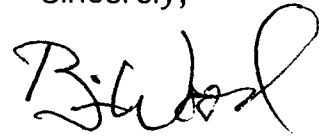
Applicant Name: Elm Ridge Resources, Inc. (505) 632-3476

Applicant's Address: P. O. Box 189, Farmington, NM 87499

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,



Brian Wood

002 2410 0007 8721 1983

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Total Postage & Fees	\$ 4.88

Postmark Here

SANTA FE NM 87508 USPS

JAN 03 2004

OK SEND CPU

Sent To El Paso

PO Box 1513

77251

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

January 3, 2004

FIMO
1235 LaPlata Highway
Farmington, NM 87401

Dear Bill,

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Elm Ridge Resources, Inc. is applying (see attached revised application) to drill its Central Bisti #161 WDW well.

Well Name: Central Bisti WDW #161 Total Depth: 7,100'

Proposed Disposal Zone: Entrada (from $\approx 6,910'$ to $\approx 6,990'$)

Location: 1067' FNL & 2286' FEL Sec. 16, T. 25 N., R. 12 W.,

San Juan County, NM on a state lease

Approximate Location: ≈ 22 air miles south-southwest of Bloomfield, NM

Applicant Name: Elm Ridge Resources, Inc. (505) 632-3476

Applicant's Address: P. O. Box 189, Farmington, NM 87499

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,



Brian Wood

2002 2410 0007 8721 1965

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Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 4.87
Sent To FIMO	
Street, Apt. No., or PO Box No. 1235 LaPlata Hwy	
City, State, ZIP+4 Farmington NM 87401	

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JAN 05 2004
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PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

January 3, 2004

NM State Land Office
P. O. Box 1148
Santa Fe, NM 87504

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Elm Ridge Resources, Inc. is applying (see attached revised application) to drill its Central Bisti #161 WDW well.

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Location: 1067' FNL & 2286' FEL Sec. 16, T. 25 N., R. 12 W.,
San Juan County, NM on a state lease
Approximate Location: ≈ 22 air miles south-southwest of Bloomfield, NM
Applicant Name: Elm Ridge Resources, Inc. (505) 632-3476
Applicant's Address: P. O. Box 189, Farmington, NM 87499

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

Brian Wood
Brian Wood

7002 2410-0000 8721 1952

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Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 4.87
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Street, Apt. No., or PO Box No. PO Box 1148	
City, State, ZIP+4 SF NM 87504	
PS Form 3800, June 2002 See Reverse for Instructions	

SANTA FE NM 87508 USPS
JAN 05 2004
Postmark Here
QUICK SEND CPU

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Merano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

January 3, 2004

Jerry Gonzales
Questar Expl. & Prod. Co.
1050 17th St., Suite 500
Denver, Co. 80265

Dear Jerry,

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Elm Ridge Resources, Inc. is applying (see attached revised application) to drill its Central Bisti #161 WDW well.

Well Name: Central Bisti WDW #161 Total Depth: 7,100'

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San Juan County, NM on a state lease

Approximate Location: ≈ 22 air miles south-southwest of Bloomfield, NM

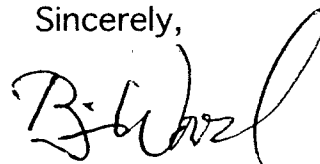
Applicant Name: Elm Ridge Resources, Inc. (505) 632-3476

Applicant's Address: P. O. Box 189, Farmington, NM 87499

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,



Brian Wood

066T 1729 01000 0013 0001

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Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 4.88

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SANTA FE NM 87508 USPS
JAN 05 2004
Postmark Here

Sent To
Questar
Street, Apt. No.,
or PO Box No. 1050 17th St. # 500
City, State, ZIP+4 Denver, CO 80265

PS Form 3800, June 2002 See Reverse for Instructions

A

Submit 3 Copies To Appropriate District
Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 87210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
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 March 25, 1999

WELL API NO.	30-045-31606
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>	
6. State Oil & Gas Lease No.	6597-2
7. Lease Name or Unit Agreement Name:	CENTRAL BISTI WDW
8. Well No.	161
9. Pool name or Wildcat	SWD; ENTRADA
10. Elevation (Show whether DR, RKB, RT, GR, etc.)	

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.)

1. Type of Well: **WATER DISPOSAL WELL**
Oil Well ☐ Gas Well ☐ Other

2. Name of Operator
ELM RIDGE RESOURCES, INC.

3. Address of Operator
P. O. BOX 189, FARMINGTON, NM 87499

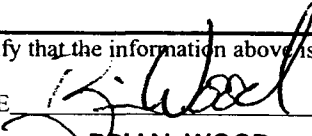
4. Well Location
Unit Letter **B** **1067** feet from the **NORTH** line and **2286** feet from the **EAST** line
Section **16** Township **25N** Range **12W** NMPM County **SAN JUAN**

11. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data	
NOTICE OF INTENTION TO:	SUBSEQUENT REPORT OF:
PERFORM REMEDIAL WORK <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/> ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/> CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/> PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/> MULTIPLE COMPLETION <input type="checkbox"/>	CASING TEST AND CEMENT JOB <input type="checkbox"/>
OTHER: DEEPEN <input checked="" type="checkbox"/>	OTHER: <input type="checkbox"/>

12. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompilation.

WILL CHANGE TD TO 7,100'.
WILL CHANGE PERFORATION INTERVAL TO 6,910' - 6,990'.
WILL CHANGE DISPOSAL ZONE TO ENTRADA.
WILL INCREASE LONG STRING CEMENT TO 2,050 SACKS.

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

SIGNATURE  TITLE **CONSULTANT** DATE **1-3-04**
Type or print name **BRIAN WOOD** (505) 466-8120 Telephone No.
(This space for State use)

APPROVED BY _____ TITLE _____ DATE _____
Conditions of approval, if any:

EXHIBIT A

cc: Elm - Dall., Denv., Farm.

DISTRICT I
P.O. Box 1980, Hobbs, N.M. 88241-1980

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised February 21, 1994

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

DISTRICT II
P.O. Drawer DD, Artesia, N.M. 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV
P.O. Box 2088, Santa Fe, NM 87504-2088

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, NM 87504-2088

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-	² Pool Code .	³ Pool Name SWD - ENTRADA
⁴ Property Code .	⁵ Property Name CENTRAL BISTI UNIT WDW	⁶ Well Number 161
⁷ GRID No 149052	⁸ Operator Name ELM RIDGE RESOURCES, INC.	⁹ Elevation 6233

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	16	25N	12W	B	1067	NORTH	2286	EAST	SAN JUAN

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 hereby certify that the information contained herein is true and complete to the best of my knowledge and belief
		<p>Signature Brian Wood</p> <p>Printed Name BRIAN WOOD</p> <p>Title CONSULTANT</p> <p>Date JAN. 3, 2004</p>
		¹⁸ SURVEYOR 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>APRIL 8, 2002 Date of Survey</p> <p>Signature and Seal Surveyor</p> <p>Certificate Number N.M. PLS 45979</p>

EXHIBIT A

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
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-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

Operator Name and Address Elm Ridge Resources, Inc. (505) 632-3476 P. O. Box 189, Farmington, NM 87499		OGRID Number 149052
Property Code 004531	Property Name Central Bisti WDW	Well No. 161

Surface Location

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	16	25n	12w		1067	North	2286	East	SJ

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
Proposed Pool 1 Wildcat Mesa Verde Water Disp. Well						Proposed Pool 2			

Work Type Code N	Well Type Code S	Cable/Rotary R	Lease Type Code S	Ground Level Elevation 6233'
Multiple No	Proposed Depth 2,600'	Formation Mesa Verde	Contractor Bearcat	Spud Date 4-1-03

Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12-1/4"	9-5/8"	36	400'	213 sx	Surface
8-3/4"	5-1/2"	17	2,600'	489 sx	Surface

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.

Will use 2000# BOP and run logs and DST as appropriate.

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

Signature

Printed name Brian Wood

Title Consultant

Date Feb. 28, 2003

Phone (505) 466-8120

OIL CONSERVATION DIVISION

Approved by

Title

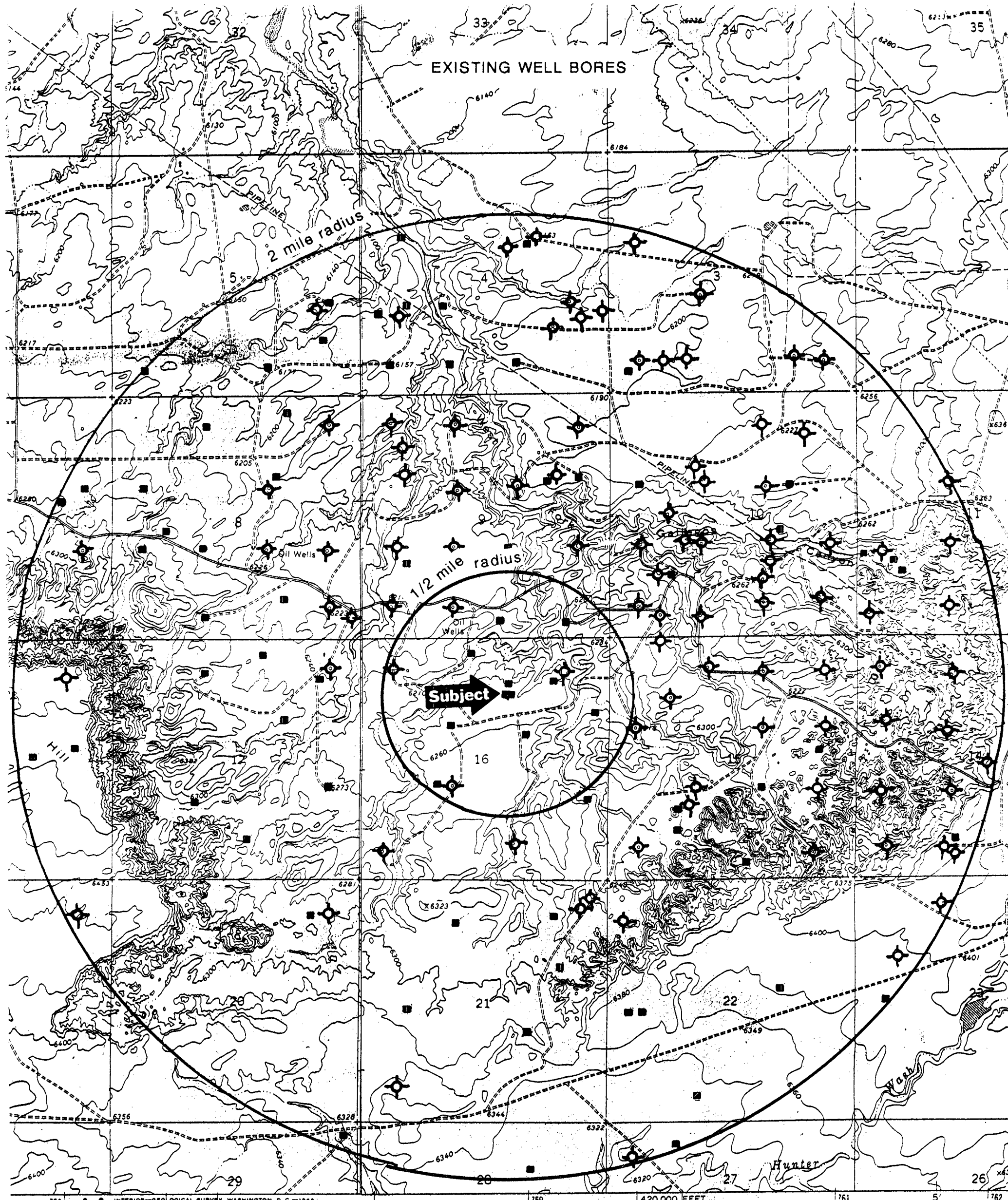
Approval Date

Expiration Date

Conditions of Approval

Attached ☐

EXHIBIT A



EXISTING WELL BORES

2 mile radius

1/2 mile radius

Subject

16

21

22

29

20

27

26

INTERIOR-GEOLOGICAL SURVEY, WASHINGTON, D. C. - 1966
757000m. E.

108°07'30"

420 000 FEET

761

762

ROAD CLASSIFICATION

Light-duty ————— Unimproved dirt - - - - -

Mapped, edited, and published by the Geological Survey

Control by USGS, USC&GS, and U.S. Bureau of Reclamation

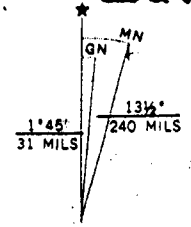
Topography by photogrammetric methods from aerial photographs taken 1965 and planetable surveys by the Bureau of Reclamation 1965. Field checked by USGS 1966

Polyconic projection. 1927 North American datum. 10,000-foot grid based on New Mexico coordinate system, west zone

1000-meter Universal Transverse Mercator grid ticks, zone 12; shown in blue

MONCISCO WASH N MEX

EXHIBIT B



UTM GRID AND 1966 MAGNETIC NORTH

**American Energy Services**

Water Analysis Results Sheet

Farmington NM

708 S. Tucker

Phone: (505) 325-4192

Fax: (505) 564-3524

Zip: 87401

Operator:	Elm Ridge	Date:	October 15, 2002
Well :	Joe Hixon #1 Joe Hixon #1	District:	Farmington
Formation:	NA MD SESW 22-25N-12W	Requested by:	Tim Duggan
County:	San Juan	Technician:	Mike Brown
Depth:	4800	Source:	Well

PHYSICAL AND CHEMICAL DETERMINATION

SPECIFIC GRAVITY: 1.002 AT 67 Degrees F.

pH:	7.4	SULFATES:	0 ppm
IRON:	5 ppm	CALCIUM:	239.5 ppm
H2S:	0 ppm	BICARBONATES:	389.6 ppm
MAGNESIUM:	873.1 ppm	RESISTIVITY:	0.62 ohm/meter
		CHLORIDES:	13173.7 ppm
		SODIUM :	6760.6 ppm
		POTASSIUM:	150.0 ppm
		TDS:	21592.05 ppm

CaCO3 Scale Tendency = Remote

CaSO4 Scale Tendency = Remote

REMARKS:

Data contained in this document is based on the best information & most current test procedures and materials available. No liability is expressed or implied.

EXHIBIT D

**American Energy Services****Water Analysis Results Sheet**

Farmington NM

708 S. Tucker

Phone:(505)325-4192

Fax:(505)564-3524

Zip:87401

Operator:	Elm Ridge	Date:	October 15, 2002
Well :	C.T.B.	District:	Farmington
Formation:	Gallup	Requested by:	Tim Duggan
County:	San Juan	Technician:	Mike Brown
Depth:	4800	Source:	Well

PHYSICAL AND CHEMICAL DETERMINATION

SPECIFIC GRAVITY: 1.005 AT 67 Degrees F.			
pH:	7.8	SULFATES:	0 ppm
IRON:	0 ppm	CALCIUM:	517.4 ppm
H2S:	0 ppm	BICARBONATES:	497.7 ppm
MAGNESIUM:	411.0 ppm	RESISTIVITY:	0.75 ohm/meter
		CHLORIDES:	12736.3 ppm
		SODIUM :	7069.4 ppm
		POTASSIUM:	100.0 ppm
		TDS:	21332.65 ppm

CaCO3 Scale Tendency = Remote

CaSO4 Scale Tendency = Remote

REMARKS:

--

Data contained in this document is based on the best information & most current test procedures and materials available. No liability is expressed or implied.

EXHIBIT D

**American Energy Services****Water Analysis Results Sheet**

Farmington NM

708 S. Tucker

Phone: (505) 325-4192

Fax: (505) 584-3524

Zip: 87401

Operator:	Elm Ridge	Date:	October 15, 2002
Well :	B.C. 28-1	District:	Farmington
Formation:	Coal	Requested by:	Tim Duggan
County:	San Juan	Technician:	Mike Brown
Depth:	1200	Source:	Well

PHYSICAL AND CHEMICAL DETERMINATION

SPECIFIC GRAVITY: 1.005 AT 67 Degrees F.

pH:	7.5	SULFATES:	0 ppm
IRON:	0 ppm	CALCIUM:	258.7 ppm
H2S:	0 ppm	BICARBONATES:	752.6 ppm
MAGNESIUM:	495.7 ppm	RESISTIVITY:	0.45 ohm/meter
		CHLORIDES:	5970.1 ppm
		SODIUM:	2919.8 ppm
		POTASSIUM:	160.0 ppm
		TDS:	10557.4 ppm

CaCO3 Scale Tendency = Remote

CaSO4 Scale Tendency = Remote

REMARKS:

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Data contained in this document is based on the best information & most current test procedures and materials available. No liability is expressed or implied.

EXHIBIT D

11

1



4-5 MILES
AWAY - INJECTION INTO
THE MORRISON/ENTRADA



CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS
WATER ANALYSIS

RECEIVED

MAR 25 1977

Minerals Management Inc.

File WA - 5

Company Dome Petroleum Corp. Well Name Sante Fe 20 No. 1 Sample No. SS-2
Formation _____ Depth _____ Sampled From _____
Location Sec 20 T 21N R 8W Field _____ County San Juan State N.M.
Date Sampled 3-9-77 Date Analyzed 3-13-77 Engineer RGC

Total Dissolved Solids 11,114.5 mg/L

Sp. Gr. 1.009 @ 70 °F.

Resistivity 1.0 ohm-meters @ 70 °F.

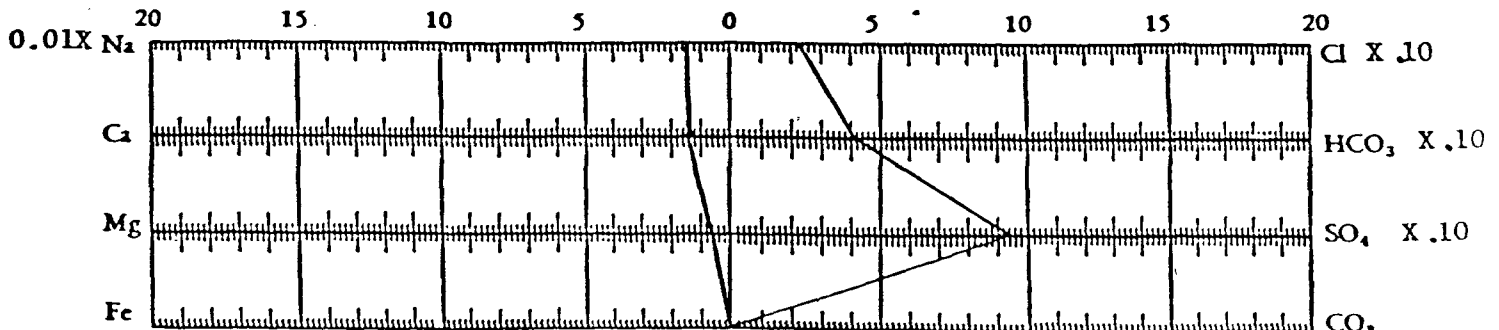
Hydrogen Sulfide Present

pH 7.73

Constituents	meq/L	mg/L
Sodium	<u>140.44</u>	<u>3228.7</u>
Calcium	<u>1.35</u>	<u>27.0</u>
Magnesium	<u>0.73</u>	<u>8.9</u>
Iron	<u>0.03</u>	<u>0.9</u>
Barium	<u>ND</u>	<u>ND</u>

Constituents	meq/L	mg/L
Chloride	<u>25.47</u>	<u>903.0</u>
Bicarbonate	<u>41.73</u>	<u>2546.0</u>
Sulfate	<u>91.61</u>	<u>4400.0</u>
Carbonate	<u>ND</u>	<u>ND*</u>
Hydroxide	<u>ND</u>	<u>ND</u>

*ND = Less than 0.1 mg/L



Scale: meq/L

EXHIBIT E

API WATER ANALYSIS

W.C.N.A. Sample No.: S106995
Legal Description:
Lease or Unit: EAGLE MESA
Water.B/D:
Sampling Point:
Sampled By: STEVE DUNN
Date Sampled: 05/03/95

PROPERTIES

Iron, Fe(total): 0
Sulfide as H₂S: 0
Total Hardness:
(see below)

DIS SOL V E D SOLIDS

Sample(ml): 1.0 ml of EDTA: .40
Sample(ml): 1.0 ml of EDTA: .20

Sample(ml): 1.0 ml of AgNO3: .10
Sample(ml): 1.0 ml of H2SO4:
Sample(ml): 1.0 ml of H2SO4: .20

Sample(ml): 1.0 ml of EDTA: .60

REMARKS AND RECOMMENDATIONS:

ENTRADA WATER

WATER PATTERNS-meal
STANDARD

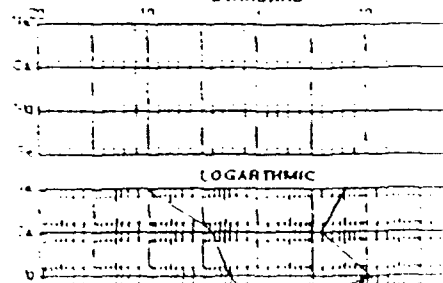


EXHIBIT E

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

January 5, 2004

Will Jones
NMOCD
1220 S. St. Francis Dr.
Santa Fe, NM 87505

Dear Will,

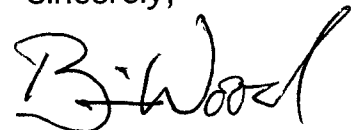
Attached are 1 original + 1 copy of an SWD application for Elm Ridge's Central Bisti WDW 161 well to dispose into the Entrada. One copy has been sent to Aztec OCD. This is the third edition of the application.

First application was made on February 28 to dispose into the shallow Mesa Verde. That application was returned March 10 due to a possible conflict with gas zones.

Second application was then made on April 4 to dispose into the Point Lookout. That application was returned April 28 due to possible communication with old shallow uncemented well bores.

Please call me if you have any questions.

Sincerely,



Brian Wood



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop
Cabinet Secretary

Lori Wrotenbery

Director

Oil Conservation Division

March 10, 2003

Mr. Brian Wood
Permits West, Inc.
37 Verano Loop
Santa Fe, New Mexico 87508

Re: Elm Ridge Resources, Inc.
Central Bisti WDW Well No. 161
Section 16, T25N, R12W, NMPM, San Juan County, New Mexico

Dear Mr. Wood:

The New Mexico Oil Conservation Division (Division) received your application on March 4, 2003, on behalf of Elm Ridge Resources, Inc. to permit the above mentioned well for saltwater disposal in the Mesaverde from 1,850 feet to 2,445 feet.

As discussed by email and phone last week, we are returning the application to you for revision of the injection depths.

Sincerely,

William V Jones Jr. PE

cc: Oil Conservation Division-Aztec
State Land Office – Oil and Gas Division



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop

Cabinet Secretary

April 28, 2003

Lori Wrotenbery

Director

Oil Conservation Division

Mr. Brian Wood
37 Verano Loop
Santa Fe, New Mexico 87508

FAXED to ((505) 466-9682

Re: Form C-108
Elm Ridge Resources, Inc.
Central Bisti WDW No. 161
Unit B, Section 16, T-25N, R-12W
San Juan County, New Mexico

Dear Brian,

I have reviewed your recently submitted application on behalf of Elm Ridge Resources, Inc. to convert the proposed Central Bisti WDW No. 161 to a disposal well in the Point Lookout interval of the Mesaverde formation. Please be advised that current Division policy requires that all area-of review wells be cemented above, across and below the injection interval. Of the seven active "area of review" wells for the Central Bisti WDW No. 161, six do not have sufficient cement to isolate the Point Lookout interval. Please be further advised that any Division order that approves injection into the subject well will also have a requirement that remedial cement operations be conducted on the six "area of review" wells.

At this point, given the severe stipulations that will be incorporated into this order, I need to know whether Elm Ridge Resources, Inc. wishes to proceed with approval of this application as is, or whether they wish to consider an alternative, possibly deeper injection.

I will not take any action with regards to this application until I hear from you.

If you have any questions, please contact me at (505) 476-3466.

Sincerely,

David Catanach
Engineer