

WVJ

DATE 2/24/03	SUBMITTER 3/11/03	ENGINEER WVJ	LOGGED IN KV	TYPE SWD	OFFICE OKRV0305630196
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

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



FEB 24 2003

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.

Sharon Hindman
 Print or Type Name

Signature

Regulatory Analyst
 Title

2/21/2003
 Date

e-mail Address

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance X Disposal _____ Storage
Application qualifies for administrative approval? X Yes _____ No
- II. OPERATOR: ENERGEN RESOURCES CORPORATION
ADDRESS: 3300 NORTH "A" ST BLDG 4 STE 100, MIDLAND TEXAS 79705
CONTACT PARTY: Sharon Hindman PHONE: (915) 684-3693
- 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 X 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: Attachment A
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. Attachment J
Attachment K
- 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: Sharon Hindman TITLE: Regulatory Analyst
SIGNATURE: Sharon Hindman DATE: 2/21/2003
- * 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

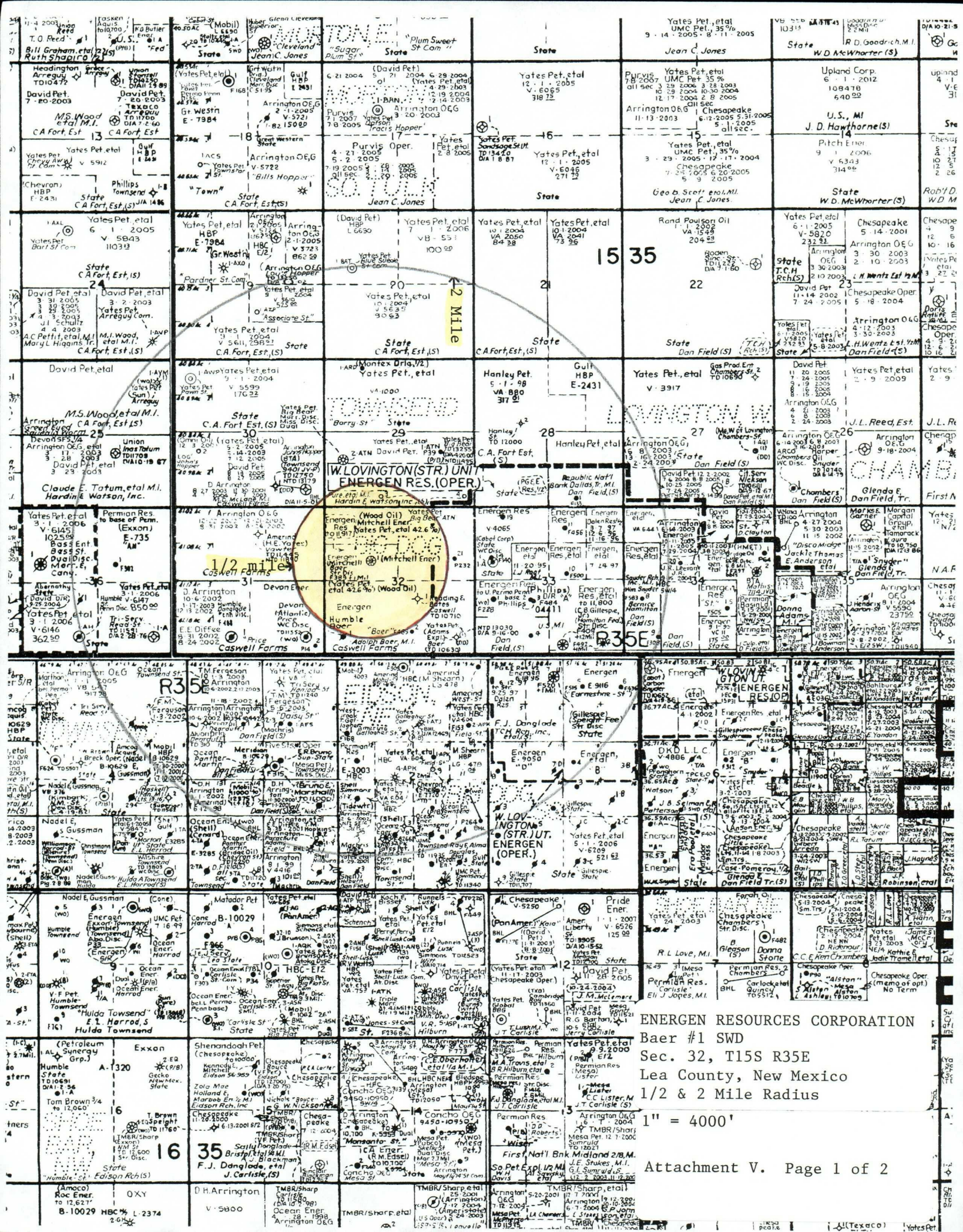
All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

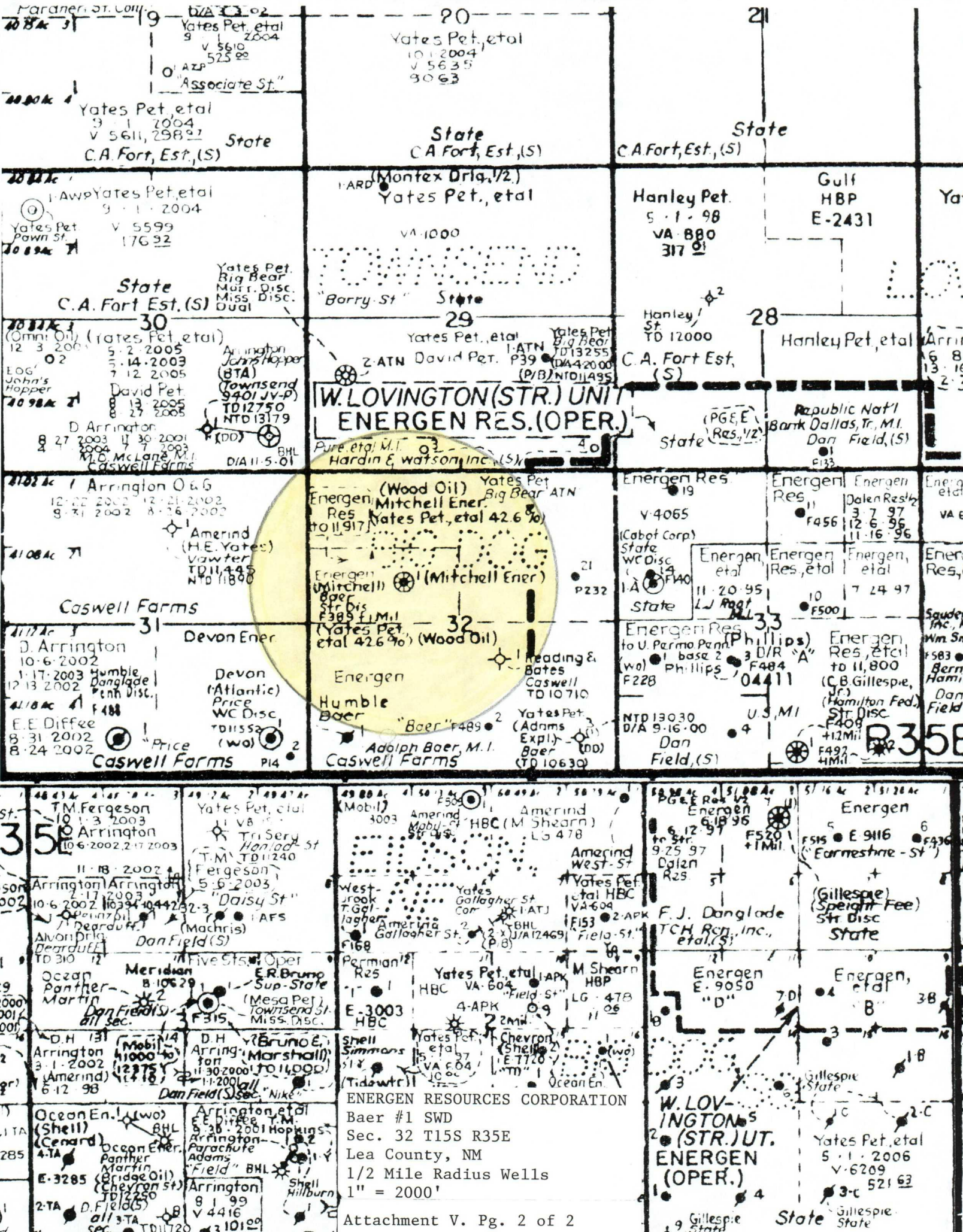
Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (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.

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.





**W. LOVINGTON (STR.) UNIT
ENERGEN RES. (OPER.)**

Hardin & Watson, Inc. (S)

(Wood Oil) Yates Pet. Big Bear ATN
Res. Mitchell Ener.
Yates Pet, etal 42.6 %
to 11,917

Energien
(Mitchell) (Mitchell Ener)
Energien
F385 F1M1
Yates Pet, etal 42.6 % (Wood Oil)

Energien
Humble
Baer
"Baer" F489
Adolph Baer, M.I.
Caswell Farms

Reading & Bates
Caswell
TD 10 710
Yates Pet.
(Adams
Expi.)
Baer
(TD 10630)

Energien
Humble
Baer
"Baer" F489
Adolph Baer, M.I.
Caswell Farms

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Baer
"Baer" F489
Adolph Baer, M.I.
Caswell Farms

10:34 FAX

TO: LOCAL OFFICE		
DISTRIBUTION		
SANTA FE		
FILE		
U.S.G.I.		
LAND OFFICE		
OPERATOR		

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-1
Revised

5a. Indicate Type of Lease
State ☐ Fed ☐
5. State Oil & Gas Lease No.

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. ☐ OIL WELL ☒ GAS WELL ☐ OTHER	7. Unit Agreement Name
2. Name of Operator Reading & Bates Petroleum Company	8. Farm or Lease Name Caswell
3. Address of Operator 2412 N. Grandview, Suite 201, Odessa, Texas 79761	9. Well No. 1
4. Location of Well UNIT LETTER <u>J</u> 1980 FEET FROM THE <u>South</u> LINE AND 1980 FEET FROM THE <u>East</u> LINE, SECTION <u>32</u> TOWNSHIP <u>T-15-S</u> RANGE <u>R-35-E</u> NMPM.	10. Field and Pool, or Wildcat Townsend Permo Upper
15. Elevation (Show whether DF, RT, GR, etc.) DF 4024.6 GR 3998.6	12. County Lea

Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐
TEMPORARILY ABANDON ☐
PULL OR ALTER CASING ☐

PLUG AND ABANDON ☐
CHANGE PLANS ☐

OTHER ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐
COMMENCE DRILLING OPNS. ☐
CASING TEST AND CEMENT JOB ☐
OTHER ☐
ALTERING CASING ☐
PLUG AND ABANDONMENT ☐

17. 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.

O. C. C. recommendation by Eddy Seay

Load hole 10# salt gel, tag cut off point @ 8200' approx.

1st plug: 100' or cast iron plug 35' cement on top above perms 10-220 to 10-320.
2nd plug: 100' @ Wolfcamp 9690'
3rd plug: 200' @ ABO 8130' across cut off, also across 5½ cross cut off.
4th plug: 100' @ Glorieta 6195'
5th plug: 100' across intermediate shoe, 4915'
6th plug: 200' salt plug @ 1828'
7th plug: 100' across surface shoe @ 460'
8th plug: 100' across surface plug.

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

BY Donald J. Kipgen TITLE Area SuperintendentDATE 10/22/85BY Ronald M. Condit TITLE OIL & GAS INSPECTORDATE MAY 2 - 1986

CONDITIONS OF APPROVAL, IF ANY:

Page 2 of 2
PAGE.07

FEB 12 2003 11:22

ENERGEN RESOURCES CORPORATION

Baer #1

1900' FNL & 1650' FWL

Section 32, 15S, 35E

Lea County, New Mexico

Attachment A

III. Well Data

Section A:

1. Lease Name: Baer #1 API No. 30-025-29565

Location: 1900' FNL & 1650' FWL, Sec. 32, T15S, R35E, Lea County,
New Mexico

2. Casing and Cement

EXISTING

<u>Casing Size</u>	<u>Setting Depth</u>	<u>Sacks Cement</u>	<u>Hole Size</u>	<u>Top of Cement</u>
13 3/8"	374'	425	17 1/2"	circ. to surface
8 5/8"	3806'	1450	11"	circ. to surface
5 1/2"	11865'	800	7 7/8"	5250 by CBL
DVT	6000'	850		8950'

PROPOSED

<u>Casing Size</u>	<u>Setting Depth</u>	<u>Sacks Cement</u>	<u>Hole Size</u>	<u>Top of Cement</u>
13 3/8"	374'	425	17 1/2"	circ. to surface
8 5/8"	3806'	1450	11"	circ. to surface
5 1/2"	11865'	800	7 7/8"	5250 by CBL
DVT	6000'	850		8950'

3. Tubing: 2 7/8" PCID internally plastic coated set at 11,550'.
4. Packer: Baker Lok-Set nickel plated or plastic coated set at 11,550'.

ENERGEN RESOURCES CORPORATION

Baer #1

1900' FNL & 1650' FWL

Section 32, 15S, 35E

Lea County, New Mexico

Attachment A- Continued

III. Well Data – Continued

Section B:

1. Injection Formation: Strawn

Field or Pool Name: Big Dog Strawn

2. Injection Interval: Strawn interval 11,594' – 11,644' perforated

3. Original purpose of well: Drilled as producer in Strawn formation

**4. Other perforated intervals, bridge plugs, cement plugs:
None of the above on this well**

5. Next higher oil & gas zone: Wolfcamp

Next lower oil & gas zone: Cisco

See current and proposed wellbore schematic (Attachments B & C)

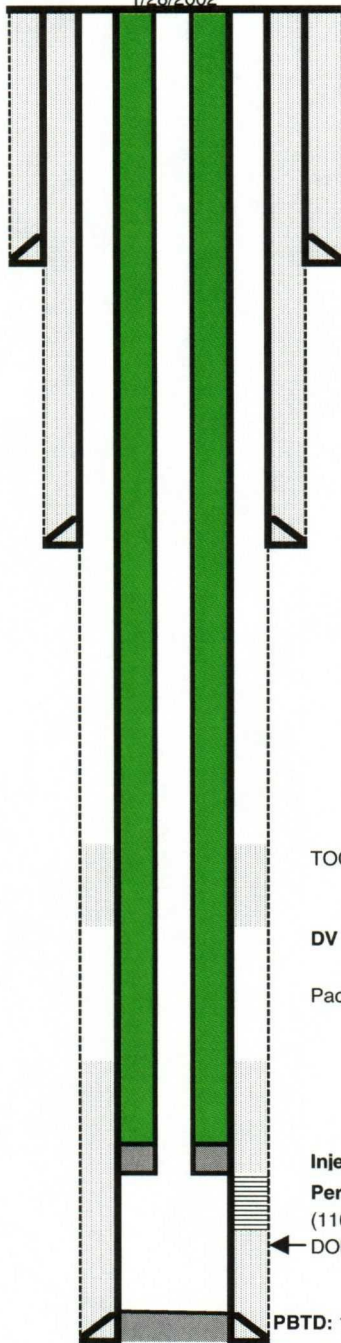
ENERGEN RESOURCES CORP.

Baer #1

Lea County, NM

Current Conditions: SI

1/28/2002



GL Elevation: 4003'

KB Elevation: 4020.5' (Est)

**Location: 1900' FNL X 1650' FWL,
Sec 32, T-15-S, R-35-E**

API: 30-025-29565

Spud: 3/31/86

Completion: 5/11/86

Tubing Detail (Last Available)

#Jts	O.D.	Thread	TAC/Depth	Weight	Grade	TLA

Rod Detail (Last Available)

#Rods	Length	Size/Type	Pump	Ponies	PR	PRL

Surface Casing:

13-3/8" 54.5#, J-55
@ 374' in 17-1/2" hole
Cement to surface
w/ 425 sx class "C"

Intermediate Casing:

8-5/8" 32# K-55
@ 3806' in 12 1/2" hole
Cement to Surface
w/ 1050 sx Lite +
400 sx cl "C"

TOC 8,950', CBL

Production Casing:

5-1/2" 17 L-80, N-80 & S-95
@ 11,865' in 7-7/8" hole
Cement to 8950'
w/ 800 sx class "H" thru DV tool
and 850 sx Lite

TOC @ 5250' (CBL)

DV Tool @ 6000'

Packer Fluid circulated on tubing annulus

Injection packer @ ~11,550' on 2-7/8" PCID Tubing

Perf Strawn w/ 2 SPF 11,594-11,644' overall

(11644-11600, 11632-11643, 11622-11628, 11610-11617, 11594-11609)

← **DOM @ 11654' (Depth Orientation Marker)**

PBTD: 11,788'

TD: 11,867'

ENERGEN RESOURCES CORP.

Baer #1

Lea County, NM

Current Conditions: SI

1/28/2002

Surface Casing:

13-3/8" 54.5#, J-55
@ 374' in 17-1/2" hole
Cement to surface
w/ 425 sx class "C"

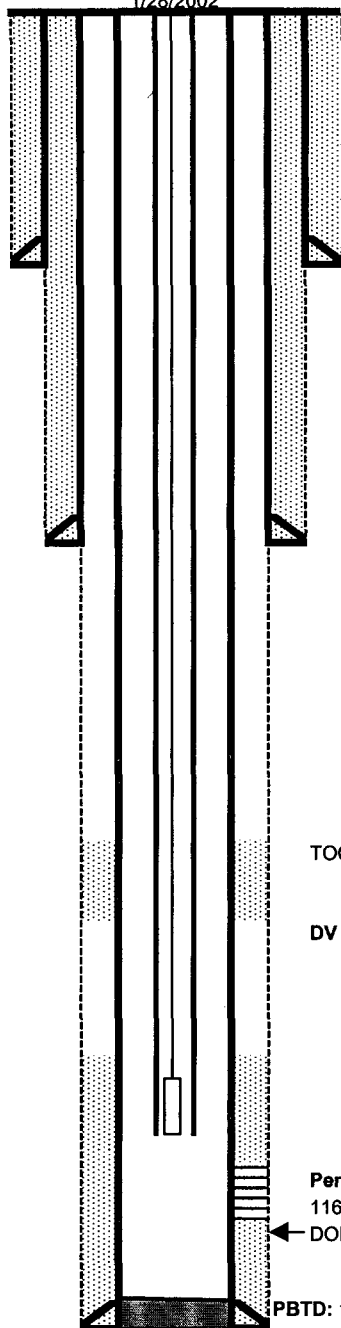
Intermediate Casing:

8-5/8" 32# K-55
@ 3806' in 12 1/2" hole
Cement to Surface
w/ 1050 sx Lite +
400 sx cl "C"

TOC 8,950', CBL

Production Casing:

5-1/2" 17 L-80, N-80 & S-95
@ 11,865' in 7-7/8" hole
Cement to 8950'
w/ 800 sx class "H" thru DV tool
and 850 sx Lite



TOC @ 5250' (CBL)

DV Tool @ 6000'

Perf Strawn w/ 2 SPF 11644-11600, 11632-11643, 11622-11628,
11610-11617, and 11594-11609. Acdz'd w/6000 gals 15% NEFE acid.
DOM @ 11654' (Depth Orientation Marker)

PBTD: 11,788'

TD: 11,867'

GL Elevation: 4003'

KB Elevation: 4020.5' (Est)

Location: 1900' FNL X 1650' FWL,
Sec 32, T-15-S, R-35-E

API: 30-025-29565

Spud: 3/31/86

Completion: 5/11/86

Tubing Detail (Last Available)

#Jts	O.D.	Thread	TAC/Depth	Weight	Grade	TLA	Tally Date
374	2-7/8"	8 rd EUE	2-7/8" x 5 1/2" 11,731'			11,771	6/4/2001

Rod Detail (Last Available)

#Rods	Length	Size/Type	Pump	Ponies	PR	PRL	Date Run:
	24'	2" x 1 1/2" x 20' RHBC DSV, STV, 5' SMP					6/4/2001
215		3/4"					6/4/2001
124		7/8"	D-97				6/5/2001
124		1"	D-97				6/5/2001

Attachment C

ENERGEN RESOURCES CORPORATION

Baer #1

1900' FNL & 1650' FWL

Section 32, 15S, 35E

Lea County, New Mexico

VII. Attach data on the proposed operation, including:

- 1. Proposed average daily injection volume: 4000 BWPD**
Proposed maximum daily injection volume: 5000 BWPD
- 2. This will be a closed system.**
- 3. Proposed average daily injection pressure: 2000 psi**
Proposed maximum daily injection pressure: 3000 psi
- 4. Sources of injection water will be produced water from area Strawn wells that have been drilled and that are scheduled to be drilled on the West Lovington Strawn Unit (see list of source wells, Attachment G). A water analysis from nearby Strawn production (see Attachment H1, H2, H3) is attached that is taken from the Baer #1 (fresh water well), (fish pond), (irrigation well-TA), (livestock water (well), & (windmill).**
- 5. Chlorides in all the source well is expected to similar to the water analysis in Attachment H1 and H2.**

IX. Describe the proposed stimulation program, if any.

Well will be acidized with 5,000 gallons of 15% HCL acid if required.

ENERGEN RESOURCES CORPORATION

Baer #1

1900' FNL & 1650' FWL

Section 32, 15S, 35E

Lea County, New Mexico

Attachment G

VII. Item 4.

List of Produced Water Source Wells:

West Lovington Strawn Unit Sections 1, 5, 6, 28, 33, 34, 35

T15S & 16S, R35E, Lea County New Mexico

**Well Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17,
18, 19, 20, 21 and subsequent proposed wells to drill in these
sections.**

ENERGEN RESOURCES CORPORATION

Baer #1

1900' FNL & 1650' FWL

Section 32, 15S, 35E

Lea County, New Mexico

Attachment J

XIII. Item A

Proof of Notice

List of Surface Owners:

**Hardin & Watson, Inc.
Rte 2, Box 43N
Lovington, NM 88260**

**G. M. Weiser
1300 W. Clayton
Lovington, NM 88260**

List of Lease Operators Within ½ Mile:

**Energen Resources Corporation
3300 N. "A" Street, Bldg. 4, Ste. 100
Midland, Texas 79705**

**David Arrington Oil & Gas Inc.
P. O. Box 2071
Midland, Texas 79702**

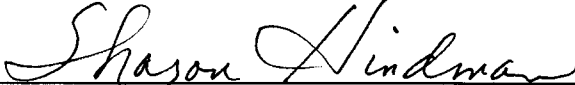
**EOG Resources, Inc.
4000 N. Big Spring, Suite 500
Midland, Texas 79705**

**Devon Energy Production Co. LP
20 N. Broadway, Suite 1500
Oklahoma City, OK 73102**

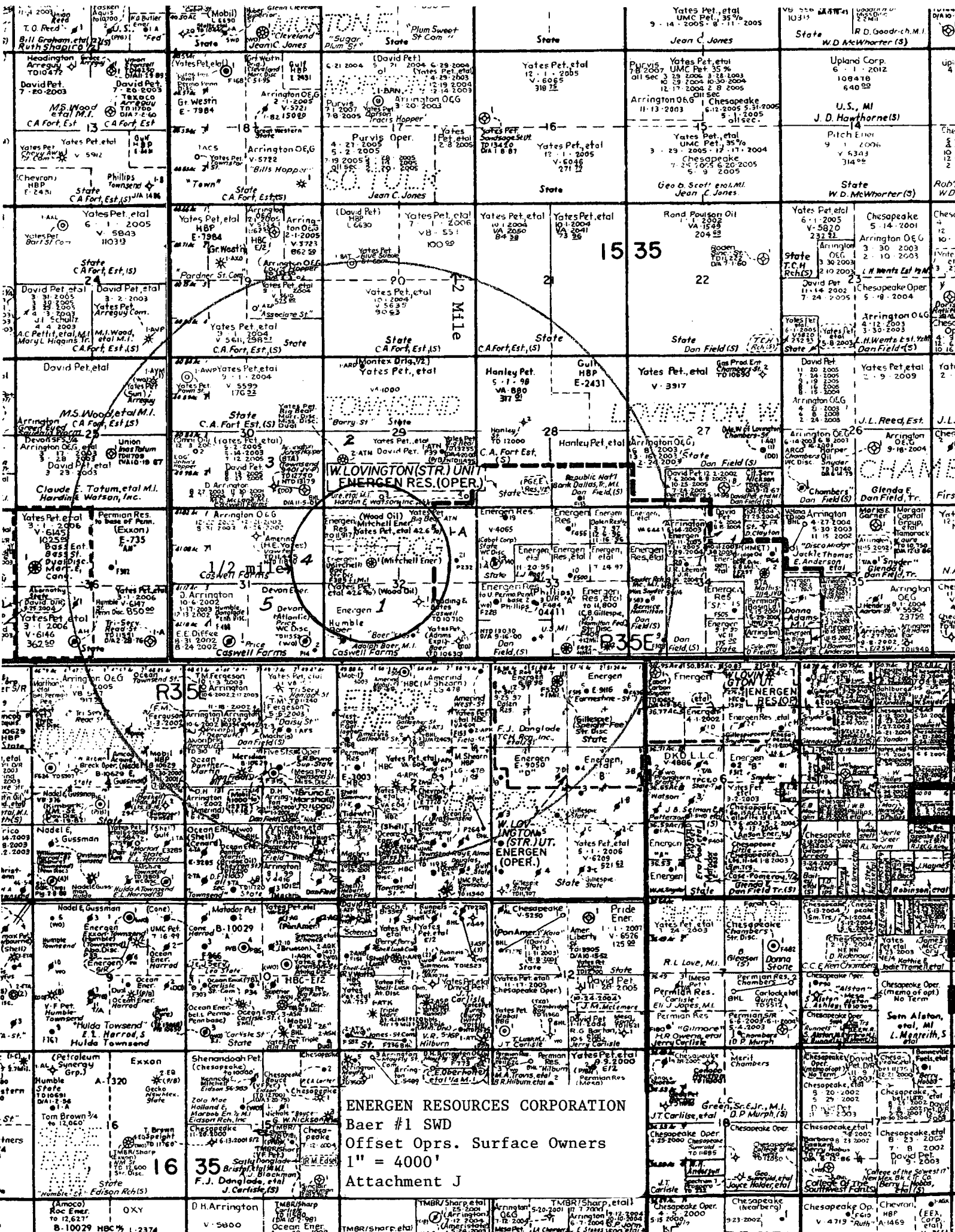
**Yates Petroleum Corporation
105 S. 4th Street
Artesia, New Mexico 88210**

**David Petroleum Corp.
116 W. 1st Street
Roswell, New Mexico 88203**

A copy of the C-108 Application for Authorization to Inject/Dispose have been sent to each of the above listed parties on this the 21st day of February, 2003.



Sharon Hindman
Regulatory Analyst



ENERGEN RESOURCES CORPORATION
Baer #1 SWD
Offset Oprs. Surface Owners
1" = 4000'
Attachment J

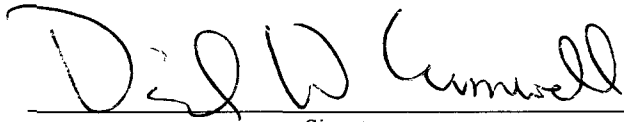
Tract Information Summary Baer Well #1 SWD Application					
One-half Mile Radius			All in 15S, 35E		
Map No.	Operator & Address	Surface Owner & Address	Lease Name	Well Name & Numbers	Comments
1	Energen Resources Corporation 3300 N. "A" St., Building 4, Suite 100 Midland, TX 79705	Hardin & Watson, Inc. Rte 2, Box 43N Lovington, NM 88260	Baer Lease W/2 & W/2 E/2 Sec 32	Baer #2	
1-A	Energen Resources Corporation 3300 N. "A" St., Building 4, Suite 100 Midland, TX 79705	Hardin & Watson, Inc. Rte 2, Box 43N Lovington, NM 88260	WLSU Tract 24, E/2 E/2 Sec. 32	WLSU Well #21	
2	Yates Petroleum Company	Hardin & Watson, Inc. Rte 2, Box 43N Lovington, NM 88260	Big Bear ATN Lease S/2 Section 29	#1 ATN, #2 ATN, #3 ATN, #4 ATN	No Information other than Location on #2 & #4 Wells
3	David Arrington Oil & Gas, Inc. P.O. Box 2071 Midland, TX 79702 Ph. 915-682-6685; Yates Petroleum Corporation 105 S. 4th St. Artesia, NM 88210 Ph. 505-748-4489; David Petroleum Corp 116 W. 1st St. Roswell, NM 88201 Ph 505-622-8850 EOG Resiources, Inc. 4000 N. Big Spring, Suite 500, Midland, Texas 79705 915-686-3758	Hardin & Watson, Inc. Rte 2, Box 43N Lovington, NM 88260	John's Hopper S/2 Section 30	Permitted Well EOG - John's Hopper No. 2 unit L	Fee Lands Numerous leases shown on County Map all of the parties listed show to be Lessees
4	David Arrington Oil & Gas, Inc. P.O. Box 2071 Midland, TX 79702 Ph. 915-682-6685 EOG Resiources, Inc. 4000 N. Big Spring, Suite 500, Midland, Texas 79705 915-686-3758	Hardin & Watson, Inc. Rte 2, Box 43N Lovington, NM 88260	N/2 Section 31	No Active Wells	Arrington/EOG may only own partial rights
5	Devon Energy Production Company, L.P. 20 N. Broadway, Suite 1500 Oklahoma City, OK 73102 Ph 405-552-4627	G.M. Weiser (own 113 acres) 1300 W. Clayton Lovinmton, NM 88260 Hardin & Watson, Inc. (own 47 acres) Rte 2, Box 43N Lovington, NM 88260	J.D. Price SE/4 Section 31	J. D. Price Well #2	

Attachment J

ATTACHMENT TO APPLICATION C-108

Energen #1 Baer
Unit F, Sect. 32., T. 15 S. R. 35 E.
Lea Co., NM

- VIII. Injection Zone: The Strawn formation from 11,594 –11,660' will be used for water disposal. The Strawn lithology is composed primarily of limestone with minor interbedded shale. The limestone porosity is intercrystalline and varied-size vugs with minor fractures. The depositional environment was shallow-water shelf and shelf slope. The porosity is both primary and secondary with dissolution of the rock matrix creating an irregular, areal distribution pattern. There has been little impact by tectonic activity. The Ogallala fresh water aquifer occurs between 60' and 250' beneath the surface. It is protected by two different strings of casing: 13 3/8" set at 374' and 8 5/8" set at 3806'.
- XII. I, David Cromwell, have examined available geologic data and find no evidence of open, active faults, which may connect this proposed disposal zone to an underground source of fresh, potable water aquifer.



Signature



Date

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

TO: Mr. Andy Cobb
3300 N. "A", Bldg 4, Ste 100, Midland, TX

LABORATORY NO. 1202-78
SAMPLE RECEIVED 12/18/02
RESULTS REPORTED 12/18/02

COMPANY Energen Resources Corp. LEASE West Lovington Strawn Unit
FIELD OR POOL West Lovington
SECTION _____ BLOCK _____ SURVEY _____ COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:

NO.1 Produced water - taken from WLSU #20 (heater). 12/17/02

NO. 2

NO. 3

NO. 4

REMARKS: Strawn

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 80° F.	1.0653			
pH When Sampled				
pH When Received	6.56			
Bicarbonate as HCO ₃	610			
Supersaturation as CaCO ₃				
Undersaturation as CaCO ₃				
Total Hardness as CaCO ₃	13,600			
Calcium as Ca	4,160			
Magnesium as Mg	778			
Sodium and/or Potassium	29,634			
Sulfate as SO ₄	420			
Chloride as Cl	54,670			
Iron as Fe	67.9			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	90,272			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen.				
Hydrogen Sulfide	0.0			
Resistivity, ohm-cm at 77° F.	0.102			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By

ATTACHMENT H1

Waylan C. Martin, M.A.

REC'D FEB 20 2003

P. O. BOX 1468
MONAHANS, TEXAS 79756
PH. 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

TO: Mr. Andy Cobb LABORATORY NO. 203-102
3300 N. "A", Bldg 4, Ste 100, Midland, TX 05 SAMPLE RECEIVED 2/13/03
RESULTS REPORTED 2/19/03

COMPANY Energen Resources, Corp. LEASE Baer #1 SWD
FIELD OR POOL _____
SECTION _____ BLOCK _____ SURVEY _____ COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Raw water - taken from Baer #1 fresh water well. 2/12/03
NO. 2 Raw water - taken from fish pond. 2/12/03
NO. 3 Raw water - taken from temporarily abandoned irrigation well (900' SW). 2/12/03
NO. 4 Raw water - taken from livestock water well (½ mile SW). 2/12/03

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0015	1.0021	1.0017	1.0017
pH When Sampled				
pH When Received	7.30	8.63	7.31	7.47
Bicarbonate as HCO ₃	190	98	195	151
Supersaturation as CaCO ₃				
Undersaturation as CaCO ₃				
Total Hardness as CaCO ₃	172	112	208	152
Calcium as Ca	58	30	74	53
Magnesium as Mg	7	9	6	5
Sodium and/or Potassium	40	59	35	45
Sulfate as SO ₄	53	86	66	72
Chloride as Cl	34	44	38	36
Iron as Fe	0.84	0.30	1.0	0.30
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	382	331	414	362
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen				
Hydrogen Sulfide	0.0	0.0	0.0	0.0
Resistivity, ohms/m at 77° F.	23.10	22.50	21.00	23.30
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Carbonate, as CO ₃	0	5	0	0
Nitrate, as N	5.1	0.2	3.9	2.6

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks GPS Readings:

1. N 32° - 58,545'; W 103° - 25,983'
2. N 32° - 58,234'; W 103° - 26,493'
3. N 32° - 58,308'; W 103° - 26,144'
4. N 32° - 58,369'; W 103° - 26,574'
5. N 32° - 58,415'; W 103° - 25,839'

P. O. BOX 1468
MONAHANS, TEXAS 79756
PH. 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

TO: Mr. Andy Cobb LABORATORY NO. 203-102 (page 2)
3300 N. "A", Bldg 4, Ste 100, Midland, TX 79705 SAMPLE RECEIVED 2/13/03
RESULTS REPORTED 2/19/03

COMPANY Energen Resources, Corp. LEASE Baer #1 SWD

FIELD OR POOL _____

SECTION _____ BLOCK _____ SURVEY _____ COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Raw water - taken from windmill (1/4 mile SE). 2/12/03

NO. 2 _____

NO. 3 _____

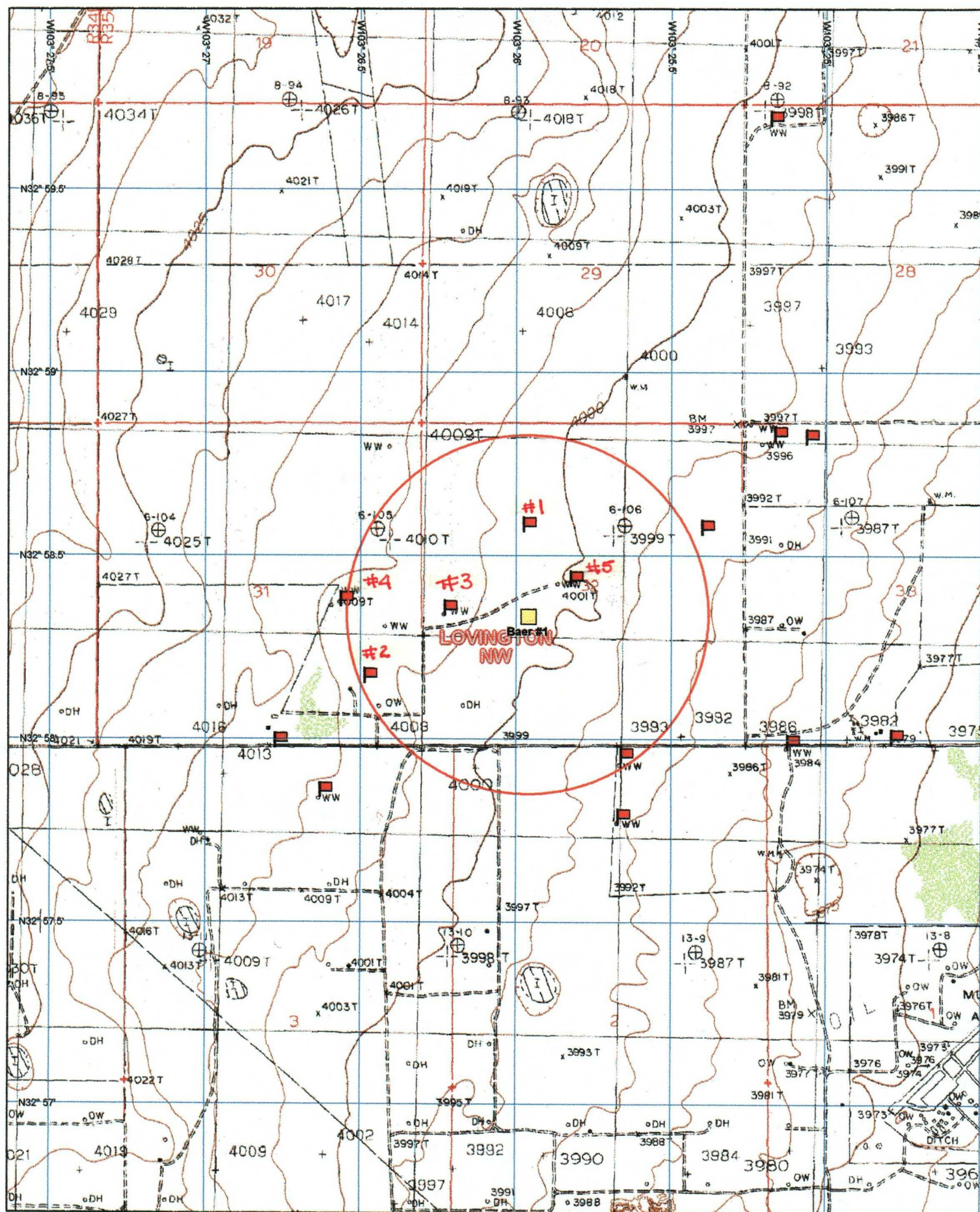
NO. 4 _____

REMARKS: _____

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0021			
pH When Sampled				
pH When Received	8.30			
Bicarbonate as HCO ₃	200			
Supersaturation as CaCO ₃				
Undersaturation as CaCO ₃				
Total Hardness as CaCO ₃	232			
Calcium as Ca	80			
Magnesium as Mg	8			
Sodium and/or Potassium	38			
Sulfate as SO ₄	76			
Chloride as Cl	44			
Iron as Fe	0.64			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	451			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen				
Hydrogen Sulfide	0.0			
Resistivity, ohms/cm at 77° F.	18.30			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Carbonate, as CO ₃	5			
Nitrate, as N	4.4			

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks The undersigned certifies the above to be true and correct to the best of his knowledge and belief.



U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only. No Insurance Coverage Provided)

7000 0520 0021 3202 1882

166 5 PB8660416
0591 \$ 00 000 FEB 21 03

3641 MAILED FROM MIDLAND TX 79705
Postage \$ 1.32

Certified Fee

2.30

Return Receipt Fee
(Endorsement Required)

1.75

Restricted Delivery Fee
(Endorsement Required)

Total Postage & Fees

\$ 5.57

Postmark
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G. M. WEISER
1300 W CLAYTON
LOVINGTON NM 88260

(by mailer)

for Instructions

7000 0520 0021 3203 1812

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only. No Insurance Coverage Provided)

166 5 PB8660416
0581 \$00.00 FEB 21 03

3647 MAILED FROM MIDLAND TX 79705
Postage \$ 7.32

Certified Fee	2.30
Return Receipt Fee (Endorsement Required)	1.75
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 5.57

Postmark Here

by mailer)

DAVID PETROLEUM CORP.
116 W 1ST STREET
ROSWELL NEW MEXICO 88203

or Instructions

7000 0520 0021 3203 1820

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only. No Insurance Coverage Provided)

87 5 PB8660416
561 \$00.00 FEB 21 03

645 MAILED FROM MIDLAND TX 79705
Postage \$ 7.32

Certified Fee	2.30
Return Receipt Fee (Endorsement Required)	1.75
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 5.57

Postmark Here

by mailer)

EOG RESOURCES INC
4000 N BIG SPRING SUITE 500
MIDLAND TEXAS 79705

or Instructions

7000 0520 0021 3203 1837

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only. No Insurance Coverage Provided)

145 5 PB8660416
0541 \$00.00 FEB 21 03

3644 MAILED FROM MIDLAND TX 79705
Postage \$ 7.32

Certified Fee	2.30
Return Receipt Fee (Endorsement Required)	1.75
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 5.57

Postmark Here

by mailer)

DEVON ENERGY PROD. CO. LP
20 N BROADWAY SUITE 1500
OKLAHOMA CITY OK 73102

or Instructions

7000 0520 0021 3203 1844

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only. No Insurance Coverage Provided)

116 5 PB8660416
0551 \$00.00 FEB 21 03

3646 MAILED FROM MIDLAND TX 79705
Postage \$ 7.32

Certified Fee	2.30
Return Receipt Fee (Endorsement Required)	1.75
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 5.57

Postmark Here

by mailer)

YATES PETROLEUM CORPORATION
105 S 4TH STREET
ARTESIA NEW MEXICO 88210

or Instructions

7000 0520 0021 3203 1868

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only. No Insurance Coverage Provided)

172 5 PB8660416
0531 \$00.00 FEB 21 03

3642 MAILED FROM MIDLAND TX 79705
Postage \$ 7.32

Certified Fee	2.30
Return Receipt Fee (Endorsement Required)	1.75
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 5.57

Postmark Here

d by mailer)

HARDIN & WATSON, INC.
RTE 2 BOX 43N
LOVINGTON NM 88260

or Instructions

7000 0520 0021 3203 1875

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only. No Insurance Coverage Provided)

107 5 PB8660416
0541 \$00.00 FEB 21 03

3643 MAILED FROM MIDLAND TX 79705
Postage \$ 7.32

Certified Fee	2.30
Return Receipt Fee (Endorsement Required)	1.75
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 5.57

Postmark Here

by mailer)

DAVID ARRINGTON O & G INC.
P O BOX 2071
MIDLAND TEXAS 79702

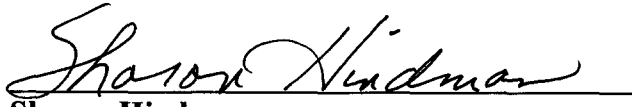
or Instructions

STATE OF TEXAS

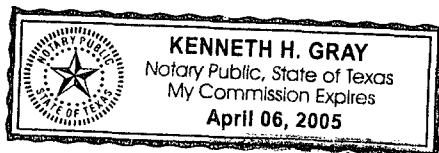
COUNTY OF MIDLAND

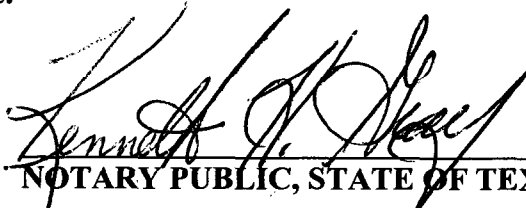
BEFORE ME, the undersigned authority on this day personally appeared Sharon Hindman, a Regulatory Analyst with Energen Resources Corporation, who being by me duly sworn, deposes and states that the persons listed on the foregoing attached list have been sent a copy on February 21, 2003, of the New Mexico Oil Conservation Division form C-108 entitled, "Application For Authorization To Inject" for the Bear #1, located in Section 32, T15S, R35E, Lea County, New Mexico.

Energen Resources Corporation


Sharon Hindman

SUBSCRIBED AND SWORN TO before me on February 21, 2003, to certify which witness my hand and seal of office.




NOTARY PUBLIC, STATE OF TEXAS

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

REC'D FEB 19 2003

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

February 15 2003

and ending with the issue dated

February 15 2003

Kathi Bearden

Publisher

Sworn and subscribed to before

me this 17th day of

February 2003

Jodi Benson

Notary Public.

My Commission expires
October 18, 2004
(Seal)

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
February 15, 2003

NOTICE OF APPLICATION FOR DISPOSAL
WELL PERMIT

ENERGEN RESOURCES CORPORATION, 3300 N. "A" Street, Bldg. 4, Ste. 100, Midland, Texas 79705, 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 Baer #1 is located 1900' FNL & 1650' FWL, Section 32, Township 15 South, Range 35 East, Lea County, New Mexico. Disposal water will be sources from area wells producing from the Strawn formation. The disposal water will be injected into the Strawn formation at a depth of 11,594' - 11,644', a maximum surface pressure of 3000 psl, and maximum rate of 5000 BWPD.

LEGAL AUTHORITY: Rule ~~X~~ 1.C.(1) of the Rules and Regulations of the New Mexico Oil Conservation Commission.

Requests for a public hearing from persons who can show they are adversely affected, or requests for further information concerning any aspect of the application should be submitted in writing, within fifteen days of this publication, to the Oil Conservation Division, 1220 S. San Francis Drive, Santa Fe, New Mexico 87505. Additional information can be obtained by contacting Sharon Hindman, Regulatory Analyst, at 3300 N. "A" Street, Bldg. 4, Ste. 100, Midland, Texas 79705, or (915) 684-3693.
#19581

01105161000 67511694
Energen Resources Corporation
3300 North "A" Street
Building 4, Suite 100
MIDLAND, TX 79705

ENERGEN RESOURCES CORPORATION

Baer #1

1900' FNL & 1650' FWL

Section 32, 15S, 35E

Lea County, New Mexico

Attachment K

XIII. Item B.

LEGAL NOTICE

NOTICE OF APPLICATION FOR DISPOSAL WELL PERMIT

ENERGEN RESOURCES CORPORATION, 3300 N. "A" Street, Bldg. 4, Ste. 100, Midland, Texas 79705, 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 Baer #1 is located 1900' FNL & 1650' FWL, Section 32, Township 15 South, Range 35 East, Lea County, New Mexico. Disposal water will be sources from area wells producing from the Strawn formation. The disposal water will be injected into the Strawn formation at a depth of 11,594' – 11,644', a maximum surface pressure of 3000 psi, and maximum rate of 5000 BWPD.

LEGAL AUTHORITY: Rule ~~401~~.C.(1) of the Rules and Regulations of the New Mexico Oil Conservation Commission.

Requests for a public hearing from persons who can show they are adversely affected, or requests for further information concerning any aspect of the application should be submitted in writing, within fifteen days of this publication, to the Oil Conservation Division, 1220 S. San Francis Drive, Santa Fe, New Mexico 87505. Additional information can be obtained by contacting Sharon Hindman, Regulatory Analyst, at 3300 N. "A" Street, Bldg. 4, Ste. 100, Midland, Texas 79705, or (915) 684-3693.

VI. AREA OF REVIEW WELL DATA

WELL NAME	OPERATOR	LOCATION	TYPE OF WELL	SPUD DATE	COMP. DATE	TD PBTB	COMP. INTERVAL	PROD. FORM.	CASING PROGRAM
Big Bear ATN #3 API 30-025-35739	Yates Petroleum Corp.	Sec. 29, T15S, R35E Unit N 330' FSL & 1980' FWL	Permit to Drill 10/19/2003 Expiration	NA	NA	NA	NA	Strawn	Proposed 11 3/4" SRF. @ 400', CMT W/400 SKS. 8 5/8" INT. @ 4950', CMT W/1500 SKS. 5 1/2" PROD. @ 11,900', CMT W/400 SKS TOC - 9200'
Caswell #1 API 30-025-28376	Reading & Bates Petroleum Company	Sec. 32, T15S, R35E Unit 7 1980' FSL & 1980' FEL	Oil P&A Appr. 5/2/1986	9/22/1983	10/6/1983	10,710'	NA	Wolfcamp	13 3/8" SRF. @ 461', CMT W/475 SKS. 8 5/8" INT. @ 4918', CMT W/2075 SKS. 5 1/2" PROD. @ 10,710', CMT W/550 SKS. See attached wellbore diagram

Reading & Bates Petroleum

Caswell #1

Lea, New Mexico

Current status: P&A

02 - 21 - 03

Elevation GL: 3998.6'

Elevation KB: 3996.9'

Elevation DF: 4024.6'

Location: 1980' FSL, 1980' FEL, Sec 32, T - 15 - S, R - 35 - E

Spudded: 09-21-83

API #: 30 - 025 - 28376

Surface csg:

13 3/8", 54.5#, K - 55, ST&C

@ 461' w/ 475 sks cmt,

17 1/2" hole.

Circ to surface

TOC @ 940'

Intermediate csg:

8 5/8", 32#, N - 80 & J-55 ST&C

@ 4918, w/ 1775 sks cmt,

& 300 sx class "C"

Did not circ to surface

TOC: Unknown

Production csg:

5 1/2", 17# & 20# J - 55 & N-80, LT&C

ST&C @ 10,710' w/ 550 sks 50/50 Poz & Class "H".

7 7/8" hole

TD @ 10,710'