

**STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION COMMISSION**

**APPLICATION OF CHAPARRAL ENERGY, LLC FOR  
APPROVAL OF A SALT-WATER DISPOSAL WELL,  
LEA COUNTY, NEW MEXICO**

**CASE NO. 13695  
ORDER NO. R-12616**

**APPLICANT CHAPARRAL ENERGY, L.L.C.'S PREHEARING STATEMENT**

Pursuant to 19.15.14.1211.B(1) NMAC, applicant Chaparral Energy, L.L.C. ("Chaparral") submits its Prehearing Statement.

**I. Parties**

Chaparral is represented by the undersigned counsel, Gary W. Larson of the Santa Fe Office of Hinkle, Hensley, Shanor & Martin, L.L.P.

**II. Concise Statement of the Case**

In August 2005, Chaparral submitted, for administrative approval, an application to convert a temporarily abandoned producing well known as the State K # 1-21 into an injection well. In its application, Chaparral proposed to inject and dispose of produced water into the San Andres formation at depths of 3,850 feet to 4,469 feet. The source of the produced water is a nearby Chaparral producing well known as the State K # 3-21.

On July 18, 2005, the Division received a letter of protest from the surface lessee, Weldon L. Dallas of Tatum, New Mexico. Consequently, on March 6, 2006, Chaparral requested that its application be placed on a hearing docket. Chaparral presented evidence in support of its application during Division hearings conducted on June 8, and July 6, 2006. Neither Mr. Dallas nor any other party appeared at the hearings.

2006 NOV 30 PM 06

On August 30, 2006, the Division Director entered an Order approving Chaparral's application to utilize its State K Well No. 1 (sic) to dispose of produced water into the San Andres formation through an open-hole formation from 3,850 feet to 4,469 feet, subject to certain stipulations pertaining to the proposed injection well. The Division Order requires Chaparral to perform remedial operations involving the abandonment of Chaparral's State "K" Well No. 2, with a design to isolate the injection interval from 3,850 feet to 4,469 feet, and the squeezing of cement behind pipe in Chaparral's State "K" Well No. 3.

In addition, the Division Order requires Chaparral to perform remedial operations on two other wells that it has never owned or operated. Specifically, the Order requires remedial operations be performed on the Bell "A" No. 1 well, which currently is operated by Phoenix Hydrocarbons, and if necessary, on the plugged and abandoned Bell "B" No. 1 well.

### **III. Chaparral's Witness**

Chaparral's sole witness will be Ronald K. Brown, P.E., who is a professional engineer licensed in the State of Oklahoma. He serves as a Field Service Manager and Production Engineer for Chaparral. Mr. Brown provided both factual and expert testimony during the first Division hearing.

Mr. Brown will provide testimony before the Commission regarding (a) Chaparral's proposed use of the State K # 1-21 well for injection of produced water, (b) his analysis of the structural integrity of the proposed injection well, Chaparral's State K # 3-21 well, and the other wells that penetrate the injection zone within a one-half mile radius of the proposed injection well, (c) his analysis of the water in the source well (Chaparral's State K # 3-21) and in the fresh water wells within the area of review, (d) the absence of any potential impact on fresh water as a result of the

proposed injection and disposal of produced water, and (e) the Division's requirements that Chaparral perform remedial operations on the Bell "A" No. 1 and Bell "B" No. 1 wells.

**IC. Chaparral's Case Presentation**

Chaparral anticipates that it will take approximately one (1) hour to present its case. In accordance with 19.15.14.1211.B(2) NMAC, copies of the exhibits that Chaparral proposes to offer in evidence at the hearing are attached hereto as Exhibit A.

**V. Unresolved Procedural Matters**

Chaparral is not aware of any procedural matters that need to be resolved prior to the hearing.

HINKLE, HENSLEY, SHANOR & MARTIN, LLP

A handwritten signature in dark ink, appearing to read "Gary W. Carson", is written over a horizontal line.

Gary W. Carson  
Post Office Box 2068  
Santa Fe, NM 87504-2068  
505.982.4554

*Attorney for Chaparral Energy, LLC*

**STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
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**APPLICANT CHAPARRAL ENERGY, L.L.C.'S  
PROPOSED HEARING EXHIBITS**

The following lists the documents, all of which are attached hereto, that Applicant Chaparral Energy, LLC ("Chaparral") proposes to offer into evidence at the hearing in this matter:

- |                              |   |
|------------------------------|---|
| <b><u>Exhibit No. 1:</u></b> | Chaparral's application to utilize its State K #1-21 well for use as a produced water disposal well |
| <b><u>Exhibit No. 2:</u></b> | Affidavit of Notice of Hearing  |
| <b><u>Exhibit No. 3:</u></b> | Supplemental Affidavit of Ronald K. Brown   |
| <b><u>Exhibit No. 4:</u></b> | Wellbore diagram of the Bell "A" No. 1 well operated by Phoenix Hydrocarbons                        |
| <b><u>Exhibit No. 5:</u></b> | Chaparral's Supplementation of Hearing Record   |
| <b><u>Exhibit No. 6:</u></b> | Chaparral's Notice of Execution of Agreed Compliance Order  |
| <b><u>Exhibit No. 7:</u></b> | Division Order issued on August 30, 2006  |

**EXHIBIT A**

Submit 3 Copies To Appropriate District Office  
District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Ave., Artesia, NM 88210  
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

Form C-103  
May 27, 2004

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

WELL API NO. 30-025-22049
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. K-1763
7. Lease Name or Unit Agreement Name State "K"
8. Well Number 1-21
9. OGRID Number 004115
10. Pool name or Wildcat Bagley Penn, North Field

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: Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/>	
2. Name of Operator Chaparral Energy, LLC	
3. Address of Operator 701 Cedar Lake Blvd., OKC, OK 73114	
4. Well Location Unit Letter <u>K</u> : <u>1980</u> feet from the <u>South</u> line and <u>1980</u> feet from the <u>West</u> line Section <u>21</u> Township <u>11S</u> Range <u>33E</u> NMPM <u>Lea</u> County	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 4258.3' GL, 4270' DR, 4271' RKB	
Pit or Below-grade Tank Application <input type="checkbox"/> or Closure <input type="checkbox"/>	
Pit type _____ Depth to Groundwater _____ Distance from nearest fresh water well _____ Distance from nearest surface water _____	
Pit Liner Thickness: _____ mil Below-Grade Tank: Volume _____ bbls; Construction Material _____	

12. 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"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
OTHER: <input type="checkbox"/>		OTHER: Temporarily Abandon <input checked="" type="checkbox"/>	

13. 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 recompletion.

Report for period 01/31/06 thru 02/15/06:

- SICP 0#. NU BOP. Unload 97 jts 5 1/2" 17# J-55 LT&C csg. RU WL. RIH w/3 1/8" HSC. Tag @ 3771'. Could not locate gun into cut-off 5 1/2" csg @ 5771' POH w/perforating gun. TIH w/Arrowset I-X pkr (2 7/8" x 6' tbg sub & 2.313" XN nipple below pkr), x/overs & 94 jts 5 1/2" csg. Set pkr in 8 5/8" csg @ 3722' w/20K tension. Load 5 1/2" - 8 5/8" csg annulus w/100 bbl lse wtr to pressure test - communicated to surface. Pump 225 BW down 5 1/2" csg. Establish injection rate 5 BPM @ 450#. ISDP 0#.
- RU csg crew. Rei pkr & LD 94 jts 5 1/2" csg, pkr & tailpipe assembly. Change pipe rams in BOP.
- SICP 0#. TIH w/LokSet RBP ("H" valve) on 2 3/8" 4.7# N-80 8rd EUE tbg. Set RBP @ 3734'. TOH w/RBP retrieving tool. TIH w/P-1 tension set pkr on 2 3/8" tbg. Isolate leak in 8 5/8" csg @ 329' - 361' (circulates to surf). Remainder of csg testing to 500#.
- SITP/SICP 0#. Rei pkr & TOH. Waiting on cement equipment.
- SICP 0#. TIH w/P-1 tension set pkr & 6 jts 2 3/8" tbg. Set pkr @ 193' w/20K tension. Mix & pump 250 sxs expanding Class C cmt + 3% CC. Rec cmt returns to surf w/100 sxs pumped. Close surf csg valve & continue to pump - pressure increase to 600#. Open surf csg valve & continue to pump remainder of cmt. Displ cmt to 290'. SITP 400#.
- SITP/SICP 0#. Rei pkr & TOH. Change rams in BOP. Prep to drill cmt. WOC to harden.
- SICP 0#. TIH w/7.625" rock bit, 6 - 4" drill collars & 2 3/8" tbg. Tag cmt @ 289' Drld hard cmt to 367' & fell thru. Continue TIH w/bit & tag @ 3667'. Pressure test 8 5/8" csg to 500# for 30 min - ok. Clean out to 3698'. Circ clean.
- SITP/SICP 0#. Wash sand to RBP @ 3734' & circ clean. TOH w/drill collars & bit. TIH w/RBP retrieving tool & 2 3/8" tbg. Latch onto RBP, release and POH w/RBP.
- SICP 0#. TIH w/Arrowset I-X pkr, tbg seal divider (2.315" F profile) & 119 jts 2 7/8" 6.5# J-55 8rd EUE tbg. Set pkr @ 3722' w/12K tension. ND BOP/NU wellhead. Load csg w/2% KCl wtr & pressure to 560# for 37 min - ok. Release pressure, well TA'd.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Traci Cornish TITLE ENGINEERING TECH DATE 3-7-06

Type or print name Traci Cornish E-mail address: traci@chaparralenergy.com Telephone No. (405)478-8770  
For State Use Only

APPROVED BY: \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
Conditions of Approval (if any):

COMMISSION CASE NO. 13695  
CHAPARRAL EXHIBIT NO. 1



# Chaparral

Energy, Inc.

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August 10, 2005

State of New Mexico  
Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division  
1220 South Saint Francis Drive  
Santa Fe, NM 87505

Attn: Mr. William V. Jones, PE

Re: Form C-108  
Application for Authorization to Inject  
State K #1-21 Well  
Lea Co., NM

Dear Mr. Jones:

Enclosed in duplicate is Form C-108, Application for Authorization to Inject, with the required attachments. Chaparral Energy, LLC, is requesting permission to convert the above well for use as a salt water disposal.

The required attachments are as follows:

- Area of Review map and tabulation
- Wellbore schematics of all wells which penetrate the injection zone within 1/2 mile
- Water Analysis of two fresh water wells within area of review
- Water Analysis of source well
- Affidavit of Publication
- Proof of Notice to offset operator and surface tenant

If you have questions or need further information regarding this project, please call me at (405) 426-4411, or email me at [leighk@chaparralenergy.com](mailto:leighk@chaparralenergy.com).

Thank you for your assistance.

Sincerely,

CHAPARRAL ENERGY, LLC



Leigh Kuykendall  
Sr. Engineering Tech

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: Secondary Recovery Pressure Maintenance ☒ Disposal Storage  
Application qualifies for administrative approval? Yes No
- II. OPERATOR: Chaparral Energy, LLC  
ADDRESS: 701 Cedar Lake Blvd., Oklahoma City, OK 73114  
CONTACT PARTY: Leigh Kuykendall PHONE: (405) 478 8770
- 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 ☒ 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: Leigh Kuykendall TITLE: Sr. Engineering Tech  
SIGNATURE: Leigh Kuykendall DATE: 6/29/05  
E-MAIL ADDRESS: leighk@chaparralenergy.com
- \* 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: \_\_\_\_\_



### III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

### XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

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NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

## INJECTION WELL DATA SHEET

OPERATOR: Chaparral Energy, LLCWELL NAME & NUMBER: State K #1-21WELL LOCATION: 1980' FSL & 1980' FWL

FOOTAGE LOCATION	K	21	11S	33E
UNIT LETTER				
SECTION				
TOWNSHIP				
RANGE				

WELLBORE SCHEMATIC
WELL CONSTRUCTION DATA  
Surface Casing

- Attached -

Hole Size: 17 1/2" Casing Size: 13 3/8"Cemented with: 400 sx. or          ft<sup>3</sup>Top of Cement: surface Method Determined: CirculatedIntermediate CasingHole Size: 11" Casing Size: 8 5/8"Cemented with: 350 sx. or          ft<sup>3</sup>Top of Cement: 2235' Method Determined: CalculatedProduction CasingHole Size: 8 5/8" Casing Size: 5 1/2"Cemented with: 700 sx. or          ft<sup>3</sup>Top of Cement: surface Method Determined: CirculatedTotal Depth: 3850'Injection Interval3850 feet to 4469 Open hole

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEETTubing Size: 2 7/8" Lining Material: CeramicType of Packer: Arrowsset 1XPacker Setting Depth: 3825'Other Type of Tubing/Casing Seal (if applicable): NAAdditional Data

1. Is this a new well drilled for injection? Yes ☒ No ☐

If no, for what purpose was the well originally drilled? Oil production2. Name of the Injection Formation: San Andres3. Name of Field or Pool (if applicable): NA

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. 9745'-9932' Strawn;

9358'-9364' Canyon; 9094'-9310' Cisco. Cement retainer @ 4496' w/20' cement plug.

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: None above.

ABOVE THIS LINE FOR DIVISION USE ONLY

**NEW MEXICO OIL CONSERVATION DIVISION**  
 - Engineering Bureau -  
 1220 South St. Francis Drive, Santa Fe, NM 87505



**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 \_\_\_\_\_

**[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

**[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.

Leigh Kuykendall

Print or Type Name

*Leigh Kuykendall*  
 Signature

Sr. Engineering Tech

Title

6/30/05

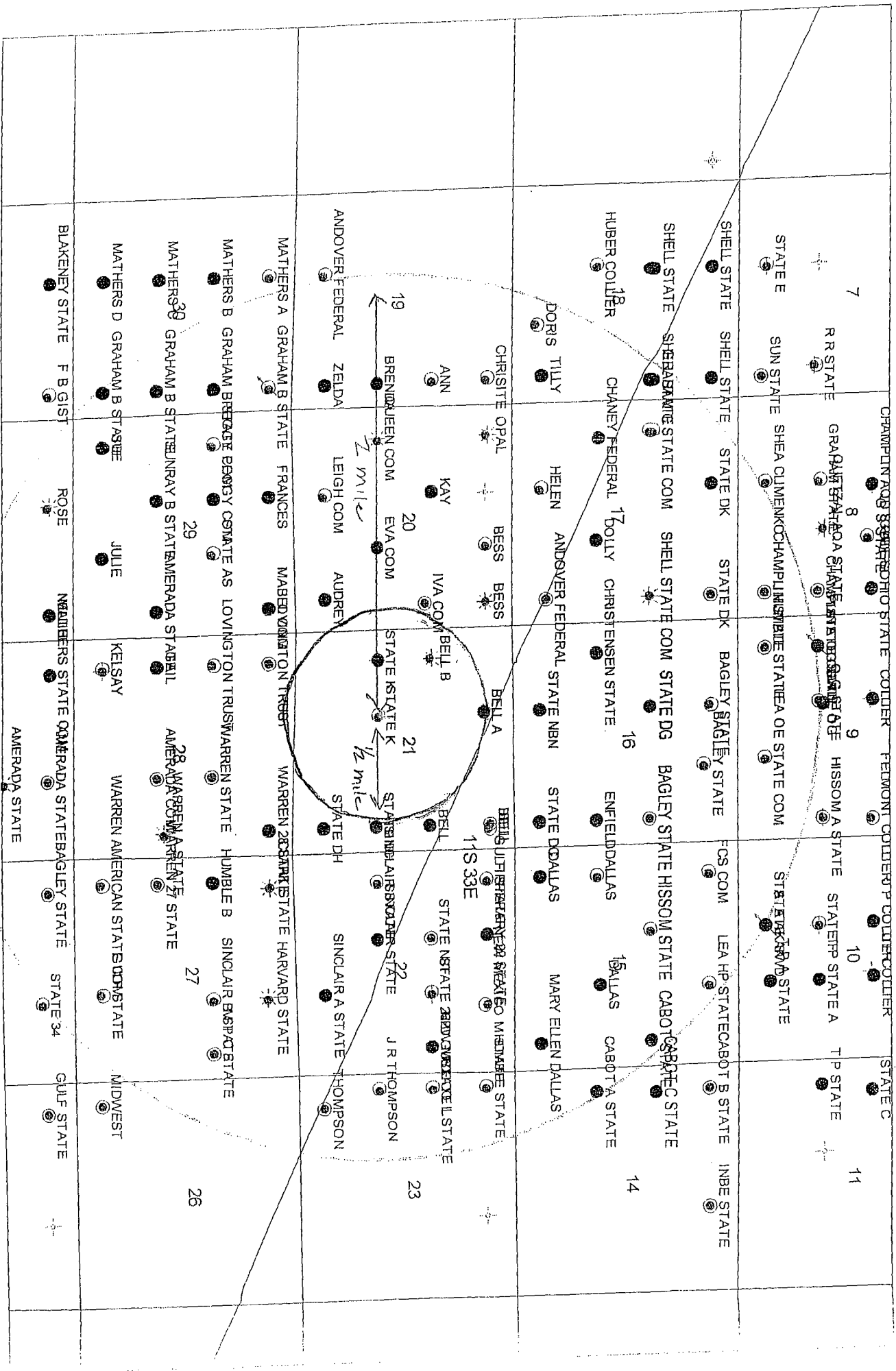
Date

leighk@chaparralenergy.com  
 e-mail Address

C-108 Application for Authorization to Inject  
State K #1-21  
1980' FSL & 1980' FWL of Sec. 21-11S-33E  
Lea Co., NM

- V. Area of Review Map is attached.
- VI. Wellbore schematics are attached for all wells that penetrate the proposed injection zone within the ½ mile area of review.
- VII.
  - 1. Proposed average daily injection rate is 750 BW  
Proposed maximum daily injection rate is 1200 BW
  - 2. Closed system
  - 3. Proposed maximum injection pressure is 2000 psi.
  - 4. Source of injected water is a well being completed in the Penn/Wolfcamp reservoirs. No compatibility problems with San Andres water is expected. A water analysis is attached.
- VIII. The injection zone is the San Andres, a fine grained sucrosic dolomite from 3730' – 5100'. The average depth of drinking water is 55' from surface in this area.
- IX. The San Andres injection interval will not require stimulation in order to take water.
- X. Well logs are on file from the original completion of the well.
- XI. Chemical analyses of fresh water wells within the area of review are attached.
- XII. After examining the available engineering and geologic data, no evidence of open faults or other hydrologic connection between the disposal zone and underground sources of drinking water.
- XIII. Proof of Notice is attached.

Summary Lease Report



## State K #1-21

Proposed Injection Well  
Sec. 21-11S-33E  
Lea Co., NM

### Area of Review Tabulation

Well Name	Operator	Well Type	Well Status	Date Drilled	Location	Total Depth	Compl Record Attached?	Schematic Attached?
Bell A	Phoenix Hydrocarbons	Oil	Producing	5/24/1966	720' FNL & 1980' FWL	10801'	Yes	Yes
Bell B	Tipperary Oil & Gas	Gas	P&A	12/31/1966	1980' FNL & 660' FWL	10250'	Yes	Yes
State K #2-21	Chaparral Energy, LLC	Oil	Shut in	4/1/1968	1980' FSL & 660' FWL	10170'	Yes	Yes
State K #3-21	Chaparral Energy, LLC	Oil	Completing	1/20/2005	660' FSL & 1980' FWL	10200'	Yes	Yes

Size: 16  
 Size: 10 3/4  
 CP: 700- 585  
 CP: 435- 333  
 CP: 30- 0

13 3/8 , #, @385 ,400 sx  
 8 5/8 , #, @650 ,250 sx

CP: 3900- 3700  
 TOC@ 3685'

4 1/2 , #, @3850 ,35 sx

Size: 7 7/8

CP: 6245- 5900

Casing parted @ 6245'.

OPBTD: 10167'

TD: 10250

9790 -9794 L. Penn

9961 -10140 L. Penn

Well: Bell B , 99998  
 Operator:  
 Location: 1980' FNL & 660' FWL  
 Legal: Sec. 21-11S-33E, Lea Co., NM

Dir:

Spud Date: 12/31/1966  
 Drilling Finished:  
 Completion Date: 2/10/1967  
 First Production: 2/10/1967

#### PUMPING DATA:

PU:  
 PM:  
 BHP:  
 Anchor:

#### PRODUCTION FACILITY:

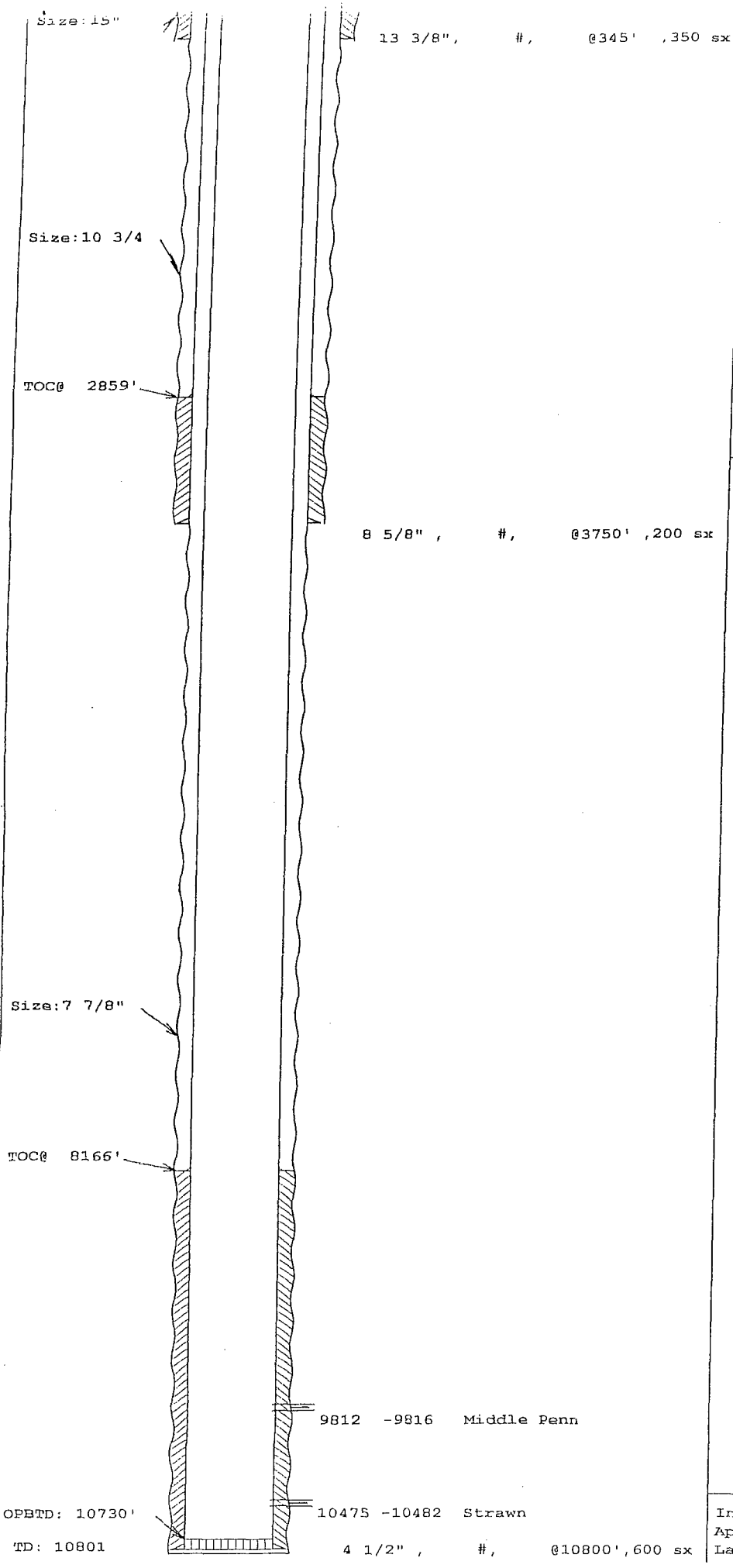
#### HISTORY:

10/11/84 □ TA'd due to parted csg @ 6245'.  
 3/21/95 □ Tagged up w/tbg @ 6245'. Pump 200 sx cmt @ 6245'. WOC.  
 3/22/95 □ Load hole w/wtr. Mix mud & displace w/mud Pump 25 sx @ 6245'. WOC 4 hrs. Tag plug @ 5900'.  
 3/23/95 □ Cut 4 1/2" csg @ 3850' (100' below 8 5/8" shoe). POH w/csg. Pump 35 sx plug 3900'-3700'. WO Tag plug @ 3685'.  
 3/24/95 □ Cut 8 5/8" csg @ 650'. POH w/csg. Set 45 sx plug @ 700'-600'.  
 3/27/95 □ Tag plug @ 585'. Pump 65 sx plug 435'-335'. WOC 4 hrs. Tag @ 333'. Pump 10 sx plug 30'-surface. Weld on dry hole marker. P&A.

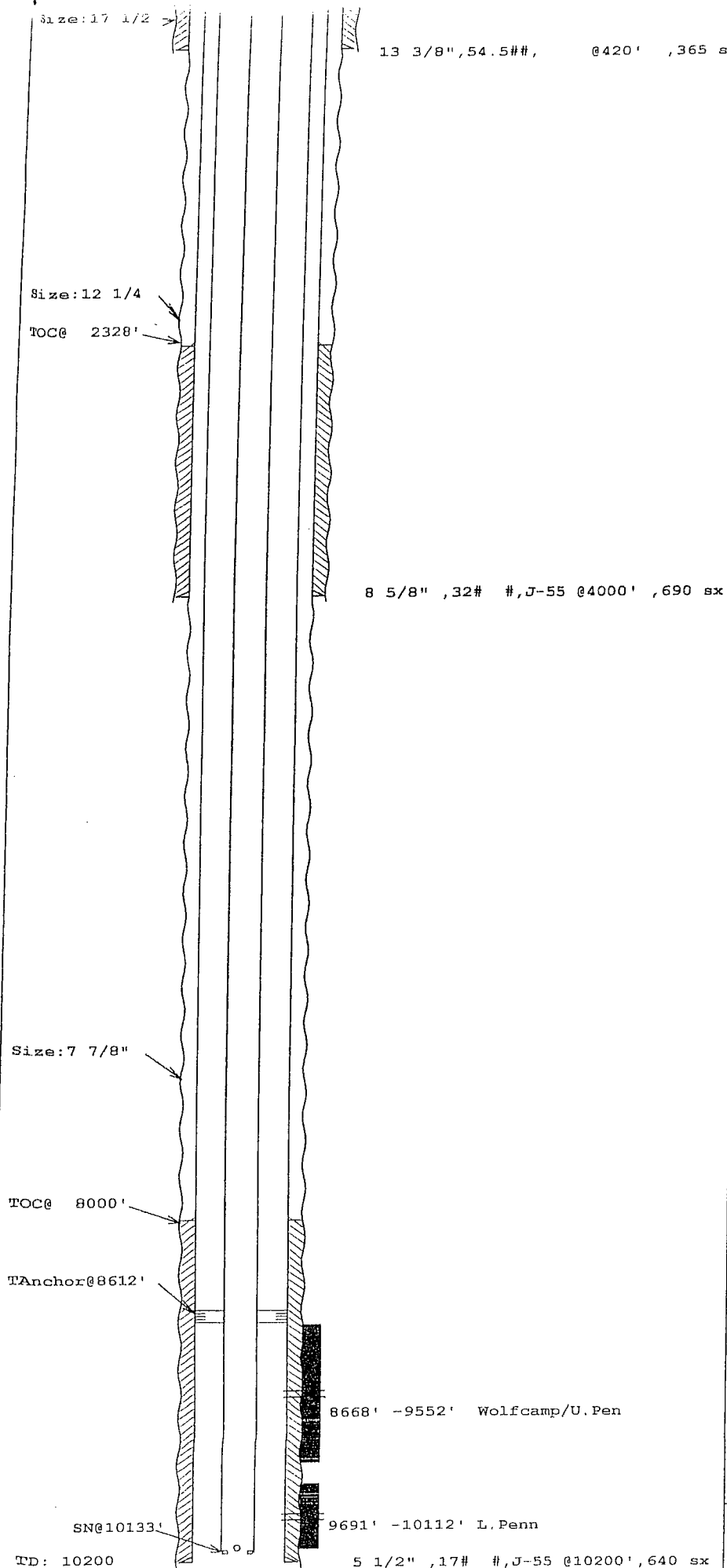
Input by: leigh  
 Approved by:  
 Last Update: 3/28/05

12





Well:	Operator: Chaparral (USA) Energy, Inc. Location: Unit C, 720' FNL & 1980' FWL Legal: Sec. 21-11S-33E, Lea Co., NM
Dir:	
Spud Date:	
Drilling Finished:	
Completion Date:	
First Production:	
<b>PUMPING DATA:</b>	
PU:	
PM:	
BHP:	
Anchor:	
<b>PRODUCTION FACILITY:</b>	
<b>HISTORY:</b>	
Input by: leigh Approved by: Last Update: 6/29/05	



Well: Chaparral (USA) Energy, Inc.  
Operator: Chaparral (USA) Energy, Inc.  
Location: Unit N, 660' FSL & 1980' FWL  
Legal: Sec. 21-11S-33E, Lea Co.

Dir:

Spud Date: 1/21/05  
Drilling Finished: 2/23/05  
Completion Date:  
First Production:

#### PUMPING DATA:

PU:  
PM:  
BHP:  
Anchor:

#### PRODUCTION FACILITY:

#### TUBING #1:

Type	#Jts	Size	Wt#/f	Grade	Set@
Production	319	2 7/8"	6.5		1013

#### HISTORY:

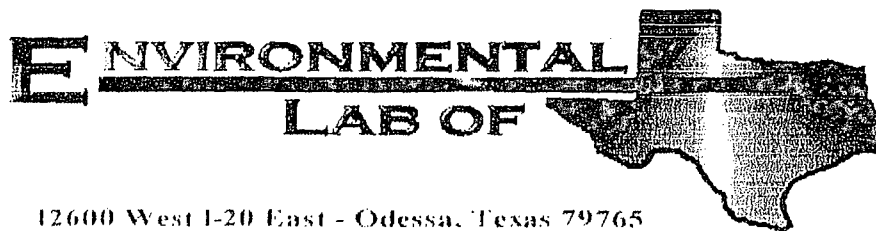
Segment detail:

L. Penn ☐  
☐ 9691'-9706'  
☐ 9738'-9740'  
☐ 9761'-9771'  
☐ 9802'-9832'  
☐ 9838'-9854'  
☐ 9868'-9876'  
☐ 9898'-9905'  
☐ 9924'-9935'  
☐ 9960'-9966'  
☐ 9986'-9992'  
☐ 10024'-10026'  
☐ 10050'-10054'  
☐ 10100'-10112'

Wolfcamp/U. Penn

☐ 8668'-8671'  
☐ 8704'-8706'  
☐ 8719'-8721'  
☐ 8819'-8823'  
☐ 8835'-8840'  
☐ 8990'-8995'  
☐ 9146'-9147'  
☐ 9152'-9154'  
☐ 9212'-9218'  
☐ 9280'-9284'  
☐ 9294'-9297'  
☐ 9311'-9315'  
☐ 9317'-9320'  
☐ 9324'-9327'  
☐ 9350'-9360  
☐ 9368'-9381'  
☐ 9490'-9494'  
☐ 9496'-9498'  
☐ 9508'-9511'  
☐ 9546'-9552'  
☐

Input by: leigh  
Approved by:  
Last Update: 6/29/05



12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

Prepared for:

Leigh Kuykendall

Chaparral Energy

701 Cedar Lake Bld.

Oklahoma City, OK 73114

Project: State K #3-21

Project Number: None Given

Location: 18 mi. west of Tatum, NM

Lab Order Number: 5G01015

Report Date: 07/12/05

Fresh Water Wells

Chaparral Energy  
701 Cedar Lake Bld.  
Oklahoma City OK, 73114

Project: State K #3-21  
Project Number: None Given  
Project Manager: Leigh Kuykendall

Fax: (405) 478-4162  
Reported:  
07/12/05 15:41

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Section 21	5G01015-01	Water	06/30/05 16:00	07/01/05 14:30
Section 22	5G01015-02	Water	06/30/05 16:10	07/01/05 14:30

Chaparral Energy  
701 Cedar Lake Bld.  
Oklahoma City OK, 73114

Project: State K #3-21  
Project Number: None Given  
Project Manager: Leigh Kuykendall

Fax: (405) 478-4162

Reported:  
07/12/05 15:41

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Section 21 (5G01015-01) Water</b>									
Total Alkalinity	150	4.00	mg/L	2	EG50715	07/07/05	07/07/05	EPA 310.2M	
Chloride	50.7	2.50	"	5	EG51103	07/08/05	07/08/05	EPA 300.0	
Specific Conductance (EC)	907	5.00	umhos/cm	1	EG50803	07/07/05	07/07/05	EPA 9050A	
Total Dissolved Solids	644	5.00	mg/L	"	EG51209	07/07/05	07/08/05	EPA 160.1	
Sulfate	228	2.50	"	5	EG51103	07/08/05	07/08/05	EPA 300.0	
<b>Section 22 (5G01015-02) Water</b>									
Total Alkalinity	128	4.00	mg/L	2	EG50715	07/07/05	07/07/05	EPA 310.2M	
Chloride	49.0	2.50	"	5	EG51103	07/08/05	07/08/05	EPA 300.0	
Specific Conductance (EC)	780	5.00	umhos/cm	1	EG50803	07/07/05	07/07/05	EPA 9050A	
Total Dissolved Solids	497	5.00	mg/L	"	EG51209	07/07/05	07/08/05	EPA 160.1	
Sulfate	171	2.50	"	5	EG51103	07/08/05	07/08/05	EPA 300.0	

Chaparral Energy  
701 Cedar Lake Bld.  
Oklahoma City OK, 73114

Project: State K #3-21  
Project Number: None Given  
Project Manager: Leigh Kuykendall

Fax: (405) 478-4162

Reported:  
07/12/05 15:41

**Total Metals by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Section 21 (5G01015-01) Water</b>									
Calcium	116	0.500	mg/L	50	EG50802	07/08/05	07/08/05	EPA 6010B	
Magnesium	18.2	0.0100	"	10	"	"	"	"	
Potassium	4.56	0.0500	"	1	"	"	"	"	
Sodium	66.7	0.100	"	10	"	"	"	"	
Mercury	ND	0.00100	"	2	EG50807	07/08/05	07/08/05	EPA 7470A	
Aluminum	ND	0.0150	"	1	EG50708	07/07/05	07/07/05	EPA 6010B	
Arsenic	ND	0.00800	"	"	"	"	"	"	
Barium	0.0303	0.00100	"	"	"	"	"	"	
Boron	0.187	0.00500	"	"	"	"	"	"	
Cadmium	0.00100	0.00100	"	"	"	"	"	"	
Chromium	ND	0.00500	"	"	"	"	"	"	
Cobalt	ND	0.00200	"	"	"	"	"	"	
Copper	0.00450	0.00200	"	"	"	"	"	"	
Iron	ND	0.00200	"	"	"	"	"	"	
Lead	J [0.00280]	0.0110	"	"	"	"	"	"	J
Manganese	0.00130	0.00100	"	"	"	"	"	"	
Molybdenum	ND	0.00200	"	"	"	"	"	"	
Nickel	ND	0.00600	"	"	"	"	"	"	
Selenium	0.0216	0.00400	"	"	"	"	"	"	
Silver	ND	0.00500	"	"	"	"	"	"	
Zinc	0.00330	0.00100	"	"	"	"	"	"	
<b>Section 22 (5G01015-02) Water</b>									
Calcium	82.0	0.100	mg/L	10	EG50802	07/08/05	07/08/05	EPA 6010B	
Magnesium	14.9	0.0100	"	"	"	"	"	"	
Potassium	3.62	0.0500	"	1	"	"	"	"	
Sodium	55.2	0.100	"	10	"	"	"	"	
Mercury	ND	0.00100	"	2	EG50807	07/08/05	07/08/05	EPA 7470A	
Aluminum	ND	0.0150	"	1	EG50708	07/07/05	07/07/05	EPA 6010B	
Arsenic	0.0125	0.00800	"	"	"	"	"	"	
Barium	0.0370	0.00100	"	"	"	"	"	"	
Boron	0.177	0.00500	"	"	"	"	"	"	
Cadmium	ND	0.00100	"	"	"	"	"	"	
Chromium	ND	0.00500	"	"	"	"	"	"	
Cobalt	ND	0.00200	"	"	"	"	"	"	
Copper	J [0.00120]	0.00200	"	"	"	"	"	"	J
Iron	ND	0.00200	"	"	"	"	"	"	
Lead	J [0.00310]	0.0110	"	"	"	"	"	"	J

Environmental Lab of Texas

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.*

Page 3 of 11

Chaparral Energy  
701 Cedar Lake Bld.  
Oklahoma City OK, 73114

Project: State K #3-21  
Project Number: None Given  
Project Manager: Leigh Kuykendall

Fax: (405) 478-4162  
Reported:  
07/12/05 15:41

**Total Metals by EPA / Standard Methods  
Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Section 22 (5G01015-02) Water									
Manganese	ND	0.00100	mg/L	1	EG50708	07/07/05	07/07/05	EPA 6010B	
Molybdenum	ND	0.00200	"	"	"	"	"	"	
Nickel	ND	0.00600	"	"	"	"	"	"	
Selenium	0.0266	0.00400	"	"	"	"	"	"	
Silver	ND	0.00500	"	"	"	"	"	"	
Zinc	0.00420	0.00100	"	"	"	"	"	"	

Chaparral Energy  
701 Cedar Lake Bld.  
Oklahoma City OK, 73114

Project: State K #3-21  
Project Number: None Given  
Project Manager: Leigh Kuykendall

Fax: (405) 478-4162

Reported:  
07/12/05 15:41

General Chemistry Parameters by EPA / Standard Methods - Quality Control  
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EG50715 - General Preparation (WetChem)</b>										
<b>Blank (EG50715-BLK1)</b>		Prepared & Analyzed: 07/07/05								
Total Alkalinity	ND	2.00	mg/L							
<b>Duplicate (EG50715-DUP1)</b>		Source: 5G01015-01		Prepared & Analyzed: 07/07/05						
Total Alkalinity	152	4.00	mg/L		150			1.32	20	
<b>Reference (EG50715-SRM1)</b>		Prepared & Analyzed: 07/07/05								
Bicarbonate Alkalinity	230		mg/L	200		115	80-120			
<b>Batch EG50803 - General Preparation (WetChem)</b>										
<b>Calibration Check (EG50803-CCV1)</b>		Prepared & Analyzed: 07/08/05								
Specific Conductance (EC)	1420		umhos/cm	1410		101	80-120			
<b>Duplicate (EG50803-DUP1)</b>		Source: 5G01015-01		Prepared & Analyzed: 07/07/05						
Specific Conductance (EC)	909	5.00	umhos/cm		907			0.220	20	
<b>Batch EG51103 - General Preparation (WetChem)</b>										
<b>Blank (EG51103-BLK1)</b>		Prepared & Analyzed: 07/08/05								
Chloride	ND	0.500	mg/L							
Sulfate	ND	0.500	"							
<b>LCS (EG51103-BS1)</b>		Prepared & Analyzed: 07/08/05								
Chloride	10.7		mg/L	10.0		107	80-120			
Sulfate	9.90		"	10.0		99.0	80-120			



Chaparral Energy  
701 Cedar Lake Bld.  
Oklahoma City OK, 73114

Project: State K #3-21  
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Fax: (405) 478-4162

Reported:  
07/12/05 15:41

General Chemistry Parameters by EPA / Standard Methods - Quality Control  
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch EG51103 - General Preparation (WetChem)

Calibration Check (EG51103-CCV1)

Prepared & Analyzed: 07/08/05

Sulfate	10.4		mg/L	10.0		104	80-120			
Chloride	10.9		"	10.0		109	80-120			

Duplicate (EG51103-DUP1)

Source: SG01015-01

Prepared & Analyzed: 07/08/05

Sulfate	231	2.50	mg/L		228			1.31	20	
Chloride	52.9	2.50	"		50.7			4.25	20	

Batch EG51209 - General Preparation (WetChem)

Blank (EG51209-BLK1)

Prepared: 07/07/05 Analyzed: 07/08/05

Total Dissolved Solids	ND	5.00	mg/L							
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Duplicate (EG51209-DUP1)

Source: SG01015-01

Prepared: 07/07/05 Analyzed: 07/08/05

Total Dissolved Solids	609	5.00	mg/L		644			5.59	20	
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Chaparral Energy  
701 Cedar Lake Bld.  
Oklahoma City OK, 73114

Project: State K #3-21  
Project Number: None Given  
Project Manager: Leigh Kuykendall

Fax: (405) 478-4162

Reported:  
07/12/05 15:41

**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EG50708 - 6010B/No Digestion**

**Blank (EG50708-BLK1)**

Prepared & Analyzed: 07/07/05

Aluminum	ND	0.0150	mg/L
Arsenic	ND	0.00800	"
Barium	ND	0.00100	"
Boron	ND	0.00500	"
Cadmium	ND	0.00100	"
Chromium	ND	0.00500	"
Cobalt	ND	0.00200	"
Copper	ND	0.00200	"
Iron	ND	0.00200	"
Lead	ND	0.0110	"
Manganese	ND	0.00100	"
Molybdenum	ND	0.00200	"
Nickel	ND	0.00600	"
Selenium	ND	0.00400	"
Silver	ND	0.00500	"
Zinc	ND	0.00100	"

**LCS (EG50708-BS1)**

Prepared & Analyzed: 07/07/05

Aluminum	1.36	0.0150	mg/L	1.50	90.7	85-115
Arsenic	0.881	0.00800	"	0.800	110	85-115
Barium	0.230	0.00100	"	0.200	115	85-115
Boron	0.981	0.00500	"	1.00	98.1	85-115
Cadmium	0.208	0.00100	"	0.200	104	85-115
Chromium	0.206	0.00500	"	0.200	103	85-115
Cobalt	0.183	0.00200	"	0.200	91.5	85-115
Copper	0.195	0.00200	"	0.200	97.5	85-115
Iron	0.202	0.00200	"	0.200	101	85-115
Lead	1.02	0.0110	"	1.10	92.7	85-115
Manganese	0.201	0.00100	"	0.200	100	85-115
Molybdenum	0.212	0.00200	"	0.200	106	85-115
Nickel	0.568	0.00600	"	0.600	94.7	85-115
Selenium	0.404	0.00400	"	0.400	101	85-115
Silver	0.102	0.00500	"	0.100	102	85-115
Zinc	0.216	0.00100	"	0.200	108	85-115

Chaparral Energy  
701 Cedar Lake Bld.  
Oklahoma City OK, 73114

Project: State K #3-21  
Project Number: None Given  
Project Manager: Leigh Kuykendall

Fax: (405) 478-4162  
Reported:  
07/12/05 15:41

**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EG50708 - 6010B/No Digestion**

**Calibration Check (EG50708-CCV1)**

Prepared & Analyzed: 07/07/05

Aluminum	0.936		mg/L	1.00		93.6	90-110			
Arsenic	0.990		"	1.00		99.0	90-110			
Barium	1.03		"	1.00		103	90-110			
Boron	0.996		"	1.00		99.6	90-110			
Cadmium	1.03		"	1.00		103	90-110			
Chromium	1.02		"	1.00		102	90-110			
Cobalt	0.992		"	1.00		99.2	90-110			
Copper	1.01		"	1.00		101	90-110			
Lead	0.929		"	1.00		92.9	90-110			
Iron	1.00		"	1.00		100	90-110			
Manganese	0.988		"	1.00		98.8	90-110			
Molybdenum	1.04		"	1.00		104	90-110			
Nickel	0.957		"	1.00		95.7	90-110			
Selenium	0.994		"	1.00		99.4	90-110			
Silver	0.520		"	0.500		104	90-110			
Zinc	0.914		"	1.00		91.4	90-110			

**Matrix Spike (EG50708-MS1)**

Source: 5G01015-01

Prepared & Analyzed: 07/07/05

Aluminum	1.48	0.0150	mg/L	1.50	ND	98.7	75-125			
Arsenic	0.976	0.00800	"	0.800	ND	122	75-125			
Barium	0.242	0.00100	"	0.200	0.0303	106	75-125			
Boron	1.18	0.00500	"	1.00	0.187	99.3	75-125			
Cadmium	0.204	0.00100	"	0.200	0.00100	102	75-125			
Chromium	0.202	0.00500	"	0.200	ND	101	75-125			
Cobalt	0.195	0.00200	"	0.200	ND	97.5	75-125			
Copper	0.206	0.00200	"	0.200	0.00450	101	75-125			
Lead	1.16	0.0110	"	1.10	0.00280	105	75-125			
Iron	0.197	0.00200	"	0.200	ND	98.5	75-125			
Manganese	0.199	0.00100	"	0.200	0.00130	98.8	75-125			
Molybdenum	0.206	0.00200	"	0.200	ND	103	75-125			
Nickel	0.614	0.00600	"	0.600	ND	102	75-125			
Selenium	0.487	0.00400	"	0.400	0.0216	116	75-125			
Silver	0.119	0.00500	"	0.100	ND	119	75-125			
Zinc	0.240	0.00100	"	0.200	0.00330	118	75-125			

Environmental Lab of Texas

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Page 8 of 11

Chaparral Energy  
701 Cedar Lake Bld.  
Oklahoma City OK, 73114

Project: State K #3-21  
Project Number: None Given  
Project Manager: Leigh Kuykendall

Fax: (405) 478-4162

Reported:  
07/12/05 15:41

**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EG50802 - 6010B/No Digestion**

**Blank (EG50802-BLK1)**

Prepared & Analyzed: 07/08/05

Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	"							
Potassium	ND	0.0500	"							
Sodium	ND	0.0100	"							

**Calibration Check (EG50802-CCV1)**

Prepared & Analyzed: 07/08/05

Calcium	2.01		mg/L	2.00		100	85-115			
Magnesium	2.24		"	2.00		112	85-115			
Potassium	1.77		"	2.00		88.5	85-115			
Sodium	1.85		"	2.00		92.5	85-115			

**Duplicate (EG50802-DUP1)**

Source: 5G01015-01

Prepared & Analyzed: 07/08/05

Calcium	117	0.500	mg/L		116			0.858	20	
Magnesium	18.1	0.0100	"		18.2			0.551	20	
Potassium	4.40	0.0500	"		4.56			3.57	20	
Sodium	61.8	0.100	"		66.7			7.63	20	

**Batch EG50807 - EPA 7470A**

**Blank (EG50807-BLK1)**

Prepared & Analyzed: 07/08/05

Mercury	ND	0.00100	mg/L							
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**LCS (EG50807-BS1)**

Prepared & Analyzed: 07/08/05

Mercury	0.00170	0.000500	mg/L	0.00200		85.0	85-115			
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**Calibration Check (EG50807-CCV1)**

Prepared & Analyzed: 07/08/05

Mercury	0.00103		mg/L	0.00100		103	90-110			
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Chaparral Energy  
701 Cedar Lake Bld.  
Oklahoma City OK, 73114

Project: State K #3-21  
Project Number: None Given  
Project Manager: Leigh Kuykendall

Fax: (405) 478-4162

Reported:  
07/12/05 15:41

**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EG50807 - EPA 7470A**

**Matrix Spike (EG50807-MS1)** Source: 5G01015-02 Prepared & Analyzed: 07/08/05

Mercury	0.00212	0.000500	mg/L		ND		75-125			
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**Matrix Spike Dup (EG50807-MSD1)** Source: 5G01015-02 Prepared & Analyzed: 07/08/05

Mercury	0.00206	0.000500	mg/L		ND		75-125	2.87	20	
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Chaparral Energy  
701 Cedar Lake Bld.  
Oklahoma City OK, 73114

Project: State K #3-21  
Project Number: None Given  
Project Manager: Leigh Kuykendall

Fax: (405) 478-4162

Reported:  
07/12/05 15:41

### Notes and Definitions

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).  
DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate

Report Approved By:

*Raland K. Tuttle*

Date:

7/12/2005

Raland K. Tuttle, Lab Manager

Celey D. Keene, Lab Director, Org. Tech Director

Peggy Allen, QA Officer

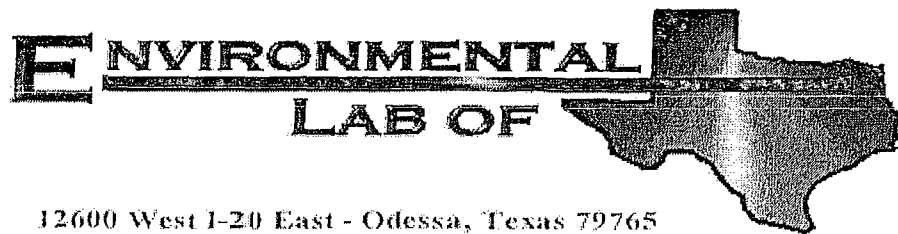
Jeanne Mc Murrey, Inorg. Tech Director

LaTasha Cornish, Chemist

Sandra Sanchez, Lab Tech.

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If you have received this material in error, please notify us immediately at 432-563-1800.



12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Herman Steen

Chaparral Energy, LLC (Odessa)

11908 W Hwy. 80 E

Odessa, TX 79765

Project: Permit Water

Project Number: State K 3-21

Location: None Given

Lab Order Number: 5G28004

Report Date: 08/09/05

*Source Well*

Chaparral Energy, LLC (Odessa)  
11908 W Hwy. 80 E  
Odessa TX, 79765

Project: Permit Water  
Project Number: State K 3-21  
Project Manager: Herman Steen

Fax: (432) 561-9467

Reported:  
08/09/05 16:12

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Produced Water	5G28004-01	Water	07/19/05 00:00	07/21/05 13:55



Chaparral Energy, LLC (Odessa)  
11908 W Hwy. 80 E  
Odessa TX, 79765

Project: Permit Water  
Project Number: State K 3-21  
Project Manager: Herman Steen

Fax: (432) 561-9467

Reported:  
08/09/05 16:12

### General Chemistry Parameters by EPA / Standard Methods

#### Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Produced Water (5G28004-01) Water</b>									
Carbonate Alkalinity	ND	0.100	mg/L	1	EH50502	07/28/05	07/28/05	EPA 310.2M	O-04
Bicarbonate Alkalinity	76.0	2.00	"	"	"	"	"	"	O-04
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	O-04
Chloride	63800	5.00	"	"	EH50901	08/08/05	08/08/05	EPA 325.3M	
pH	5.95		pH Units	"	EG52818	07/28/05	07/28/05	EPA 150.1	
Total Dissolved Solids	95300	20.0	mg/L	4	EH50306	08/02/05	08/03/05	EPA 160.1	
Sulfate	821	50.0	"	100	EH50312	08/03/05	08/03/05	EPA 300.0	

Chaparral Energy, LLC (Odessa)  
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Reported:  
08/09/05 16:12

**Total Metals by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Produced Water (5G28004-01) Water									
Calcium	4800	10.0	mg/L	1000	EH50405	08/04/05	08/04/05	EPA 6010B	
Magnesium	881	0.200	"	200	"	"	"	"	
Potassium	120	2.50	"	50	"	"	"	"	
Sodium	26800	100	"	10000	"	"	"	"	

Chaparral Energy, LLC (Odessa)  
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Project: Permit Water  
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Fax: (432) 561-9467

Reported:  
08/09/05 16:12

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EG52818 - General Preparation (WetChem)</b>										
<b>Calibration Check (EG52818-CCV1)</b>				Prepared & Analyzed: 07/28/05						
pH	6.99		pH Units	7.00		99.9	97.5-102.5			
<b>Duplicate (EG52818-DUP1)</b>				Source: 5G28004-01		Prepared & Analyzed: 07/28/05				
pH	5.97		pH Units		5.95			0.336	2.5	
<b>Batch EH50306 - General Preparation (WetChem)</b>										
<b>Blank (EH50306-BLK1)</b>				Prepared: 08/02/05 Analyzed: 08/03/05						
Total Dissolved Solids	ND	5.00	mg/L							
<b>Duplicate (EH50306-DUP1)</b>				Source: 5G28004-01		Prepared: 08/02/05 Analyzed: 08/03/05				
Total Dissolved Solids	96300	20.0	mg/L		95300			1.04	5	
<b>Batch EH50312 - General Preparation (WetChem)</b>										
<b>Blank (EH50312-BLK1)</b>				Prepared & Analyzed: 08/03/05						
Sulfate	ND	0.500	mg/L							
<b>LCS (EH50312-BS1)</b>				Prepared & Analyzed: 08/03/05						
Sulfate	9.66		mg/L	10.0		96.6	80-120			
<b>Calibration Check (EH50312-CCV1)</b>				Prepared & Analyzed: 08/03/05						
Sulfate	8.35		mg/L	10.0		83.5	80-120			
<b>Duplicate (EH50312-DUP1)</b>				Source: 5G29003-01		Prepared & Analyzed: 08/03/05				
Sulfate	748	25.0	mg/L		743			0.671	20	

Chaparral Energy, LLC (Odessa)  
11908 W Hwy. 80 E  
Odessa TX, 79765

Project: Permit Water  
Project Number: State K 3-21  
Project Manager: Herman Steen

Fax: (432) 561-9467

Reported:  
08/09/05 16:12

General Chemistry Parameters by EPA / Standard Methods - Quality Control  
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch EH50502 - General Preparation (WetChem)

Blank (EH50502-BLK1)

Prepared & Analyzed: 07/28/05

Total Alkalinity ND 2.00 mg/L

Duplicate (EH50502-DUP1)

Source: 5G20026-02

Prepared & Analyzed: 07/28/05

Total Alkalinity 94.0 2.00 mg/L 94.0 0.00 20

Reference (EH50502-SRM1)

Prepared & Analyzed: 07/28/05

Bicarbonate Alkalinity 230 2.00 mg/L 200 115 80-120

Batch EH50901 - General Preparation (WetChem)

Blank (EH50901-BLK1)

Prepared & Analyzed: 08/08/05

Chloride ND 5.00 mg/L

Duplicate (EH50901-DUP1)

Source: 5G28004-01

Prepared & Analyzed: 08/08/05

Chloride 63800 5.00 mg/L 63800 0.00 20

Reference (EH50901-SRM1)

Prepared & Analyzed: 08/08/05

Chloride 4960 mg/L 5000 99.2 80-120

Chaparral Energy, LLC (Odessa)  
11908 W Hwy. 80 E  
Odessa TX, 79765

Project: Permit Water  
Project Number: State K 3-21  
Project Manager: Herman Steen

Fax: (432) 561-9467

Reported:  
08/09/05 16:12

**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch EH50405 - 6010B/No Digestion**

**Blank (EH50405-BLK1)**

Prepared & Analyzed: 08/04/05

Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	"							
Potassium	ND	0.0500	"							
Sodium	ND	0.0100	"							

**Calibration Check (EH50405-CCV1)**

Prepared & Analyzed: 08/04/05

Calcium	1.75		mg/L	2.00		87.5	85-115			
Magnesium	1.98		"	2.00		99.0	85-115			
Potassium	1.83		"	2.00		91.5	85-115			
Sodium	1.70		"	2.00		85.0	85-115			

**Duplicate (EH50405-DUP1)**

Source: 5G28004-01

Prepared & Analyzed: 08/04/05

Calcium	4800	10.0	mg/L	4800		0.00	20			
Magnesium	854	0.200	"	881		3.11	20			
Potassium	122	2.50	"	120		1.65	20			
Sodium	25900	100	"	26800		3.42	20			

Chaparral Energy, LLC (Odessa)  
11908 W Hwy. 80 E  
Odessa TX, 79765

Project: Permit Water  
Project Number: State K 3-21  
Project Manager: Herman Steen

Fax: (432) 561-9467

Reported:  
08/09/05 16:12

#### Notes and Definitions

O-04 This sample was analyzed outside the EPA recommended holding time.  
DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate

Report Approved By:

*Raland K Tuttle*

Date:

8/9/2005

Raland K. Tuttle, Lab Manager  
Celey D. Keene, Lab Director, Org. Tech Director  
Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director  
LaTasha Cornish, Chemist  
Sandra Sanchez, Lab Tech.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.

# WATER ANALYSIS REPORT

Company : Chaparral Energy	Date : 08/08/05
Address :	Date Sampled : 07/19/05
Lease : State K 3-21	Analysis No. : 5G080505
Well :	
Sample Pt. : Well Head	

ANALYSIS		mg/L	* meq/L
-----		-----	-----
1. pH	5.9		
2. H2S	NR		
3. Specific Gravity	NR		
4. Total Dissolved Solids		105002.3	
5. Suspended Solids		NR	
6. Dissolved Oxygen		NR	
7. Dissolved CO2		NR	
8. Oil In Water		NR	
11. Bicarbonate	HCO3	76.0	HCO3 1.2
12. Chloride	Cl	63800.0	Cl 1799.7
13. Sulfate	SO4	821.0	SO4 17.1
14. Calcium	Ca	4800.0	Ca 239.5
15. Magnesium	Mg	881.0	Mg 72.5
16. Sodium (calculated)	Na	34624.3	Na 1506.1
17. Iron	Fe	0.0	
18. Barium	Ba	0.0	
19. Strontium	Sr	0.0	
20. Total Hardness (CaCO3)		0.0	

## PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter	Compound	Equiv wt	X meq/L	= mg/L
+-----+				
240  *Ca <----- *HCO3   1	Ca(HCO3)2	81.0	1.2	101
-----  /----->  -----	CaSO4	68.1	17.1	1164
72  *Mg -----> *SO4   17	CaCl2	55.5	221.2	12273
-----  <-----/  -----	Mg(HCO3)2	73.2		
1506  *Na -----> *Cl   1800	MgSO4	60.2		
+-----+	MgCl2	47.6	72.5	3450
Saturation Values Dist. Water 20 C	NaHCO3	84.0		
CaCO3 13 mg/L	Na2SO4	71.0		
CaSO4 * 2H2O 2090 mg/L	NaCl	58.4	1506.1	88014
BaSO4 2.4 mg/L				

REMARKS:

Respectfully submitted,  
Sandra S

SCALE TENDENCY REPORT  
-----

Company	: Chaparral Energy	Date	: 08/08/05
Address	:	Date Sampled	: 07/19/05
Lease	: State K 3-21	Analysis No.	: 5G080505
Well	:	Analyst	: Sandra S
Sample Pt.	: Well Head		

STABILITY INDEX CALCULATIONS  
(Stiff-Davis Method)  
CaCO3 Scaling Tendency

S.I. = -0.8 at 80 deg. F or 27 deg. C  
S.I. = -0.6 at 120 deg. F or 49 deg. C  
S.I. = -0.4 at 180 deg. F or 82 deg. C

\*\*\*\*\*

CALCIUM SULFATE SCALING TENDENCY CALCULATIONS  
(Skillman-McDonald-Stiff Method)  
Calcium Sulfate

S = 2892 at 80 deg. F or 27 deg C  
S = 3126 at 120 deg. F or 49 deg C  
S = 3101 at 180 deg. F or 82 deg C

Respectfully submitted,  
Sandra S



12600 West 1-20 East  
Odessa, Texas 79765

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

**Project Manager:**

Company Name

Company Address:

City/State/Zip:

Telephone No: 432-561-9462

405-830-3341

Sampler Signature:

Email:

[illegible]

**Environmental Lab of Texas  
Variance / Corrective Action Report – Sample Log-In**

Client: Chaparral Energy

Date/Time: 7/21/05 2:00

Order #: ~~59210~~ 5928004

Initials: OK

**Sample Receipt Checklist**

Temperature of container/cooler?	Yes	No	24.0 C
Shipping container/cooler in good condition?	Yes	No	none
Custody Seals intact on shipping container/cooler?	Yes	No	Not present
Custody Seals intact on sample bottles?	Yes	No	Not present
Chain of custody present?	Yes	No	
Sample Instructions complete on Chain of Custody?	Yes	No	
Chain of Custody signed when relinquished and received?	Yes	No	
Chain of custody agrees with sample label(s)	Yes	No	
Container labels legible and intact?	Yes	No	
Sample Matrix and properties same as on chain of custody?	Yes	No	
Samples in proper container/bottle?	Yes	No	
Samples properly preserved?	Yes	No	
Sample bottles intact?	Yes	No	
Preservations documented on Chain of Custody?	Yes	No	
Containers documented on Chain of Custody?	Yes	No	
Sufficient sample amount for indicated test?	Yes	No	
All samples received within sufficient hold time?	Yes	No	
VOC samples have zero headspace?	Yes	No	Not Applicable

Other observations:

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**Variance Documentation:**

Contact Person: Herman Date/Time: 7/21/05 1:55 Contacted by: Carrie

Regarding:

On ice

Corrective Action Taken:

When/if testing for metals - need to be on ice

Client wants to proceed with analysis.

---



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AFFIDAVIT OF PUBLICATION

State of New Mexico,  
County of Lea.

I, KATHI BEARDEN

Publisher

of the Hobbs News-Sun, a  
newspaper published at  
Hobbs, New Mexico, do solemnly  
swear that the clipping attached  
hereto was published once a  
week in the regular and entire  
issue of said paper, and not a  
supplement thereof for a period.

of 1

weeks.

Beginning with the issue dated

July 3

2005

and ending with the issue dated

July 3

2005

*Kathi Bearden*

Publisher

Sworn and subscribed to before

me this 6th day of

July

2005

*[Signature]*  
Notary Public.

My Commission expires  
February 07, 2009  
(Seal)



OFFICIAL SEAL  
DORA MONTZ  
NOTARY PUBLIC  
STATE OF NEW MEXICO

My Commission Expires: \_\_\_\_\_

This newspaper is duly qualified  
to publish legal notices or adver-  
tisements within the meaning of  
Section 3, Chapter 167, Laws of  
1937, and payment of fees for  
said publication has been made.

LEGAL NOTICE

July 3, 2005

Chaparral Energy, LLC, 701 Cedar Lake Blvd., Oklahoma City, OK, 73114, has filed Form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for a salt water disposal well. The proposed well, the State-K #1-21, is located 1980' FSL & 1980' FWL of Sec. 21-11S-33E, Lea Co., NM. Disposal water will be sourced from an area well producing from the Penn and Wolfcamp formations at a depth of 8668' - 10112'. The disposal water will be injected into the San Andres formation from 3850' - 4469' at a maximum pressure of 2000 psi and a maximum rate of 1200 BWPD. Any interested party who has an objection to this must give notice in writing to the Oil Conservation Division, 1220 South Saint Francis Street, Santa Fe, NM, 87505, within 15 days of this notice. Any interested party with questions or comments may contact Ron Brown at Chaparral Energy, LLC, 701 Cedar Lake Blvd., Oklahoma City, OK, 73114, or by phone at (405) 478-8770, #21630.

02105572000

67531631

Chaparral Energy, Inc.  
701 Cedar Lake Blvd.  
OKLAHOMA CITY, OK 73114-7806

June 30, 2005

Phoenix Hydrocarbons Operating Corporation  
PO Box 3638  
Midland, TX 79702

Re: Application to Inject  
State K #1-21  
Sec. 21-11S-33E  
Lea Co., NM

Gentlemen:

Enclosed for your review is a copy of Chaparral Energy, LLC's, application to convert the above referenced well into a salt water disposal. A requirement of the New Mexico Oil & Gas Conservation Division is that all surface owners and offset operators be notified of the application.

Any objections must be submitted in writing to the NMOCD, 1220 S. St. Francis Dr., Santa Fe, NM, 87505. Objections must be received within 15 days of receipt of this letter.

If you have questions or need further information regarding this request, please contact Ron Brown, Operations Engineer, at (405) 478-8770.

Sincerely,

CHAPARRAL ENERGY, LLC

*Leigh Kuykendall*

Leigh Kuykendall  
Sr. Engineering Tech

U.S. Postal Service CERTIFIED MAIL RECEIPT (Domestic Mail Only; No Insurance Coverage Provided)	
<b>OFFICIAL USE</b>	
Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$
Sent To: <i>Phoenix Hydrocarbons</i>	
Street, Apt. No.; or PO Box No. <i>PO Box 3638</i>	
City, State, ZIP+ 4 <i>Midland TX 79702</i>	
PS Form 3800, January 2001 See Reverse for Instructions	

701 Cedar Lake Blvd., Oklahoma City, Oklahoma 73114 • telephone: 405-478-8770 • facsimile: 405-478-1947

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> <li>Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>	<p>A. Received by (Please Print Clearly) <i>LOU PEARSON</i> B. Date of Delivery <i>7-7-05</i></p> <p>C. Signature <i>Lou Pearson</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input type="checkbox"/> No If YES, enter delivery address below:</p>
<p>1. Article Addressed to:</p> <p><i>Phoenix Hydrocarbons</i> <i>PO Box 3638</i> <i>Midland TX 79702</i></p>	<p>3. Service Type</p> <p><input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail</p> <p><input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise</p> <p><input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee)</p>

7001 0360 0003 5081 8130

June 30, 2005

Weldon Dallas  
Weldon L. & Edith Dallas Living Trust  
HC 12, Box 46  
Tatum, NM 88267

Re: Application to Inject  
State K #1-21  
Sec. 21-11S-33E  
Lea Co., NM

Gentlemen:

Enclosed for your review is a copy of Chaparral Energy, LLC's, application to convert the above referenced well into a salt water disposal. A requirement of the New Mexico Oil & Gas Conservation Division is that all surface owners and offset operators be notified of the application.

Any objections must be submitted in writing to the NMOCD, 1220 S. St. Francis Dr., Santa Fe, NM, 87505. Objections must be received within 15 days of receipt of this letter.

If you have questions or need further information regarding this request, please contact Ron Brown, Operations Engineer, at (405) 478-8770.

Sincerely,

CHAPARRAL ENERGY, LLC

*Leigh Kuykendall*

Leigh Kuykendall  
Sr. Engineering Tech

U.S. Postal Service CERTIFIED MAIL RECEIPT (Domestic Mail Only. No Insurance Coverage Provided)	
<b>OFFICIAL USE</b>	
Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$
Sent To <i>Weldon Dallas</i>	
Street, Apt. No.; or PO Box No. <i>HC 12 Box 46</i>	
City, State, ZIP+ 4 <i>Tatum NM 88267</i>	
PS Form 3800, January 2001 See Reverse for Instructions	

701 Cedar Lake Blvd., Oklahoma City, Oklahoma 73114 • telephone: 405-478-8770 • facsimile: 405-478-1947

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> <li>Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>	<p>A. Received by (Please Print Clearly) <i>W.L. Dallas</i> B. Date of Delivery <i>7/12/05</i></p> <p>C. Signature <i>W.L. Dallas</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>
<p>1. Article Addressed to:</p> <p><i>Weldon Dallas</i> <i>HC 12 Box 46</i> <i>Tatum NM 88267</i></p>	<p>3. Service Type</p> <p><input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail</p> <p><input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise</p> <p><input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>

**STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION**

**APPLICATION OF CHAPARRAL ENERGY, LLC FOR  
APPROVAL OF A SALT-WATER DISPOSAL WELL,  
LEA COUNTY, NEW MEXICO**

**CASE NO. 13695**

**AFFIDAVIT OF NOTICE OF HEARING**

**STATE OF NEW MEXICO            )**  
  **) SS**  
**COUNTY OF SANTA FE            )**

Ronald K. Brown, being duly sworn, deposes and states:

1. I am over the age of eighteen, and I have personal knowledge of the matters stated in this affidavit.
2. I am a Field Service Manager and Production Engineer for applicant Chaparral Energy, L.L.C. ("Chaparral").
3. Chaparral has made good faith and diligent efforts to discover the names and correct addresses of the interest owners entitled to receive notice of Chaparral's application for approval of a salt-water disposal well and the hearing on Chaparral's application.
4. Notice of the hearing on Chaparral's application was provided to the proper interest owners, at their correct addresses, by certified or priority mail. Copies of the notice letters and certified return receipts are attached hereto as Exhibits A and B.

**COMMISSION CASE NO. 13695  
CHAPARRAL EXHIBIT NO. 2**

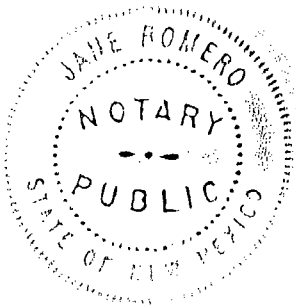
Ronald K. Brown  
Ronald K. Brown

SUBSCRIBED AND SWORN TO before me on this 8<sup>th</sup> day of June, 2006, by Ronald K. Brown.

Jane Romero  
Notary Public

My Commission Expires:

12-22-07





**Via certified mail**

May 17, 2006

Weldon L. Dallas  
HC-12 Box 46  
Tatum, NM 88267

Phoenix Hydrocarbons Operating Corporation  
PO Box 3638  
Midland, TX 79702

Re: Application for Salt Water Disposal  
OCD Case No. 13695  
State K #1-21, API No. 30-025-22049  
Unit K, Sec. 21-11S-33E  
Lea Co., NM

Gentlemen:

This letter is to advise you that June 8, 2006 is the date set by the OCD on the above referenced Application to Inject hearing docket to present the case to a hearing examiner.

If you have any questions or require any further information, please contact me at (405)426-4451 or [traci@chaparralenergy.com](mailto:traci@chaparralenergy.com). Thank you.

Respectfully,

A handwritten signature in cursive script that reads "Traci Cornish".

Traci Cornish  
Engineering Tech

tc







Priority Mail

May 30, 2006

New Mexico Commissioner of Public Lands  
PO Box 1149  
Santa Fe, NM 87504

Re: Application for Salt Water Disposal  
OCD Case No. 13695  
State K #1-21, API #30-025-22049  
Unit K, Sec. 21-11S-33E, Lea Co.

Gentlemen:

This letter is to advise you that an NMOCD hearing has been set for June 8, 2006, on the above referenced Application of Inject.

Chaparral Energy, LLC has applied to the NMOCD to convert the above well to a salt water disposal well. The application was protested and therefore docketed for hearing.

If you have questions or require further information, please contact Ron Brown or Traci Cornish at (405) 478-8770.

Sincerely,

CHAPARRAL ENERGY, LLC

A handwritten signature in cursive script, reading "Leigh Kuykendall".

Leigh Kuykendall  
Sr. Engineering Tech





STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

APPLICATION OF CHAPARRAL ENERGY, LLC FOR  
APPROVAL OF A SALT-WATER DISPOSAL WELL,  
LEA COUNTY, NEW MEXICO

CASE NO. 13695

SUPPLEMENTAL AFFIDAVIT OF RONALD K. BROWN

STATE OF OKLAHOMA            )  
  ) SS  
COUNTY OF OKLAHOMA        )

Ronald K. Brown, being duly sworn, deposes and states:

1. I am over the age of eighteen, and I have personal knowledge of the matters stated in this affidavit.

2. I previously executed an affidavit ("Initial Affidavit") in this case that addresses Chaparral's provision of notice of the hearing on Chaparral's application. My Initial Affidavit has been admitted into evidence as Chaparral Hearing Exhibit No. 2. I also provided testimony during the hearing conducted on June 8, 2006.

3. When I submitted my Initial Affidavit, I inadvertently neglected to attach copies of the certified return receipts for Chaparral's notice letter to Weldon L. Dallas and Phoenix Hydrocarbons Operating Corporation. True and correct copies of the certified return receipts are attached hereto as Exhibit A.

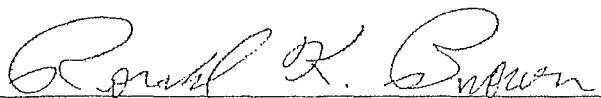
COMMISSION CASE NO. 13695  
CHAPARRAL EXHIBIT NO. 3

4. On May 30, 2006, Chaparral provided written notice of the hearing, via priority mail, to the Commissioner of Public Lands ("the Commissioner"). See Exhibit B to Initial Affidavit. On June 19, 2006, Chaparral provided the Commissioner with a copy of Chaparral's application and notified the Commissioner of the July 6, 2006 hearing. A true and correct copy of the June 19, 2006 letter to the Commissioner is attached hereto as Exhibit B.

5. During the hearing conducted on June 8, 2006, the Hearing Examiner directed me to provide a "before conversion" diagram of the State "K" # 1-21 well that is the subject of Chaparral's application. A true and correct copy of that diagram is attached hereto as Exhibit C.

6. Also during the June 8, 2006 hearing, the Hearing Examiner directed me to provide a diagram of the Bell B well. A true and correct copy of that diagram is attached hereto as Exhibit D.

7. The Hearing Examiner further directed me to provide additional information regarding formation tops down to 9,000 feet. A true and correct copy of a letter setting out the requested information, which was prepared by Chaparral's geologist, is attached hereto as Exhibit E.

  
Ronald K. Brown

SUBSCRIBED AND SWORN TO before me on this 5<sup>th</sup> day of July, 2006, by Ronald K. Brown.

Barbara J. Yelford  
Notary Public

My Commission Expires:

6/15/10



SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<p>☑ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</p> <p>☑ Print your name and address on the reverse so that we can return the card to you.</p> <p>☑ Attach this card to the back of the mailpiece, or on the front if space permits.</p>		<p>A. Signature <u>[Signature]</u> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p>	
<p>1. Article Addressed to:</p> <p>PHOENIX HYDROCARBONS OPER. CORP. PO BOX 3638 MIDLAND TX 79702</p>		<p>B. Received by (Printed Name) <u>Gregory F. Sadano</u> C. Date of Delivery <u>5/22/05</u></p> <p>D. Is delivery address different from item 1? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If YES, enter delivery address below: <input type="checkbox"/> No</p>	
<p>2. Article Number</p> <p>61.90/22/50 254115 0001 6578 4571</p>		<p>3. Service Type</p> <p><input type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail</p> <p><input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise</p> <p><input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p>	
		<p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	

Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<p>☑ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</p> <p>☑ Print your name and address on the reverse so that we can return the card to you.</p> <p>☑ Attach this card to the back of the mailpiece, or on the front if space permits.</p>		<p>A. Signature <u>[Signature]</u> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p>	
<p>1. Article Addressed to:</p> <p>WENDON L DALLAS AL-12 BOX 46 TATUM NM 88267</p>		<p>B. Received by (Printed Name) <u>[Signature]</u> C. Date of Delivery <u>5/26/05</u></p> <p>D. Is delivery address different from item 1? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If YES, enter delivery address below: <input type="checkbox"/> No</p>	
<p>2. Article Number</p> <p>(Transfer from service label)</p>		<p>3. Service Type</p> <p><input type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail</p> <p><input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise</p> <p><input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p>	
		<p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	

7005 2570 0001 6578 4571

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540



June 19, 2006

New Mexico Commissioner of Public Lands  
PO Box 1149  
Santa Fe, NM 87504

Re: Application for Salt Water Disposal  
OCD Case No. 13695  
State K #1-21, API #30-025-22049  
Unit K, Sec. 21-11S-33E, Lea Co.

Gentlemen:

Please find enclosed a copy of the Application for Authorization to Inject on the above referenced well. Chaparral Energy, LLC has applied to the NMOCD to convert the State K #1-21 to a salt water disposal well. The application was protested and docketed for hearing on June 8, 2006. The New Mexico Commission of Public Lands office was notified of the hearing but we inadvertently neglected to send a copy of the permit to your office. The hearing that took place on June 8, 2006 has been continued and is scheduled for July 9, 2006.

If you have any questions or require any further information, please contact me or Ron Brown at (405)478-8770. Thank you.

Respectfully,

A handwritten signature in cursive script, appearing to read "Traci Cornish".

Traci Cornish  
Engineering Tech

Tc  
Enclosures



KB: 4271' DF: 4270' GL: 4259'

# Chaparral Energy, L.L.C.

Well: State 'K' , 1-21 , 690500-  
 Operator: Chaparral Energy, LLC.  
 Location: Lea Co., NM  
 Legal: Sec. 21-11S-33E

Dir:

Spud Date: 03/02/67  
 Drilling Finished:  
 Completion Date: 04/25/67  
 First Production:

**HISTORY:**  
 Proposed conversion to SWD

Size: 17 1/2" →  
 329' -361' Sqz w/250 sxs  
 13 3/8", 48 #, @388' , 400 sx

8 5/8" casing leak 329'-361'

Size: 11"  
 TOC@ 2235'

8 5/8" , 24/32# , J-55 @3850' , 350 sx

CRetainer@4496'  
 TOC@ 4476'

3850' -4467' San Andres 2

Injection zone has no cement behind casing 3850'-4476'.

Cmt retainer @ 4496' w/20' cmt

5630' -5704' Sqz

Size: 7 7/8" →

9094'	-9099'	Cisco	2
9229'	-9231'	Cisco	2
9296'	-9301'	Cisco	2
9306'	-9310'	Cisco	2
9358'	-9364'	Canyon	2

OPRTD: 9900'

9745'	-9756'	Strawn	2
9839'	-9932'	Strawn	2

TD: 10240

5 1/2" , 20# #, J-55 @10200' , 1032sx

Input by: Traci  
 Approved by:  
 Last Update: 03/06/06





June 23, 2006

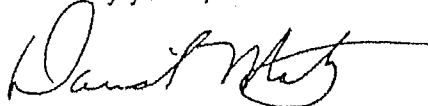
State of New Mexico  
Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division  
1120 South Saint Francis Drive  
Santa Fe, NM 87505

Gentlemen:

The State K # 1, 1980 FSL and 1980 FWL Sec. 21, 11S-33E, Lea Co., N.M., was drilled by Bell Petroleum Company in 1967. The Current operator is Chaparral Energy, Inc.

Formation tops in this well are as follows: Anhydrite 1685', Yates 2422', San Andres 3780', Glorieta 5112', Tubb 6500', Abo 7330', Wolfcamp 8526', Strawn 9910'.

Sincerely yours,



David Matz  
Geologist  
Chaparral Energy



<p>KB: 4210'      DF:      GI:</p>	<p>Well: Bell A , Bell A , 775120-  Operator: Phoenix Hydrocarbons  Location: Unit C, 720' FNL &amp; 1980' FWL  Legal: Sec. 21-11S-33E, Lea Co., NM</p>
<p>Size: 15"      13 3/8" ,      # ,      @345' , 350 sx</p> <p>Size: 10 3/4</p> <p>TOCD 2859'</p> <p>Size: 7 7/8"      8 5/8" ,      # ,      @3750' , 200 sx</p> <p>Size: 7 7/8"</p> <p>TOCD 8166'</p> <p>9812 -9816 Middle Penn</p> <p>10475 -10482 Strawn</p> <p>OPBTD: 10730'</p> <p>TD: 10801      4 1/2" ,      # ,      @10800' , 600 sx</p>	<p>Dir:</p>
	<p>Spud Date:  Drilling Finished:  Completion Date:  First Production:</p>
	<p><b>PUMPING DATA:</b>  PU:  PM:  BHP:  Anchor:</p>
	<p><b>PRODUCTION FACILITY:</b></p>
	<p><b>HISTORY:</b></p>
<p>Input by: leigh  Approved by:  Last Update: 6/29/05</p>	

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION 3 24  
2006 JUL 19 PM 3 24

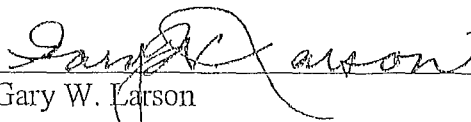
APPLICATION OF CHAPARRAL ENERGY, LLC FOR  
APPROVAL OF A SALT-WATER DISPOSAL WELL,  
LEA COUNTY, NEW MEXICO

CASE NO. 13695

SUPPLEMENTATION OF HEARING RECORD  
BY APPLICANT CHAPARRAL ENERGY, L.L.C.

Applicant Chaparral Energy, L.L.C. ("Chaparral") hereby supplements the hearing record by filing the certified mail return receipt ("return receipt") for Chaparral's notice letter to the New Mexico Commissioner of Public Lands ("Commissioner"). A true and correct copy of the return receipt is attached hereto as Exhibit A. During the hearing in this matter conducted on July 6, 2006, a copy of Chaparral's notice letter to the Commissioner was offered into evidence; however, Chaparral had not yet received the return receipt as of the date of the hearing. See June 19, 2006 Letter from T. Cornish of Chaparral to the Commissioner, attached as Exhibit B to the Supplemental Affidavit of Ronald K. Brown, which has been admitted into evidence as Chaparral Exhibit No. 3. Consequently, Chaparral is now supplementing the hearing record by filing the return receipt.

HINKLE, HENSLEY, SHANOR & MARTIN, LLP

  
\_\_\_\_\_  
Gary W. Larson  
Post Office Box 2068  
Santa Fe, NM 87504-2068  
505.982.4554

*Attorney for Chaparral Energy, LLC*

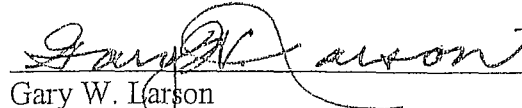
COMMISSION CASE NO. 13695  
CHAPARRAL EXHIBIT NO. 5

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing *Applicant Chaparral Energy, L.L.C.'s Supplementation of Hearing Record* was mailed this 19<sup>th</sup> day of July, 2006, to:

Weldon L. Dallas  
HC-12 Box 46  
Tatum, NM 88267

New Mexico Commissioner of Public Lands  
Post Office Box 1149  
Santa Fe, NM 87504

  
\_\_\_\_\_  
Gary W. Larson

SENDER COMPLETE THIS SECTION		ADDRESSEE COMPLETE THIS SECTION ON DELIVERY	
<input checked="" type="checkbox"/> Complete Items 1, 2, and 3. Also complete Item 4 if Restricted Delivery is desired. <input checked="" type="checkbox"/> Print your name and address on the reverse so that we can return the card to you. <input checked="" type="checkbox"/> Attach this card to the back of the mailpiece, or on the front if space permits.		A. Signature X <i>[Signature]</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee	
1. Article Addressed to:  NEW MEXICO COMMISSIONER OF PUBLIC LABORS PO BOX 1149 SANTA FE, NM 87504		B. Received by (Printed Name) <i>[Signature]</i> C. Date of Delivery <i>[Signature]</i> D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input type="checkbox"/> No If YES, enter delivery address below:	
		3. Service Type <input type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.	
2. Article Number (Transfer from service label)		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	

REC'D JUL 10 2006

7005 2570 0001 6578 4625



STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

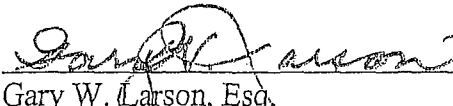
APPLICATION OF CHAPARRAL ENERGY, LLC FOR  
APPROVAL OF A SALT-WATER DISPOSAL WELL,  
LEA COUNTY, NEW MEXICO

CASE NO. 13695

NOTICE OF EXECUTION OF AGREED COMPLIANCE ORDER

Applicant Chaparral Energy, L.L.C. ("Chaparral") hereby provides notice that on July 31, 2006, Chaparral executed an Agreed Compliance Order (NMOCD-ACOI-139) which addresses Chaparral's inactive wells that are out of compliance with Rule 40. The Agreed Compliance Order was executed on behalf of the Division Director on August 7, 2006.

HINKLE, HENSLEY, SHANOR & MARTIN, LLP

  
\_\_\_\_\_  
Gary W. Larson, Esq.

Post Office Box 2068  
Santa Fe, NM 87504-2068  
505.982.4554

*Attorney for Chaparral Energy*

2006 AUG 10 PM 3 30

COMMISSION CASE NO. 13695  
CHAPARRAL EXHIBIT NO. 6

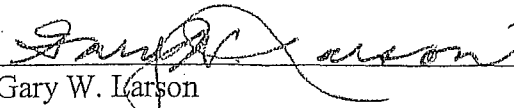


CERTIFICATE OF SERVICE

I hereby certify that a copy of *Notice of Execution of Agreed Compliance Order* was mailed this 10<sup>th</sup> day of August, 2006, to:

New Mexico Commissioner of Public Lands  
Post Office Box 1149  
Santa Fe, NM 87504

Weldon L. Dallas  
HC-12 Box 46  
Tatum, NM 88267

  
\_\_\_\_\_  
Gary W. Larson



5

STATE OF NEW MEXICO  
ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 13695  
ORDER NO. R-12616

APPLICATION OF CHAPARRAL ENERGY, LLC FOR APPROVAL OF A  
SALT WATER DISPOSAL WELL, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on June 8, 2006 and on July 6, 2006, at Santa Fe, New Mexico, before Examiners William V. Jones and Richard Ezeanyim.

NOW, on this 30<sup>th</sup> day of August, 2006, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner,

FINDS THAT:

(1) Due public notice has been given, and the Division has jurisdiction of this case and its subject matter.

(2) The applicant, Chaparral Energy, LLC ("Chaparral"), seeks authority to utilize its State K Well No. 1 (API No. 30-025-22049) located 1980 feet from the South line and 1980 feet from the West line, Section 21, Township 11 South, Range 33 East, NMPM, Lea County, New Mexico, to dispose of produced water into the San Andres formation at open-hole depths from 3850 feet to 4469 feet.

(3) On August 12, 2005, Chaparral submitted an administrative application to the Division asking for approval of this well for injection of salt water. On July 18, 2005 the Division received a letter of protest from the surface lessee, Mr. Weldon L. Dallas of Tatum, New Mexico. On March 6, 2006, the Division received a request from Chaparral to place this application on a hearing docket.

(4) This case was presented to the Division on June 8 with testimony from a Chaparral engineer. The case was then continued until July 6, 2006, at which time Chaparral presented additional proof of notice and wellbore diagrams within the area of review. The case was taken under advisement on July 6, with the understanding that

Chaparral would come under compliance with Division Rule 40 requirements within one month.

(5) The objection letter from Weldon L. Dallas mentioned a concern that this injection well may contaminate ground water. Mr. Dallas did not enter an appearance in this case and was not present at either of the two hearings.

(6) No other party entered an appearance in this case or otherwise opposed this application.

(7) Chaparral presented exhibits and testimony at the June 8, 2006 hearing as follows.

(a) The subject well was drilled in 1967 as a Permo-Penn producer. At that same time the well was approved for injection by the Division, and briefly used for injection down the bradenhead into the same interval as is now proposed.

(b) As preparation for this application, Chaparral has repaired an 8-5/8 inch casing leak at 329 feet and then pressure tested the 8-5/8 inch casing from surface to 3,722 feet. If approved for injection, Chaparral plans to install 5-1/2 inch casing inside the 8-5/8 inch casing and cement it to the surface.

(c) Chaparral intends to initially use the subject well only for disposal of produced water from one other well, which is also located on this lease.

(8) The proposed open-hole injection interval is bounded on the bottom by a retainer and cement and will be bounded on the top by two cemented casing strings. An injection survey done after injection has begun would verify the competency of the bottom plug as well as determine which intervals in the open hole are taking fluid.

(9) Chaparral supplied two fresh water analyses from nearby wells as part of this application. These indicate ground water in this area at this time contains 500 to 650 milligrams per liter of "total dissolved solids". The injection well when equipped as proposed by Chaparral should isolate ground water from any fluids disposed of into this wellbore.

(10) Chaparral has recently met the requirements of Rule 40 and has made application for saltwater disposal pursuant to all requirements within Rule 701B.

(11) The operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

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(12) There are four wells within ½ mile of this proposed injection well without adequate cement to prevent vertical migration of injected fluids. The following remedial cementing work should be done prior to any injection into the subject well.

(a) The State "K" Well No. 2 (API No. 30-025-22478) was drilled in 1968, is now operated by Chaparral, and is an inactive producer. This well must be plugged and abandoned with a procedure approved by the Division's district office and designed to isolate the injection interval from 3850 feet to 4469 feet.

(b) The State "K" Well No. 3 (API No. 30-025-37061) was drilled in 2005 and is operated by Chaparral. This well must have cement squeezed behind pipe at approximately 4469 feet to prevent movement of injected fluid below the intended injection interval.

(c) The Bell "B" Well No. 1 (API No. 30-025-21954) was drilled in 1967 and has been plugged and abandoned. Unless a stage cement diverter tool was used, the cement top on the 4-1/2 inch casing is below the bottom of the intended injection interval. Unless additional records confirming the presence of this stage tool are located, this well must be re-entered and the 4-1/2 inch casing perforated and squeezed at approximately 4469 feet to prevent movement of injected fluid below the intended injection interval.

(d) The Bell "A" Well No. 1 (API No. 30-025-21783) was drilled in 1966, is operated by Phoenix Hydrocarbons, and produces from the North Bagley-Permo Penn Pool (3820). In order to protect fresh water and prevent movement of injected fluid out of zone, this well must have the 4-1/2 inch casing perforated below 4469 feet and cement squeezed into the annulus to a height above the bottom of the 8-5/8 inch casing at 3750 feet.

(13) This application to inject saltwater into the San Andres formation should be approved with the following stipulations pertaining to the proposed injection well.

(a) An additional casing should be installed from surface to 3850 feet and cemented to the surface.

(b) Plastic-lined tubing should be installed in this well with a plastic lined packer located within 100 feet of the top of the injection interval. The casing-tubing annulus should 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-tubing annulus should be pressure tested from the surface to the packer setting depth to assure mechanical integrity.

(c) Surface injection pressure should be constantly monitored and restricted to a maximum gradient of 0.2 psi per foot above the top permitted

depth. This maximum pressure should be increased only upon proof that additional pressure will not result in fluid movement out of zone.

(d) Injection should be confined to the San Andres formation and within open-hole depths of 3850 feet to 4469 feet. An injection profile log should be run within six months of commencing injection in order to determine which intervals in the San Andres are taking fluid and to verify all injection fluid is staying in zone.

**IT IS THEREFORE ORDERED THAT:**

(1) The applicant, Chaparral Energy, LLC ("Chaparral"), is hereby permitted to utilize its State K Well No. 1 (API No. 30-025-22049) located 1980 feet from the South line and 1980 feet from the West line, Section 21, Township 11 South, Range 33 East, NMPM, Lea County, New Mexico, to dispose of produced water into the San Andres formation through an open-hole interval from 3850 feet to 4469 feet.

(2) The following remedial operations are required on wells within the area of review prior to any injection in the State K Well No. 1.

(a) The State "K" Well No. 2 (API No. 30-025-22478) shall be plugged and abandoned with a procedure approved by the Division's district office and designed to isolate the injection interval from 3850 feet to 4469 feet.

(b) The State "K" Well No. 3 (API No. 30-025-37061) shall have cement squeezed behind pipe at approximately 4469 feet to prevent movement of injected fluid below the intended injection interval.

(c) The Bell "B" Well No. 1 (API No. 30-025-21954) shall be re-entered and the 4-1/2 inch casing perforated and squeezed at approximately 4469 feet to prevent movement of injected fluid below the intended injection interval. The well shall then be re-plugged to the surface and the site abandoned.

(d) The Bell "A" Well No. 1 (API No. 30-025-21783) shall have the 4-1/2 inch casing perforated below 4469 feet and cement squeezed into the annulus to a height above the bottom of the 8-5/8 inch casing at 3750 feet.

(3) The following operations, equipping and testing shall be done on the approved injection well prior to injection.

(a) An additional casing shall be installed from surface to approximately 3850 feet and cemented to the surface.

(b) Plastic-lined tubing shall be installed in this well with a plastic lined packer located within 100 feet of the top of the injection interval. 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.

(c) The casing-tubing annulus shall be pressure tested from the surface to the packer setting depth to assure mechanical integrity.

(4) The operator shall provide written verification to the Engineering Bureau in the Santa Fe office of the Division of completion of the foregoing requirements in ordering paragraphs (2) and (3). **The operator shall not commence injection until the Division issues written confirmation that these pre-injection requirements have been completed.**

**IT IS FURTHER ORDERED THAT:**

(5) The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

(6) The wellhead injection pressure on the well shall be limited to **no more than 770 psi**. In addition, the injection well or system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface injection pressure to the maximum allowable pressure for this well. The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the injection formation. Such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

(7) The operator shall provide written notice of the date of commencement of injection to the district office of the Division. The operator shall report the estimated initial static reservoir pressure of the injection interval on a sundry report. The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Rule Nos. 706 and 1120 of the Division Rules and Regulations.

(8) The operator shall immediately notify the district office of the Division of the failure of the tubing, casing, or packer in said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

(9) Injection shall be confined to the San Andres formation through specific injection intervals as detailed above. A temperature and radioactive tracer injection profile log shall be run within 6 months of commencing injection in order to determine which intervals in the San Andres are taking fluid, and to see if injection fluid is moving vertically, near the wellbore, out of the permitted injection interval. The log of the survey results shall be supplied to the Engineering Bureau of the Division in Santa Fe.

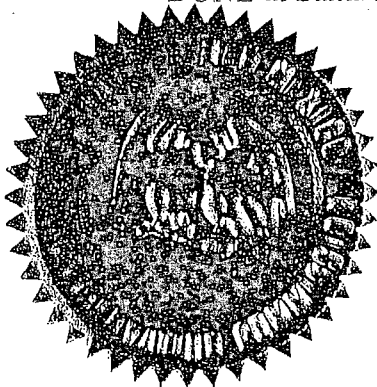
Case No. 13695  
Order No. R-12616  
Page 6 of 6

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(10) In accordance with Rule No 705.C, the injection authority granted herein for each well shall terminate one year after the effective date of this order if the operator has not commenced injection operations into that well, and will terminate *ipso facto*, one year after injection operations into that well have ceased.

(11) 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 water or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the injection authority granted herein.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.



SEAL

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
MARK E. FESMIRE, P.E.  
DIRECTOR