RELEASE 9-26-95

BEFORE THE NEW MEXICO OIL CONSERVATION DIVISION

BASS ENTERPRISES PRODUCTION CO.

FOR WATER DISPOSAL

the

BIG EDDY UNIT #46

LOCATED 1980' FSL & 2080' FEL SECTION 25, T22S - R28E

Eddy County, New Mexico

T A B L E OF C O N T E N T S

ENERGY AND MINERALS DEPARTMENT

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

Form C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no

II. Operator: Bass Enterprises Production Co.

Address: P. O. Box 2760 Midland, Texas 79702

Contact party: Keith Bucy Phone: (915) 683-2277

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 geological data on the injection zone including appropriate lithologic detail, geological 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 source 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 source 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: Bryan Mullican Title Engineering Assistant

Signature: _____ Date: _____

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

AOR = 1 / 4

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 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, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

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

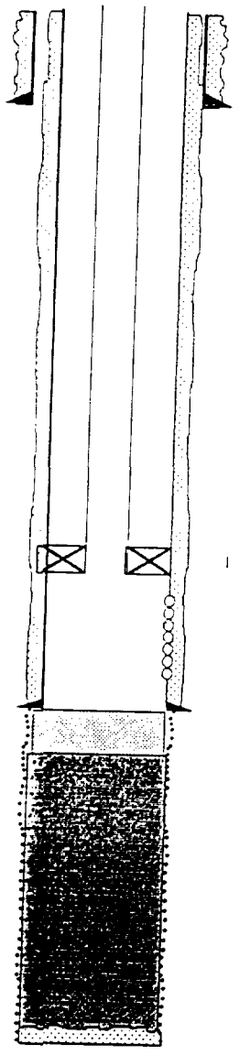
NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

INJECTION WELL DATA SHEET

Bass Enterprises Production Co. (OPERATOR) — Big Eddy Unit (LEASE)

#46 (WELL NO.) — 1980' FSL & 2080' FEL (FOOTAGE LOCATION) — 25 (SECTION) — T22S (TOWNSHIP) — R28E (RANGE)

Schematic



Tabular Data

Surface Casing

Size 8-5/8 " Cemented with 275 sx.

TOC Surface feet determined by Cement Circ.

Hole size 12-1/4"

Intermediate Casing

Size _____ " Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long string

Size 5-1/2 " Cemented with _____ sx.

TOC Surface feet determined by Circ.

Hole size 7-7/8"

Total depth 4500'

Injection interval

3889 feet to 4012 feet
(perforated or open-hole, indicate which)

Tubing size 2-7/8" lined with TK-69 (material) set in a

Baker Model AD-1 (brand and model) packer at 3839' feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Upper Cherry Canyon

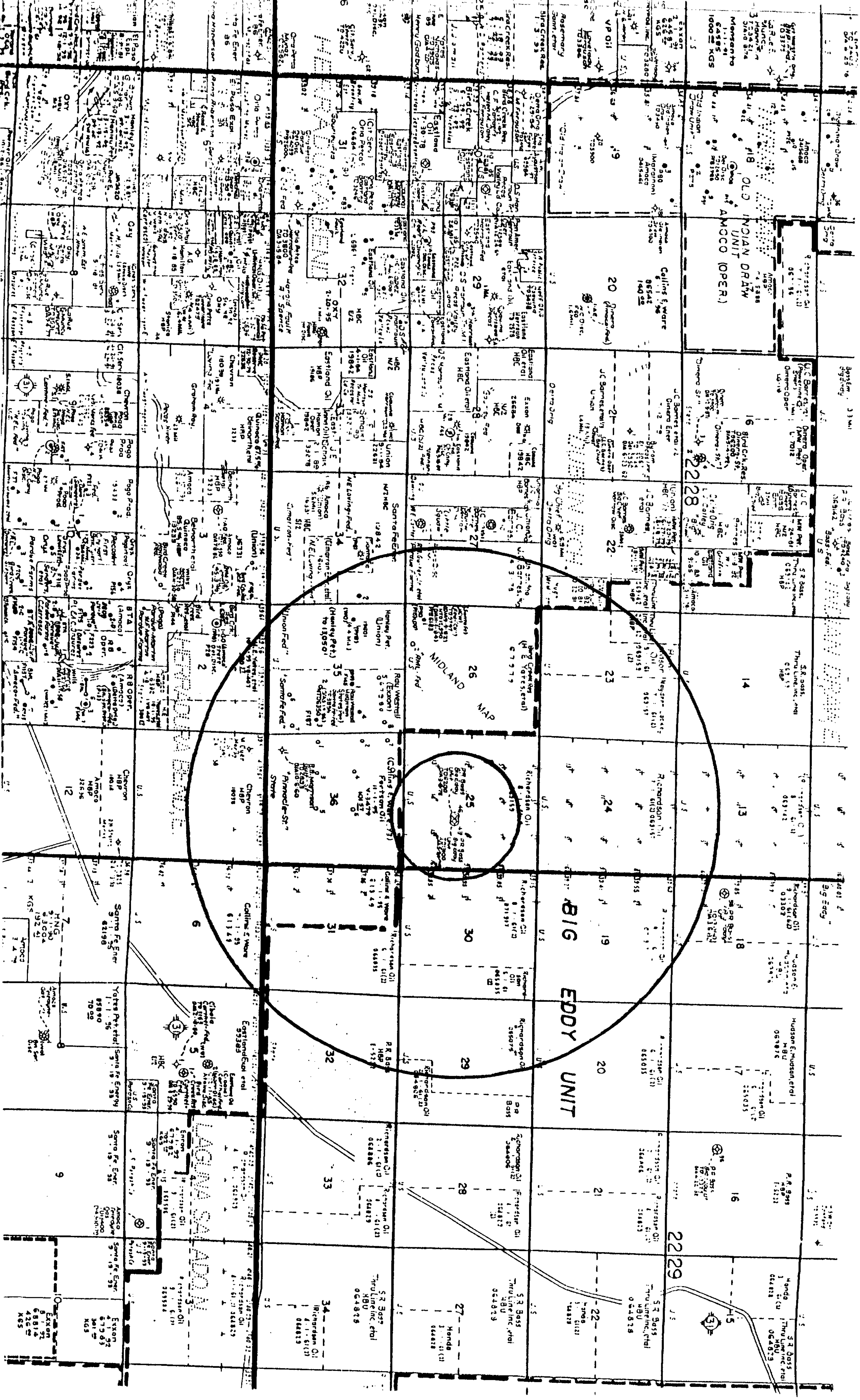
2. Name of Field or Pool (if applicable) E. Herradura Bend - Delaware

3. Is this a new well drilled for injection? / / Yes /X/ No

   If no, for what purpose was the well originally drilled? Wildcat

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) Well drilled and abandoned. Cement plugs at 350-500, 1660-1760, 2820-2920 and 4500-4600'.

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Proved producing Brushy Canyon Zones from 6000-6250'. Possible oil and gas bearing Cherry Canyon zones from 3728-3774'. Possible oil and gas bearing Bell Canyon zones from 3485-3580, 3036-3080'.


BIG EDDY UNIT
MIDLAND MAP
OLD INDIAN DRAW UNIT
AMOCO (OPER.)

FORM C-108 VI

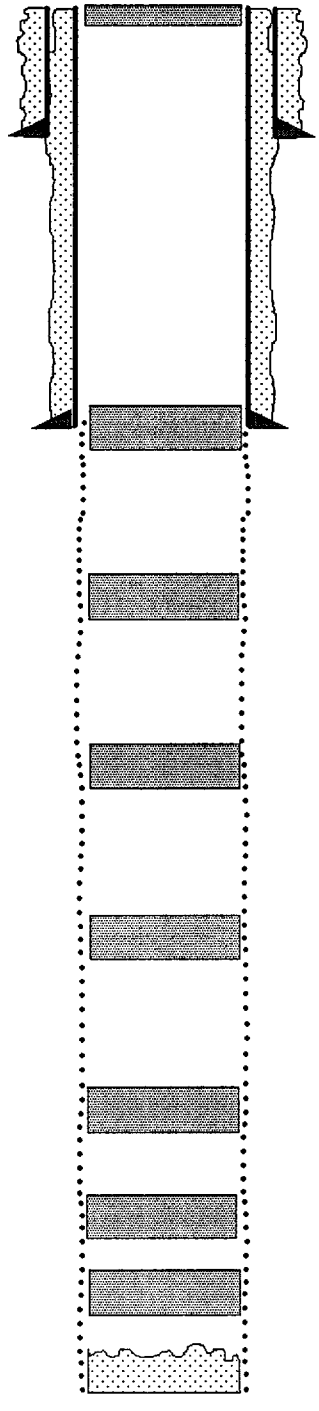
Data on all wells of public record with the area of review.

Operator Lease Name Well Number	Proposed Injection Zone	Well Type	Construction	Date Drilled	Location	Depth & Current Status	Record of Completion	Perforations
Bass Enterprises Production Co Big Eddy Unit #43	Yes	Wildcat	See Attachment VI-B	3-28-75	Sec. 25 T-22-S R-28-E 1980' FSL & 1980' FEL Unit: Letter J	13,100' TD 12,700 PBTD P & A	None	None

BIG EDDY UNIT NO. 43

LOCATION: 1980' FSL & 1980' FEL, SEC 25, T22S, R28E
API NO: 30-015-
ELEVATIONS: GL 3168'
SPUD DATE: 3/28/75 P&A DATE: 6/11/75

BASS ENTERPRISES
WILDCAT
EDDY COUNTY, NM
DATE: 3/10/93; GP



13-3/8" 48#/FT H-40 ST&C CSA 313'. CMTD W/400 SX CL C. CMT CIRC. HOLE SIZE 17-1/2".

9-5/8" 36#/FT K-55 LT&C CSA 2881'. CMTD W/1400 SX LT WT CMT, TAILED W/375 SX CL C. CMT CIRC. HOLE SIZE 12-1/4".

8-1/2" HOLE TO 13,100'

WELLBORE INFORMATION

20-0' CMT PLUG @ SURFACE (10 SX)

2935-2835' CMT PLUG (45 SX CL H)

4700-4600' CMT PLUG (50 SX CL H)

6500-6350' CMT PLUG (75 SX CL H)

8250-8100' CMT PLUG (65 SX CL H)

10,050-9900' CMT PLUG (65 SX CL H)

11,750-11,550' CMT PLUG (85 SX CL H)

12,300-12,100' CMT PLUG (85 SX CL H)

PBTD: 12,730'

TD: 13,100'

Data Sheet
Section VII (A), Form C-108

1. Proposed rates of injection

   a. Average daily rate of injection: 1000
   b. Maximum daily rate of injection: 1500

2. Type of system

   System will be closed

3. Proposed injection pressures

   Average: 500
   Maximum: 750

4. See Attached (C-108 VII (B))

5. See Attached (C-108 VII (C))

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. Greg Spencer
P. O. Box 2760, Midland, TX

LABORATORY NO. 39339
SAMPLE RECEIVED 3-3-93
RESULTS REPORTED 3-9-93

COMPANY Bass Enterprises Production Co. LEASE Big Eddy Unit
FIELD OR POOL East Herradura Bend
SECTION ____ BLOCK ____ SURVEY ____ COUNTY Eddy STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Produced water - taken from Big Eddy Unit #117.
NO. 2
NO. 3
NO. 4
REMARKS: Delaware - 6,146'-6,160'

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.1796			
pH When Sampled				
pH When Received	4.15			
Bicarbonate as HCO_3	20			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	89,500			
Calcium as Ca	30,200			
Magnesium as Mg	3,402			
Sodium and/or Potassium	64,898			
Sulfate as SO_4	243			
Chloride as Cl	163,343			
Iron as Fe	126			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	262,106			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0			
Resistivity, ohms/m at 77° F.	0.050			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks: In comparing the above with our records in the area, we find this water correlates well with what we would expect from natural Delaware.

Form No. 3

By _____
Waylan C. Martin, M. A.

JDR

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

LABORATORY NO. 1084467

TO: Mr. Mike Cure
P.O.Box 2760, Midland, TX

SAMPLE RECEIVED 10-26-84

RESULTS REPORTED 10-31-84

COMPANY Bass Enterprises Production Company LEASE Bass 10 Federal #3

FIELD OR POOL Indian Draw, East (Delaware)

SECTION ___ BLOCK ___ SURVEY ___ COUNTY Eddy STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Produced fluid - taken from Bass 10 Federal #3. 10-26-84

NO. 2

NO. 3

NO. 4

REMARKS: Delaware

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.1120			
pH When Sampled				
pH When Received	6.90			
Bicarbonate as HCO_3	234			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	42,000			
Calcium as Ca	12,500			
Magnesium as Mg	2,612			
Sodium and/or Potassium	46,777			
Sulfate as SO_4	1,252			
Chloride as Cl	100,847			
Iron as Fe	1.8			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	164,223			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	35.0			
Resistivity, ohms/m at 77° F.	0.064			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Oil Gravity, °API	39.2			

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks: When we compare the above with our records in the general area, we show the characteristics of this water to be reasonably comparable to what would be expected from one of the Delaware zones. Contact us for any additional assistance.

Form No. 3

By _____

cc: MR. Al Gallas, Kermit

Waylan C. Martin, M. A.

C-108 VII (C)

-TOPS-

Schlumberger

BOREHOLE COMPENSATED SONIC LOG

COUNTY EDDY
FIELD WILDCAT
LOCATION BIG EDDY UNIT #46
WELL
COMPANY BASS ENTERPRISES

COMPANY BASS ENTERPRISES PRODUCTION COMPANY

WELL BIG EDDY UNIT #46

FIELD WILDCAT

COUNTY EDDY STATE NEW MEXICO

RICHARDSON & BASS GEOLOGICAL FILE COPY

LOCATION 1980'FSL & 2080'FEL

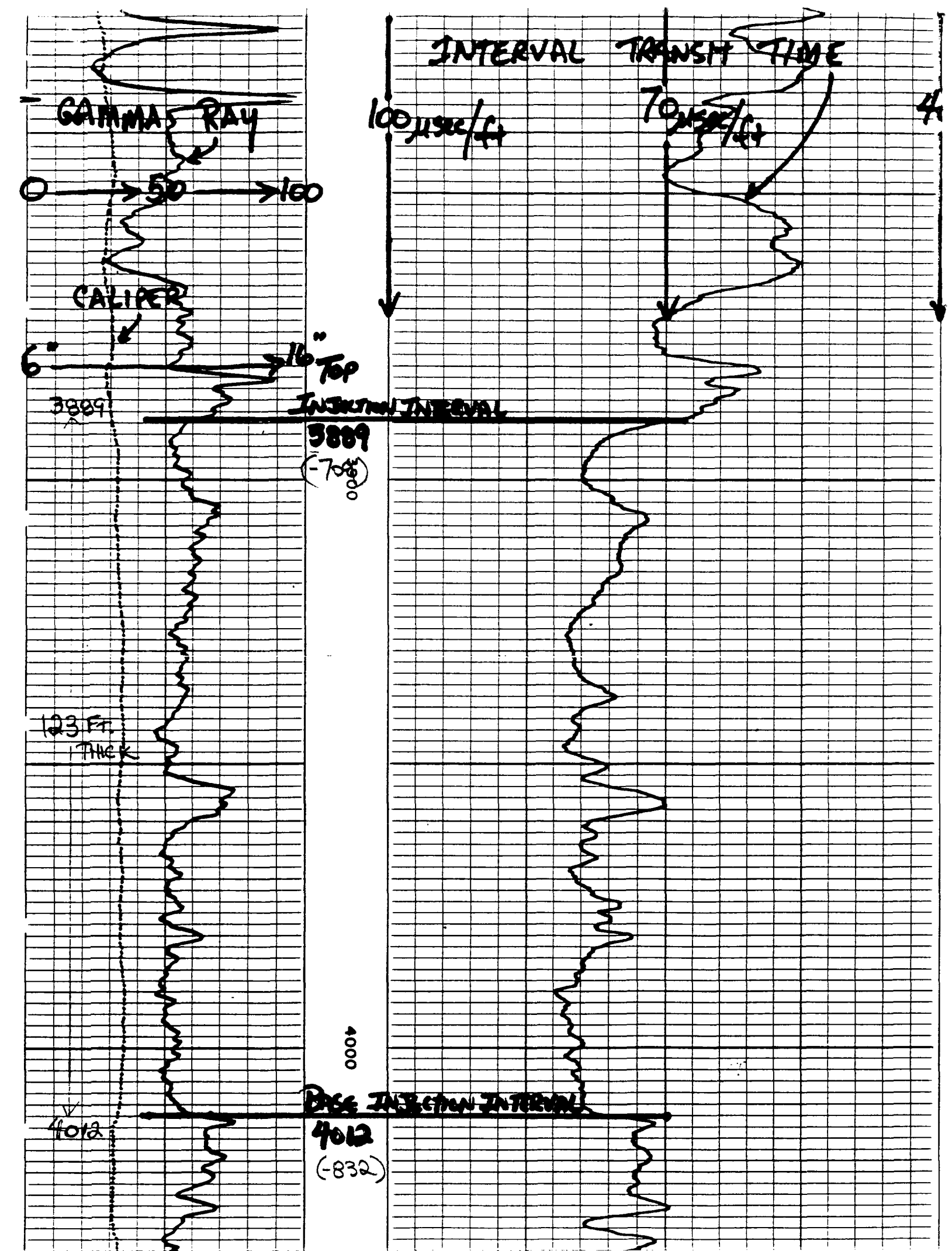
API SERIAL NO	SEC	TWP	RANGE
	25	22	28

Other Services:
DLL
HDT
CST

Permanent Datum: G.L. ; Elev.: 3168
Log Measured From K.B. 12 Ft. Above Perm. Datum
Drilling Measured From K.B.

Elev.: K.B. 3180
D.F.
G.L. 3168

Date	3-5-76			
Run No.	ONE			
Depth—Driller	6200'			
Depth—Logger (Schl.)	6168			
Btm. Log Interval	6167			
Top Log Interval	385			
Casing—Driller	8 5/8@385	@	@	@
Casing—Logger	385			
Bit Size	7 7/8			
Type Fluid in Hole	SALT MUD			
Dens. / Visc.	10.3 / 36			
pH / Fluid Loss	7.0 / 9.4 ml	ml	ml	ml
Source of Sample	MUD PIT			
Rm @ Meas. Temp.	.051@ 76 °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp.	.032 @ 76 °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	.067 @ 76 °F	@ °F	@ °F	@ °F
Source: Rmf / Rmc	M / C			
Rm @ BHT	.036 @110 °F	@ °F	@ °F	@ °F
TIME Circulation Stopped	13:15			
TIME Logger on Bottom	-			
Max. Rec. Temp.	110 °F	°F	°F	°F
Equip. / Location	7627 / HOBBS			
Recorded By	RAFFAELLI - PRICE			
Witnessed By Mr.	WILKINSON			


INTERVAL TRANSIT TIME
100 μsec/ft
70 μsec/ft
GAMMA RAY
0
50
100
CALIPER
6"
16"
TOP
3889
INJECTION INTERVAL
3889
(-7086)
123 FT. THICK
4000
4012
INJECTION INTERVAL
4012
(-8321)

Section VIII (a) Form C-108

Delaware Mountain Group - Cherry Canyon formation.

100% Sandstone Light gray to clear, fine to very fine grained, moderate to loosely consolidated with calcareous and clay matrix.

Thickness of 123 feet with repeated bedding of laminated sandstones grading to siltstones throughout total interval.

Depth of interval from 3889′ (-709) to 4012′ (-832).

Data Sheet
Section IX - Form C-108

Proposed Stimulation Program:

5-1/2" casing will be set across proposed disposal zone and cemented in place. Interval will then be perforated and treated with approximately 5000 gallons 7-1/2% NEFE acid.

Section X - Form C-108

All logging and test data has been previously submitted.

Section XI - Form C-108

There are no fresh water wells within one mile of the proposed disposal site.

Affirmative Statement
Section XII - Form C-108

Applicant hereby affirms that he has examined the available geologic and engineering data and finds no evidence of open faults or other hydrologic connection between the disposal zone and any underground source of drinking water.