STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT 109230991 Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, New Mexico 87505

2W2

4/13/01 FORM C-108 Revised 4-1-98

### **APPLICATION FOR AUTHORIZATION TO INJECT**

I.	PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage Application qualifies for administrative approval? X Yes No
II.	OPERATOR:Dakota Resources, Inc.
	ADDRESS: 911 N. Midkiff, Midland, Texas 79701
	CONTACT PARTY: Alan Roberts PHONE 915/697-3420
Ш.	WELL DATA: Complete the data required on the reverse side of this form for each well proposed for in ection.  Additional sheets may be attached if necessary.
IV.	Is this an expansion of an existing project? Yes X No WR 2 9 2001  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:
*VIII.	<ol> <li>Proposed average and maximum daily rate and volume of fluids to be injected;</li> <li>Whether the system is open or closed;</li> <li>Proposed average and maximum injection pressure;</li> <li>Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,</li> <li>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.).</li> <li>Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and</li> </ol>
	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: Alan Roberts TITLE: Supt.
	NAME: Alan Roberts TITLE: Supt.  SIGNATURE: DATE: 3-21-01
*	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, 2040 South Pacheco, Santa Fe, New Mexico 87505, within 15 days.

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



Re: Answers to NM OCD form C-108

### Item Answer

- V Map attached showing all wells w/ in 2 miles and the 1/2 mile radius circle for the "Area of Review".
- VI see attached table - Tabulation of well data see attached schematics on two P&A'd wells within the "Area of Review"
- VII 1. Proposed average injection rate is 1500 bbls produced water per day with a maximum rate of 2,000 BWPD.
  - 2. The system is to be closed.
  - 3. Injection pressure should average 500 psig with a maximum of 1000 psig.
  - 4. Source of water is from two producing wells Bass Fenton 7 Federal # 1 and Dakota's Big Eddy Unit # 98 well along with other produced water that will be tgrucked into the Big Eddy Unit # 100 (Whistle Stop Disposal Facility). 100 % of the fluid will be brine water produced from oil and gas wells.

See attached water analysis.

5. The disposal zone is productive of oil and gas in the area.

### VIII Geologic Data

- 1. Delaware Formation Bell Canyon
- 2. Lithology sandstone
- 3. 389 feet thickness overall
- 4. 3,120 'depth to midpoint of proposed interval (2,926' to 3,315')
- 5. Geologic name and depth of drinking water Quaterarmary Alluvium-surface water.
- ΙX No stimulation program is proposed.
- Χ Well logs on file. Production test information on file.
- XΙ No fresh water wells exist within 1 mile of the proposed well.
- XII I, Alan Roberts 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 source of drinking water.

Alan Roberts

XIII Proof of Notice for surface owner, offset operators and proof of publication is attached.

# INJECTION WELL DATA SHEET

3,386° - 5 1/2" 15.5# .K-55,	3237-72 proposed	3170-92 proposed	CC-8 zone 3,126		○ 2.994· ○ 2.992·	indian Draw Pay zone Q 2.926'		T/ 2865' Cherry Canyon (Delaware)	T/ Cml 2100°	831: - 13 3/8" Cmt to surf	KB 3168 OL 3155 KB-GL 13	1980 FSL & 660 FML L 7 - 7215 - 728E Edby Co., NM Fenton NW Delaware Field	TRIGG FEDERAL # 1	WELLBORE SCHEMATIC	WELL LOCATION: 1980' FSL & 660' FWL FOOTAGE LOCATION	WELL NAME & NUMBER: Federal Trigg # 1 (30-
2,926' feet	Injection Interval	Total Depth:3,366'	Top of Cement: 2100'	Cemented with: 400 sx.	Hole Size: 7 7/8"	Production Casing	Top of Cement: Surface	Cemented with: 1550 sx.	Hole Size: 12 1/4"	Intermediate Casing	Top of Cement: Surface	Cemented with: 1500 sx.	Hole Size: 17 1/2"	WELL CONSTRU Surface Casing	L 7 UNIT LETTER SECTION	(30-015-25006)
to 3,315' Perfs.	<u>Interval</u>	-	Method Determined: Temp. Log	<i>or</i> ft³	Casing Size: 5 1/2"	<u>n Casing</u>	Method Determined: Circ'd	orft³	Casing Size: 8 5/8"	<u>te Casing</u>	Method Determined: Circ'd	<i>or</i> ft <sup>3</sup>	Casing Size: 13 3/8"	WELL CONSTRUCTION DATA Surface Casing	T-21-S R-28-E TOWNSHIP RANGE	

(Perforated or Open Hole; indicate which)

# INJECTION WELL DATA SHEET

	.5	4.	<u>ن</u>	2.		:		Otl	Pac	Ту	Tul
No overlying oil or gas zones have been found in area of review  No underlying oil or gas zones have been found in area of review	ne name and depths of any oil or gas zones underlying or overlying the proposed on zone in this area:	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) usednone	ole)	Name of the Injection Formation: Delaware	If no, for what purpose was the well originally drilled? Production	Is this a new well drilled for injection? YesNo	Additional Data	Other Type of Tubing/Casing Seal (if applicable):	Packer Setting Depth: +/ 2,876!	Type of Packer: AD-1 plastic coated	Tubing Size: 2 7/8" Lining Material: Rice-Duoline

### **CERTIFIED STATEMENT**

## Federal Trigg # 1 lease OFFSET PRODUCER LIST

Bass Enterprises Production Co. PO Box 2760 Midland, TX 79702

Attn: John Smitherman-Div Manager

Permian Resources P.O. Box 590 Midland, TX 79702

### **SURFACE OWNER**

Bureau of Land Management 620 E. Greene St. Carlsbad, New Mexico 88220-6292

### **NEWSPAPER**

Current-Argus PO Box 1629 Carlsbad, NM 88220

A letter and a copy of form C-108 were mailed today, March 20, 2001, to the above named offset operators and landowner. The newspaper was notified March 6, 2001. I certify this to be true and correct.

Dakota Resources, Inc

Alan Roberts

Supt.

(915) 697-3420

### COMPLETE THIS SECTION ON DELIVERY SENDER: COMPLETE THIS SECTION B. Date of Delivery A. Beceived by (Please-Rrint Clearly) ■ Complete items 1, 2, and 3. Also complete 3-01/2001 IMA STAdley item 4 if Restricted Delivery is desired. Print your name and address on the reverse C. Signature □ Agent so that we can return the card to you. Attach this card to the back of the mailpiece, ☐ Addressee or on the front if space permits. D. Is delivery address different from item 1? If YES, enter delivery address below: 1. Article Addressed to: baso Enterprises POBOX 2760 3. Service Type Middlema Ix 79762 ☐ Return Receipt for Merchandise □ C.O.D. Insured Mail Restricted Delivery? (Extra Fee) Yes 2. Article Number (Copy from service label) Domestic Return Receipt COMPLETE THIS SECTION ON DELIVERY SENDER: COMPLETE THIS SECTION ■ Complete items 1, 2, and 3. Also complete A. Received by (Please Print Clearly) B. Date of Delivery item 4 if Restricted Delivery is desired. 3~1~ Print your name and address on the reverse C. Signature so that we can return the card to you. ☐ Agent Attach this card to the back of the mailpiece, Addresse. or on the front if space permits. D. Is delivery address different from item 1? 1. Article Addressed to: If YES, enter delivery address below: Blersau of Land Management 620 & Greene St Service Type Certified Mail USBODINM 8820LDD ☐ Express Mail ☐ Return Receipt for Merchandise ☐ Insured Mail ☐ C.O.D. 4. Restricted Delivery? (Extra Fee) ☐ Yes 2. Article Number (Copy from service label) 7099-7400-0017 COMPLETE THIS SECTION ON DELIVERY SENDER: COMPLETE THIS SECTION A. Received by (Please Print Clearly) ■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Agent Attach this card to the back of the mailpiece, ☐ Addressee or on the front if space permits. Je delivery address different from item 1? If YES, enter delivery address below: 1. Article Addressed to: Aberrian Kasources 3. Service Type Certified Mail ☐ Express Mail □ Return Receipt for Merchandise Addima X79702 ☐ Insured Mail □ C.O.D. 4. Restricted Delivery? (Extra Fee)

by: CAR

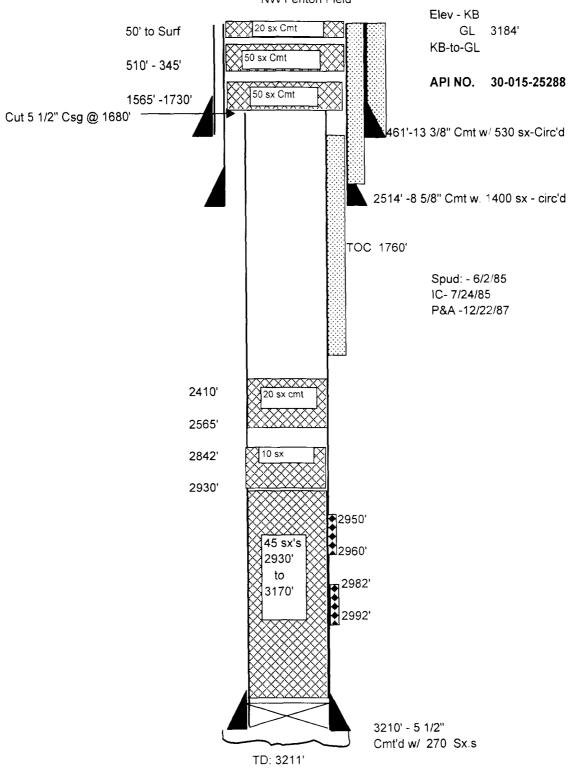
# Section VI of C-108 Well Data in Area of Review Application for Authority to Inject Federal Trigg #1 7-21S-28E Eddy Co., NIVI - NW Fenton Delaware Field

Operator	Well	Status	Spud	Location	Total	Perfs
600	Name-#			Q-Q-Sec	<b>,</b>	
Dakota Resources	Big Eddy Unit # 98	P	1/18/84	1/18/84 SE NW 7	9050	2942-2976; 3122-3130; 3145-3160'
Bass Enterprises	Fenton 7 Federal # 1 P	ס	6/28/94	6/28/94 SW NW 7	3300	3116-3140
Bass Enterprises	Fenton 7 Federal # 3 P&A	P&A	2/4/96	2/4/96 SE SW 7	3400	Dry hole-never completed
Merit	Government D # 6	<u>ס</u>	9/27/85	9/27/85 SE NE 12	5735	3114-3136
J.M. Huber	Federal 12 # 1	U	6/3/85	6/3/85 NE SW 12	3211	2590-2592

03/19/01

### JM Huber- Federal 12 # 1

2310' FSL & 990' FEL Sec 12, T-21-S, R-27-E Eddy Co., NM NW Fenton Field

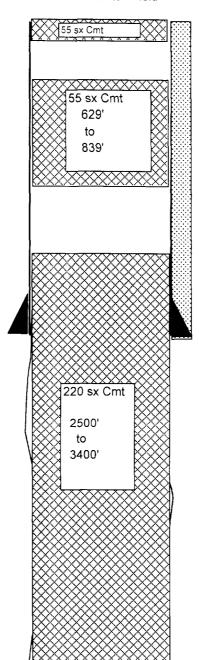


by: CAR 03/19/01

### Bass - Fenton 7 Federal 3 3

990' FSL & 2280' FWL (N) Sec 7, T-21-S, R-28-E Eddy Co., NM NW Fenton Field

Surface to 200'



TD: 3400'

Elev - KB GL KB-to-GL

API NO. 30-015-28713

2793' -8 5/8" Cmt w. 615 sx - circ'd

Spud: - 2/1/96 P&A -2/5/96

by: CAR 03/19/01

# **Affidavit of Publication**

State of New Mexico, County of Eddy, ss.

Dawn Higgins	
being first duly sworn, on oath says:	,
That she is Busi of the Carlsbad Current-Argus, a redaily at the City of Carlsbad, in said of New Mexico and of general paid circ ty; that the same is a duly qualified a laws of the State wherein legal notice may be published; that the printed news published in the regular and e newspaper and not in supplement the follows, to wit:	newspaper published county of Eddy, state culation in said counnewspaper under the s and advertisements otice attached hereto ntire edition of said
March 14	2001
	, 2001
	,2001
	,2001
	2001
That the cost of publication is \$\_33\$ and that payment thereof has been massessed as court costs.	
Subscribed and sw day of Maxa	orn to before me this  1, 2001  1, 2001
My commission expires5	5/25/03
No	ntary Public

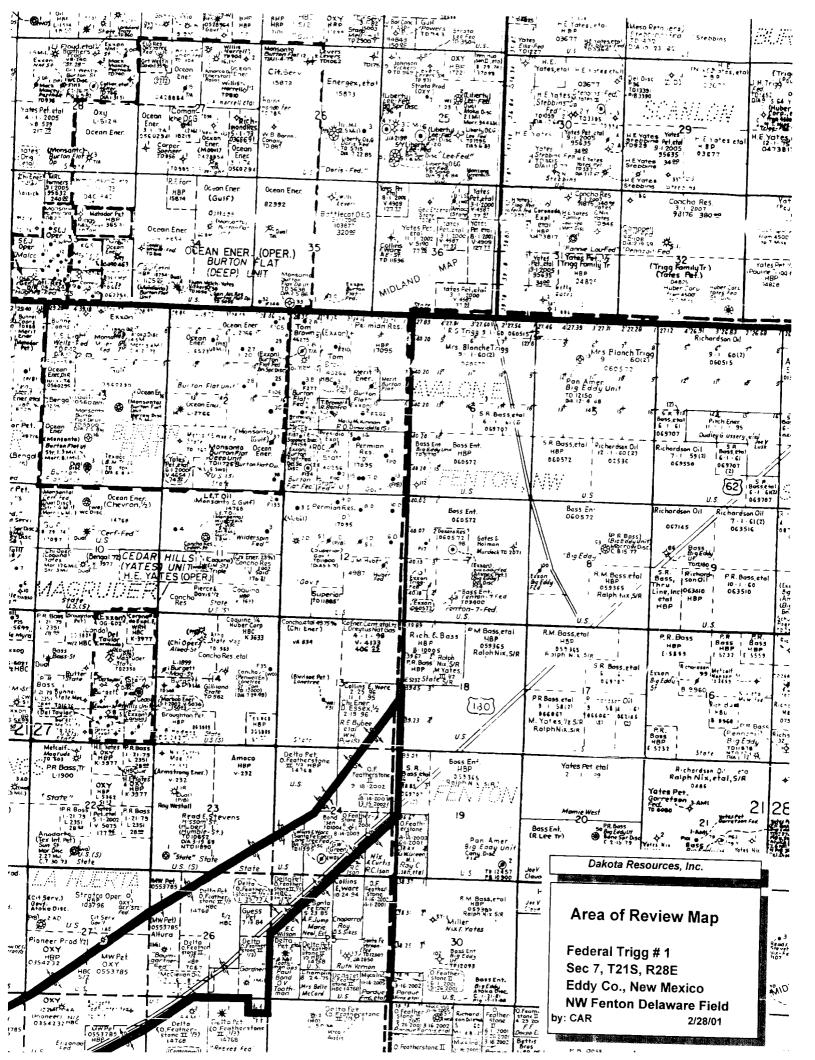
March 14, 2001

### LIC NOTICE

TON WELL PERMIT

Resources, Inc.
Standard Mediand.
Resources, Inc.
Standard Middland.
Resources, Inc.
Resources, Inc.
Standard Middland.
Resources, Inc.
Res

87504 within 15 days.



# Pro-Kem, Inc.

# WATER ANALYSIS REPORT

# SAMPLE

Oil Co. : Dakota Resources

Lease : Big Eddy Fed.

Well No.: # 98

Lab No. : F:\ANALYSES\Aug1500.002

Dissolved Gasses

4. Hydrogen Sulfide

Sample Loc. :

MG/L

100

Date Analyzed: 15-August-2000

Date Sampled : 09-August-2000

EQ. WT.

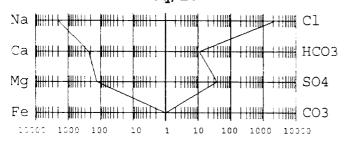
\*MEQ/L

# ANALYSIS

1.	На			5.780
2.	Specific Gravity	60/60	F.	1.103
3.	Specific Gravity CaCO <sub>3</sub> Saturation	Index	@ 80	F0.341
	_			F +0.549

5.	Carbon Dioxi Dissolved Ox	.de kygen	Not D	100 etermined				
<u>C</u>	ations							
7. 8. 9. 10.	Calcium Magnesium Sodium Barium	(Ca++) (Mg++) (Na+) (Ba++)	(Calculated)	4,422 1,490 45,051 etermined	//	20.1 12.2 23.0	E E	220.00 122.13 1,958.74
A	nions							
11. 12. 13. 14. 15.	Hydroxyl Carbonate Bicarbonate Sulfate Chloride	(OH-) (CO3=) (HCO3-) (SO4=) (Cl-)		0 0 635 1,750 79,982	////	17.0 30.0 61.1 48.8 35.5	= =	0.00 0.00 10.39 35.86 2,253.01
16. 17. 18. 19.	Total Dissol Total Iron Total Hardne Resistivity	(Fe) ess As Ca		133,330 2 17,179 0.054 /cm	/	18.2	=	0.11

# LOGARITHMIC WATER PATTERN \*meq/L.



### Calcium Sulfate Solubility Profile

3000		1	-				+
29 <b>86</b> 2972							
2958	+	$\rightarrow$					
2944	+	-					
2930							
L 29 <b>9</b> 2	+				_	$\rightarrow$	
28 <b>88</b> 287 <b>4</b>	+			_		-	$ \leftarrow $
2869	$\perp$						
Temp *F.	59	78	98	110	130	150	176

PROBABLE MINERAL COMPOSITION POUND EQ. WT. X \*meq/L = mg/L. COMPOUND  $Ca(HCO_3)_2$  81.04 10.39 342 CaSO<sub>4</sub> 68.07 35.86 2,441 CaCl<sub>2</sub> 55.50 173.75 9,643  $Mg(HCO_3)_2$ 73.1 0.00 0 MgSO<sub>4</sub> 60.15 0.00 0 MgCL<sub>2</sub> 47.62 122.13 5,816 NaHCO3 84.00 0.00 0 71.03  $NaSO_4$ 0.00

\*Milli Equivalents per Liter

58.46 1,957.14 114,414

This water is somewhat corrosive due to the pH observed on analysis. The corrosivity is increased by the content of mineral salts, and the presence of H2S, CO2 in solution.

NaCl

: . t .

Well Data in Area of Review Construction Data Application for Authority to Inject Federal Trigg # 1 7-21S-28E Eddy Co., NM - NW Fenton Delaware Field Section VI of C-108

Operator	Name#	Status Spud		Location Q-Q-Sec	Total	Perfs	Size Casi	ace Casin	ng en	7		···- Production Casing ····	Casing	
Dakola Resources   Big Eddy Unit # 98	Big Eddy Unit # 98	Ū	1/15/84	1/18/84 SE NW 7	9050	9050 2942-2976; 3122-3130; 3145-3160	13 3/8 8 5/8	359′ 2450	430 1400	Orc'd Orc'd	5 1/2	3357	250 1830' (Temp Lo	1830° (Temp Log)
Bass Enterprises	Fenton 7 Federal # 1 P	P	6/28/94	6/28/94 SW NW 7	3300	3300 3116-3140	ର ହେଉ	1200	635	Circid	5 1/2	3300	576	Circ'a
Bass Enterprises	Fenton 7 Federal #3 P&A	P&A	2/4/36	2/4/36 SE SW 7	3400	3400 Dry hale	See schematic of plugging	tic of plug	girig		See schem	See schematic of plugging	gnig	
Merit	Government D#6	υ	9/27/85	9/27/85 SE NE 12	5735	5735 3114-3136	13 3/8 8 5/6	650° 2650°	650 1000	9900 9900	5 1/2	2200	250	1570'-Calcid
J.M. Huber	Federal 12#1	Р&А	6/3/85	6/3/85 NE SW 12	3211	3211 2590-2592	See schematic of plugging	to of plug	g <sub>ing</sub>		See sonem	See schematic of plugging	Buið	
				1	,		•			, ne				

18/06/C1

TITLE .

DATE

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:



**FAX** 

To: New Mexico OCD

Date:

6/6/01

Attention: David Catanach

fax

505/476-3471

From: Alan Roberts

Dakota Resources - Midland

915/ 697-3420 fax 697-3400

Sheets:

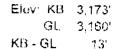
2 Including this cover

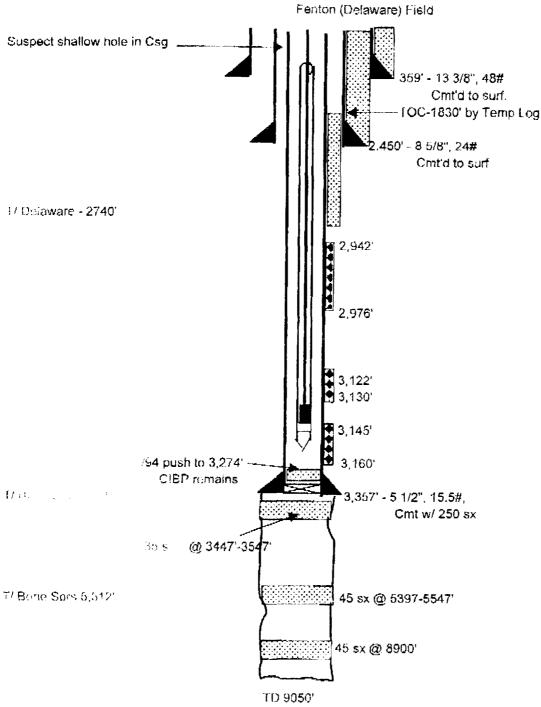
RE: Applic to Inject -Trigg -Big Eddy Unit # 98 Plugs

Attached is a wellbore schematic showing open hole plugs set in the Big Eddy Unit # 98.

# Big Eddy Unit # 98

2180' FNL & 1980' FWL Sec 7, T-21-S, R-28-E Eddy Co., NM





8V: CAR 06/06/01