

BW - 6

**GENERAL
CORRESPONDENCE**

YEAR(S):

1989

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

South Y
P. O. Box 756
Carlsbad, N.M. 88220
Phone (505) 885-6663

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

July 10, 1989

Ground Water Section

EID: Ground/Water/Hazardous Waste Bureau
P.O. Box 968
Santa Fe, NM 87504-0968

RE: Quarterly Report
2nd Quarter of 1989
Eugenie Brine Station
Sec. 17 T 22S R 27E

ATT: Richard Mitzelfelt
Bureau Chief

Please find attached copies to substantiate quarterly report on our Eugenie Brine Station.

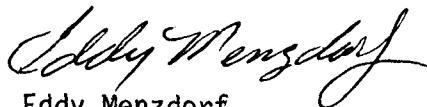
Total Volume Fresh injected in brine system: 38,468 bbls

Total Volume Brine sold from brine well: 38,465 bbls

Leak Detection System: DRY (tanks)

Thank you very much for your consideration and please don't hesitate to contact us if anymore information is needed.

Sincerely,



Eddy Menzendorf
B & E, Inc.

EM/val 

Attachments

XC: file
XC: Oil Conservation Division
Artesia, NM

Brine Station

19 99

TOTAL		TOTAL	
40	5936	31	5160

April 89 DATE	FRESH WATER LINE TO WELL HEAD	LINE FROM WELL HEAD TO PIT	FRESH WATER INJECTED	FRESH WATER TO PIT	PIT LINER LEAK DETECTOR	TOTAL BBL'S INJECTED & TO PIT	TOTAL BBL'S BRAINE SOLD	OKed By	076 in Block
1	OK	OK	Pumping	—	OK	Pumping		Jim	807
2				—					
3				—					
4				—					
5				—					
6			100% Flow	—		100% Flow			90%
7				—					
8				—					
9				—					
10				—					95
11				—					80%
12			Pumping	—		Pumping			
13				—					
14				—					100%
15				—					
16				—					
17				—					
18				—					
19				—					
20				—					
21				—					50%
22				—					
23				—					
24				—					
25				—					
26				—					
27				—					50%
28				—					
29				—					
30			Pumping	—		Pumping		Jim	
	OK	OK	77.30		OK	77.30	16946		

Supp. #1
Brine Station

May 1 19*89*

DATE	B & E		I & W		PERMIAN		CARTER		HUGHES		MC DANIEL		OTHER	
	LDS DAY	BBLS DAY	LDS DAY	BBLS DAY	LDS DAY	BBLS DAY	LDS DAY	BBLS DAY	LDS DAY	BBLS DAY	LDS DAY	BBLS DAY	LDS DAY	BBLS DAY
1														
2	1	140												
3	2	280												
4	3	600												
5	2	320												
6														
7														
8														
9														
10	3	390												
11	5	720												
12	1	150												
13	3	360			1	134								
14														
15	3	450			11	1096								
16	1	150			17	2123								
17	1	100			12	1416								
18	3	430			2	226								
19					2	250								
20					1	125								
21	3	450			3	339								
22	4	530			1	113								
23	3	400			2	250								
24														
25														
26														
27	2	280												
28	9	1320			1	112								
29	3	440												
30			2	330										
31														
TOTAL			TOTAL		TOTAL									
52		7510	2	330	53	16164								

E S	FRESH WATER LINE TO WELL HEAD	LINE FROM WELL HEAD TO PIT THICKS	FRESH WATER INJECTED	FRESH WATER TO PIT	PIT LINER LEAK DETECTOR	TOTAL BBL'S INJECTED & TO PIT THICK	TOTAL BBL'S BRINE SOLD	OKed By	90 in THICKS
1	OK	OK	Pumping	-	OK	Pumping		Jan	5070
2				-					
3				-					
4				-					
5				-					
6				-					
7				-					
8				-					
9				-					
10				-					17590
11				-					
12				-					
13				-					
14				-					
15				-					2590
16				-					
17				-					
18				-					
19				-					
20				-					
21				-					
22				-					
23				-					
24				-					
25				-					1590
26				-					
27				-					
28				-					
29				-					
30			Pumping	-	OK	Pumping		Jan	
1	OK	OK	8500			8500	14004		

Summit 21
Brine Station

June 1 1989

DATE	B & E		I & W		PERMIAN		CARTER		HUGHES		MC DANIEL		OTHER	
	LDS DAY	BBLS DAY	LDS DAY	BBLS DAY	LDS DAY	BBLS DAY	LDS DAY	BBLS DAY	LDS DAY	BBLS DAY	LDS DAY	BBLS DAY	LDS DAY	BBLS DAY
1	1	140												
2	5	585			1	113								
3	1	140												
4														
5														
6	2	320												
7	8	1150												
8	4	680												
9	4	540												
10	1	120												
11														
12	2	300											4	575
13	4	540											4	600
14	1	140												
15	1	160												
16	2	340												
17														
18														
19	2	230												
20	1	100												
21	1	80												
22	1	25												
23	1	80												
24														
25	1	140												
26	2	320												
27														
28														
29														
30	2	300												
31														
	TOTAL				TOTAL								TOTAL	
	47 6230				6 113								8 1175	

	FRESH WATER LINE TO WELL HEAD	LINE FROM WELL HEAD TO BT Tanks	FRESH WATER INJECTED	FRESH WATER TO BT Tanks	PIT LINER LEAK DETECTOR	TOTAL BBL'S INJECTED & TO BT Tanks	TOTAL BBL'S BRINE SOLD	OKed By	90 is Tanks
1	OK	OK	Flowing	-	OK	Flowing			90% 70
				-					
				-					
4				-					
5				-					
6				-					
7				-					
8				-					
9				-					
10				-					
11				-					
12				-					
13				-					
14				-					
15				-					
16				-					
17				-					
18			Flow	-		Flow			90% 70
19				-					
20				-					
21				-					
22				-					
23				-					
24				-					
25				-					
26				-					
27				-					
28				-					
29			Flow	-		Flow			
30	OK	OK		-	OK				90% 70
			7730	-		7730	7518		

*Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal*

B & E, INC.

South Y
P. O. Box 756
Carlsbad, N.M. 88220
Phone (505) 885-6663

*Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks*

April 11, 1989

Ground Water Section

EID: Ground/Water/Hazardous Waste Bureau
P.O. Box 968
Santa Fe, NM 87504-0968

RE: Quarterly Report
1st Quarter of 1989
Eugenie Brine Station
Sec. 17 T 22S R 27E

ATT: Richard Mitzelfelt
Bureau Chief

Please find attached copies to substantiate quarterly report on our Eugenie Brine Station.

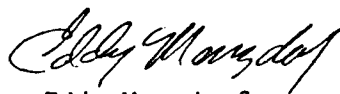
Total Volume Fresh injected in brine system: 32,970 bbls

Total Volume Brine sold from brine well: 38,825 bbls

Leak Detection System: DRY (tanks)

Thank you very much for your consideration and please don't hesitate to contact us if anymore information is needed.

Sincerely,



Eddy Menzendorf
B & E, Inc.

EM/va1

Attachments

xc:file

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

ARTESIA DISTRICT

LABORATORY REPORT

No. _____

TO B & E, Inc.Date 3-10-89P.O. Box 756Carlsbad, NM 88220

This report is the property of Halliburton Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the express written approval of laboratory management. It may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Services.

Submitted by _____ Date Rec. _____

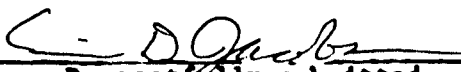
Well No. _____ Depth _____ Formation _____

Field _____ County _____ Source _____

Eugene #1 - BrineSt 24 #1 - Loco Hills
BrineResistivity 0.048 @ 70°F 0.050 @ 70°FSpecific Gravity .. 1.217 1.2100 @ 70°FpH 6.7 6.9Calcium 3548 4300Magnesium 326 261Chlorides 204000 194000Sulfates heavy heavyBicarbonates 92 61Soluble Iron nil nil

----- 10.15 # 10.08 #

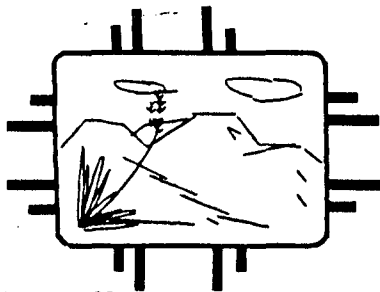
Remarks:


Respectfully submitted
Analyst: E. D. Jacobson EIT

HALLIBURTON SERVICES

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NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

ENVIRONMENTAL IMPROVEMENT DIVISION
Harold Runnels Bldg.-1190 St. Francis Drive
Santa Fe, New Mexico 87503

Richard Mitzelfelt
Director

GARREY CARRUTHERS
Governor
CARLA L. MUTH
Secretary
MICHAEL J. BURKHART
Deputy Secretary

December 14, 1988

Phil Withrow
B&E, Inc. - Carlsbad Brine Station
P.O. Box 756
Carlsbad, New Mexico 88220

Dear Mr. Withrow:

The Underground Injection Control staff of the New Mexico Environmental Improvement Division Ground Water Section would like to thank you for your cooperation during our recent inspection of B&E, Inc. - Carlsbad brine facility. A copy of the inspection form is attached for your reference.

No violations were noted during the inspection.

Thank you for your continued cooperation. Should you have any questions feel free to contact me (827-2902) or John Parker (827-0027).

Sincerely,

Kevin Lambert
Hydrologist
Ground Water Section - UIC Program

KL/mw

Enclosure

BRINE STATION INSPECTION FORM

DATE 12/5 1988 1550 12/6/88 730am
FACILITY B+E CARLSBAD EID INSPECTOR Lambert
FACILITY REP ON SITE _____ LOCATION CARLSBAD
COUNTY Eddy

WELL OPERATION

2 well system
WELL IS INJECTING: _____ THROUGH ANNULUS _____ THROUGH TUBING
SOURCE OF FRESH WATER CITY OF CARLSBAD
TRACE INJECTION/PRODUCTION LINES Underground
WELL HEAD PRESSURE _____ PSIG PUMP PRESSURE _____ PSIG
LEAKS AROUND WELL OR PUMP _____

STORAGE AREA

1 well, production, near tanks Look
1 well, injection near Hwy Good
FOR PONDS: No ponds
GENERAL LINER APPEARANCE _____

AMOUNT OF FREEBOARD

ANY SIGN OF OVERFLOW OR LEAKS _____
LEAK DETECTION SYSTEM _____ FLUIDS _____ DRY

FOR TANKS:

GENERAL APPEARANCE Look Good
LABELED PLAINLY ☒ YES ☐ NO bicolor
BERMED TO PREVENT RUNOFF ☒ YES ☐ NO
CHECK CONTENTS TO ASSURE PROPER FLUID/LABLE MATCH _____

NUMBER OF TANKS FOR BRINE 4 FRESH WATER 1 black
silver

LOADING AREA

Overhead Racks fresh & brine
PROPERLY GRADED AND BERMED TO CONTAIN SPILLAGE ☒ YES ☐ NO
ANY EVIDENCE OF RECENT SPILLAGE ☐ YES ☒ NO
DOES FACILITY HAVE A SPILL COLLECTION SYSTEM ☒ YES ☐ NO
ANY EVIDENCE OF OIL SPILLING/DUMPING ☐ YES ☒ NO

collection system in good shape

MONITORING WELLS

DEPTH _____ FT STATIC WATER LEVEL _____ FT BELOW CASING
SAMPLED THIS VISIT _____ YES _____ NO TEMP _____ Ec _____

COMMENTS

Facility clean & in good shape
see no problems
* Send copy of hydrogeological investigation
to Phil
& monitoring requirements

IN CONSIDERATION OF THE FURNISHING OF THIS REPORT AND ORAL SUGGESTIONS, IT IS AGREED THAT NO RECOMMENDATIONS MADE HEREON SHALL BE CONSTRUED AS AUTHORIZING THE INFRINGEMENT OF ANY VALID PATENT, AND IT IS AGREED

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

South Y
P. O. Box 756
Carlsbad, N.M. 88220
Phone (505) 885-6663

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

October 11, 1988

Environmental Improvement Division
P.O. Box 968
Santa Fe, NM 87504-0968

RE: Procedure on Maintenance Re-Work on
Eugenie Brine Well Eddy County
Sec. 17 T. 22S R 27E

ATT: Kevin Lambert

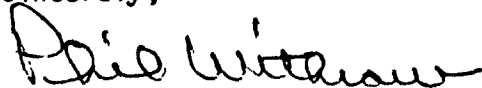
Attached find report on Maintenance Re-working of Eugenie Brine Well per our conversation on October 11, 1988.

Copies attached are:

1. Description (logs) of work performed.
2. Packer installation Plan from Kenco Oil Tools.
3. Pressure test chart.
4. Copies of B & E tickets of work done (with explanation) the day prior to re-work procedure.

Thank you very much for your consideration. If you have any other questions, please don't hesitate to contact us.

Sincerely,



Phil Withrow
Owner/Mgr.
B & E, Inc.

PW/va1

Attachments

XC: Mike Williams, Artesia District
Oil Conservation Division

Our File

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

South Y
P. O. Box 756
Carlsbad, N.M. 88220
Phone (505) 885-6663

Vacuum Trucks
Winch Trucks
Kill Trucks
Frac Tanks

Procedure for Re-working Eugenie Brine Well

Rigged up Mack Case pulling machine unit on Saturday Oct. 8, 1988
at 8:00 a.m.

Called Completion Rentals-ordered reverse unit to rig up at 8:00
a.m. on Saturday Oct. 8, 1988

Called Kenco Oil Tools, Inc. to be on location at 9:00 a.m. on
Saturday Oct. 8, 1988

Pulled tubing

Run 7" packer to 414 ft.

Set packer

Pressured backside to 500 lbs. PSI

Ran 30 minute test

Pressure held at 500 lbs. PSI

Chart attached

Released packer

Pulled tubing

Attached 4 3/4" drill bit and started back in the hole with tubing

Drilled back to depth of 575 ft.

Nippled up well head

Began to produce brine at 8:00 p.m.

JOB COMPLETE

78525M

*B+E, INC.*CONTRACT
NUMBERA.F.E.
NUMBERREQ. OR
PURCHASE ORDER
NUMBERFIELD
ORDER
NUMBER

70446

DATE

10-7-88

ORDERED BY

DELIVERED

FROM:

B+E Yard

TO:

B+E Yard (Location)

LOCATION

*Engine #1*TRUCK OR
UNIT NO.

8403

CAPACITY

140 Bbls

AMOUNT
HAULED

40 Bbls

TIME
OUT

3100

AM

PM

IN

5100

AM

PM

HOURS

CHGD.

2

DELIVERED BY

B+E, INC.

DESCRIPTION

WT.

HRS.

DAYS

RATE

AMOUNT

*Fresh Water**40 Bbls**Kill Truck (by the hour)**2 hrs**Rig up to back side pump 20 Bbls at 1 Bpm**followed by 20 Bbls with max rate with-**out going over 150 psi - pumped last 20 Bbls**at approx 4 Bpm 75 psi. Rig down shut in**Left pressure gauge manifold,*

TOP GAUGE

BOTTOM GAUGE

SET DATE

RELEASE DATE

HIGHWAY MILES

LOADED

UNLOADED

TERMS:

AUTHORIZED BY:

TAX
NET TOTAL

OPERATOR OR DRIVER

*Donald B. Patterson**Thank You*

*B+E*CONTRACT
NUMBERA.F.E.
NUMBERREQ. OR
PURCHASE ORDER
NUMBERFIELD
ORDER
NUMBER

71093

DATE

ORDERED BY

10/2/88

DELIVERED FROM:	<i>Vacuum Trucks</i>	TO:	<i>TK SWD</i>
LOCATION	<i>B+E yard</i>	WELL OR RIG NO.	
TRUCK OR UNIT NO.	<i>7802</i>	CAPACITY	<i>140</i>
		AMOUNT HAULED	<i>135</i>
		TIME OUT	<i>10:58 PM</i>
		TIME IN	<i>1:30 PM</i>
		HOURS CHGD.	
		DELIVERED BY	

DESCRIPTION

WT.

HRS.

DAYS

RATE

AMOUNT

*Disposal**135*

Loaded 15 Bbls. Flw on Kill Truck. Pumped fluid down backside of brine well at yard.

TOP GAUGE

BOTTOM GAUGE

SET DATE

RELEASE DATE

HIGHWAY MILES

LOADED

UNLOADED

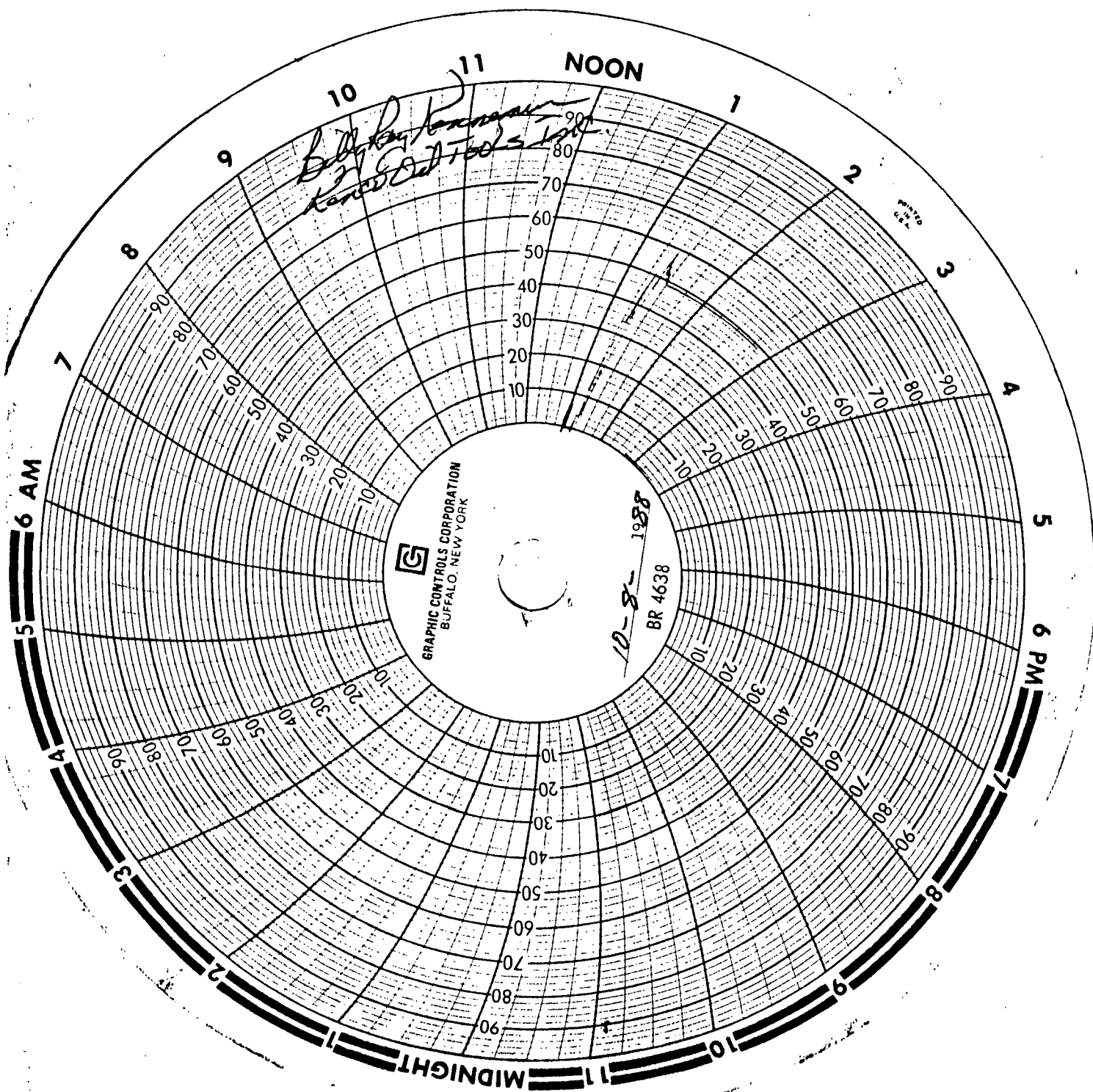
*21**21*

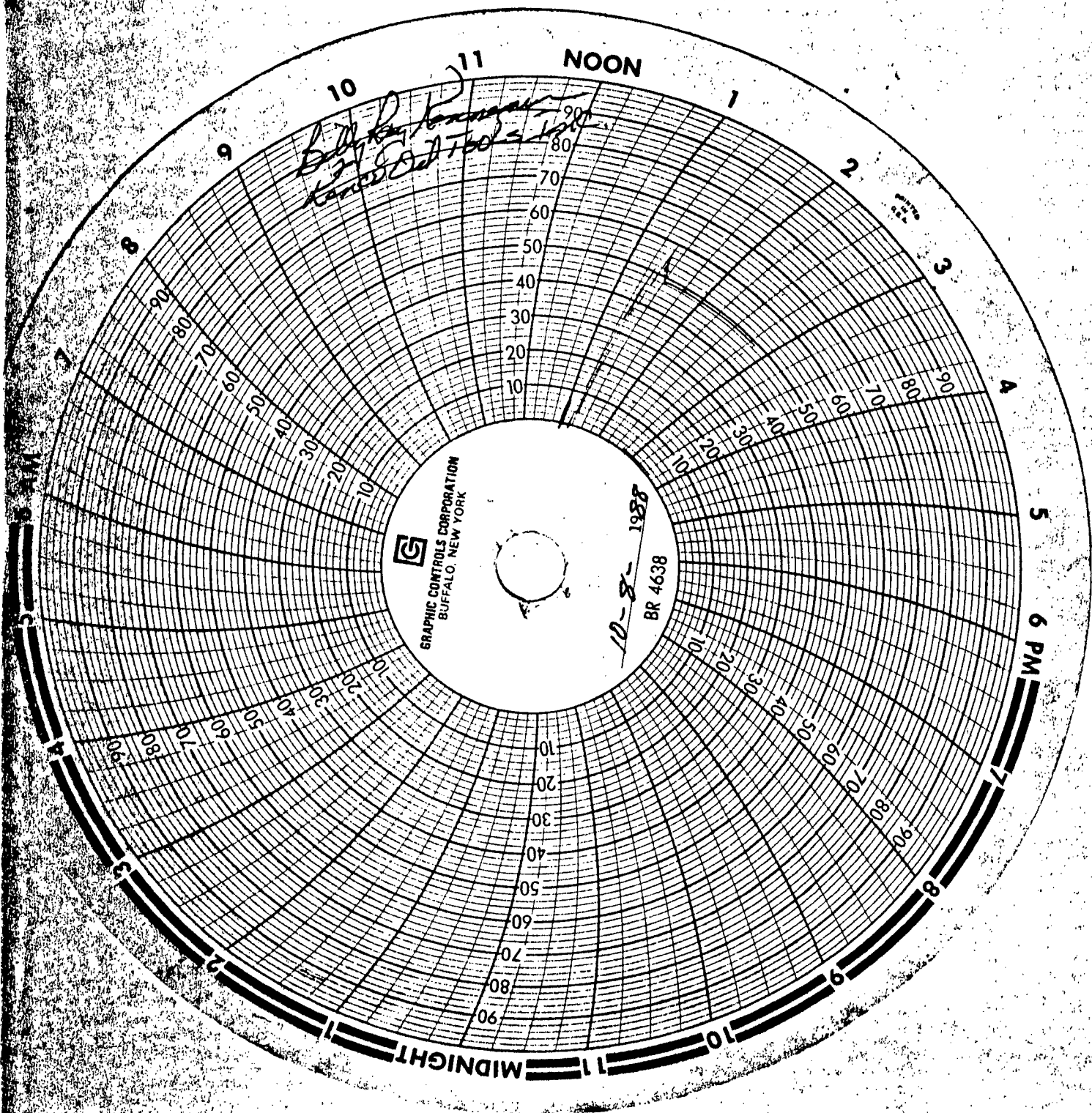
OPERATOR OR DRIVER

TERMS:

AUTHORIZED BY:

TAX
NET TOTAL*Steve Simmons**X**Thank You*





Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

South Y
P. O. Box 756
Carlsbad, N.M. 88220
Phone (505) 885-6663

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

I. GENERAL DESCRIPTION

Eugenie #1	Discharge Well	Drilled 6-30-78
Eugenie #2	Injection Well	Drilled 11-30-79

<u>Main Office:</u>	B & E, Inc. P.O. Box 2292 700 N. Shipp Hobbs, NM 88240	<u>Field Office & Yard:</u>	B & E, Inc. P.O. Box 756 South Y Carlsbad, NM 88220
---------------------	---	-------------------------------------	--

We produce brine water by virtue of injecting fresh water into Eugenie #2; down drilled casing hole to salt formation. Fresh water migrates 353 ft. across to Eugenie #1 and brine water is pumped out and store in 4-1000 bbl flake coated tanks manufactured by Permain Tank & Manufacturing, Inc. out of Odessa, TX. These tanks were purchased and set in December 1985. No rust or corrosion takes place in these tanks.,

Eugenie #1 was drilled on 6-30-78; ran tubing and set, injected fresh water from City of Carlsbad thru meter and began to dissolve salt section. Pumped fresh thru it and stored brine in the above mentioned storage tanks. Eugenie #2 was drilled on 11-30-79; began injection thru salt formation and discharging brine water thru #1 into storage tanks.

SEE ATTACHED MAP A - Facility Plot Plan

SEE ATTACHED - Legals & Description of Operational History

SEE ATTACHED - USGS Topo Map

SUGGESTED OUTLINE FOR DISCHARGE PLAN SUBMITTAL:

In Situ Extraction Facilities

I. GENERAL DESCRIPTION

- A. Name of facility and name and address of responsible party
- B. Location: county, township, range and ~~1/4~~ Section or
Latitude/longitude coordinates (3-106.C.2)
-indicate on USGS topo map, 7 $\frac{1}{2}$ ' or 15' quad
- C. Schematic or plot plan of facility
-include short verbal description of process, including transportation
elements (e.g., loading trucks), and
-quantity, quality, and flow characteristics of the discharge
(3-101.C.1)
- D. Operational history of injection and production at facility
(5-203.C.4)
-include dates of well construction and beginning of injection

Commencing at the Northwest corner of the SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 17, Township 22 South, Range 27 East, N.M.P.M. Thence on an assumed bearing of due South a distance of 286.9 feet; Thence South 59°30' East a distance of 64.9 feet; Thence South 66°50' East a distance of 100 feet; Thence South 72°40' East a distance of 100 feet; Thence South 78°05' East a distance of 100 feet; Thence South 83°58' East a distance of 104.5 feet; Thence North 0°43' West a distance of 427 feet to the South right-of-way line of the connecting road between U. S. Highways 62 and 285; Thence Easterly along the said right-of-way line to its intersection with a line parallel to and 50 feet distant, the said intersecting point being marked with an iron rail set in concrete and being the point of beginning of the tract herein described; Thence Southeasterly along the said right-of-way line to a point that bears South 74°45' East a distance of 223.5 feet; Thence South 60°39' East along the said highway right-of-way a distance of 28.4 feet to the Northwest corner of the Mays Lumber Company Tract; Thence South 1°56' West along the West line of the said tract a distance of 350 feet; Thence at an angle to the left of 86°02' a distance of 155 feet to the Southeast corner of the said tract; Thence South along the boundary between the Benz-Fisher Tracts as shown in the agreement between the two parties a distance of 9.5 feet, more or less, to the North boundary line of the U.S.R.S. Main Canal; Thence Westerly along the said right-of-way a distance of 372.5 feet; the said point being marked with an iron rail set in concrete; Thence North 0°43' West a distance of 426.5 feet to the point of beginning.

CARLSBAD BRINE STATION

Permian's Carlsbad Brine Station is located in the SW/4 - SW/4 Section 17, Township 22 South, Range 27 East, Eddy County, New Mexico. This location is at the intersection of US Highways 285 and 180 on the Southern outskirts of the city of Carlsbad. See drawing number 1 and map 2. The pumping rate is 68 GPM at 150 PSI Pressure.

Two brine wells were drilled at this site: Eugenie No. 1 and No. 2. The No. 1 well was drilled in 1978 to a total depth of 663'. A string of 9 5/8" O.D., 40#/ft. casing was set at 349' and 170 sacks of cement was circulated. A string of 7" O.D. 23#/ft. casing was set at 456' and 135 sacks of cement circulated. 587' of 2 7/8" tubing was hung in the well, bottomed in the salt section. A drillers log, exhibit 1, is attached.

After completion of this well, in August, 1978, the production of adequate supplies of brine could not be maintained due to the relatively thin section of salt being washed, i.e. 456' to 547'. The second well Eugenie No. 2 was drilled, in November, 1979, and fractured across to the No. 1 well. This well was drilled to a total depth of 610'. 5 1/2", 17#/ft. casing was set at 285' and 125 sacks of cement circulated. 2 1/2", 6.5#/ft. tubing was set at 583' and 100 sacks of cement circulated. The well was fractured across to No. 1 well through a salt and shale stringer 576' to 592'.

Exhibit 2, attached is the drillers log for the No. 2 well, Fresh Water for operations is obtained from the city of Carlsbad from a connection at the lease site. The fresh water is pumped down the tubing of the No. 2 well and brine circulated up the tubing of the No. 1 well to the 500 bbl. brine storage tanks. Water circulation at a rate of 70 GPM is maintained by a booster pump taking suction from the Carlsbad water system. Truck loading facilities have been provided adjacent to the No. 1 brine well -

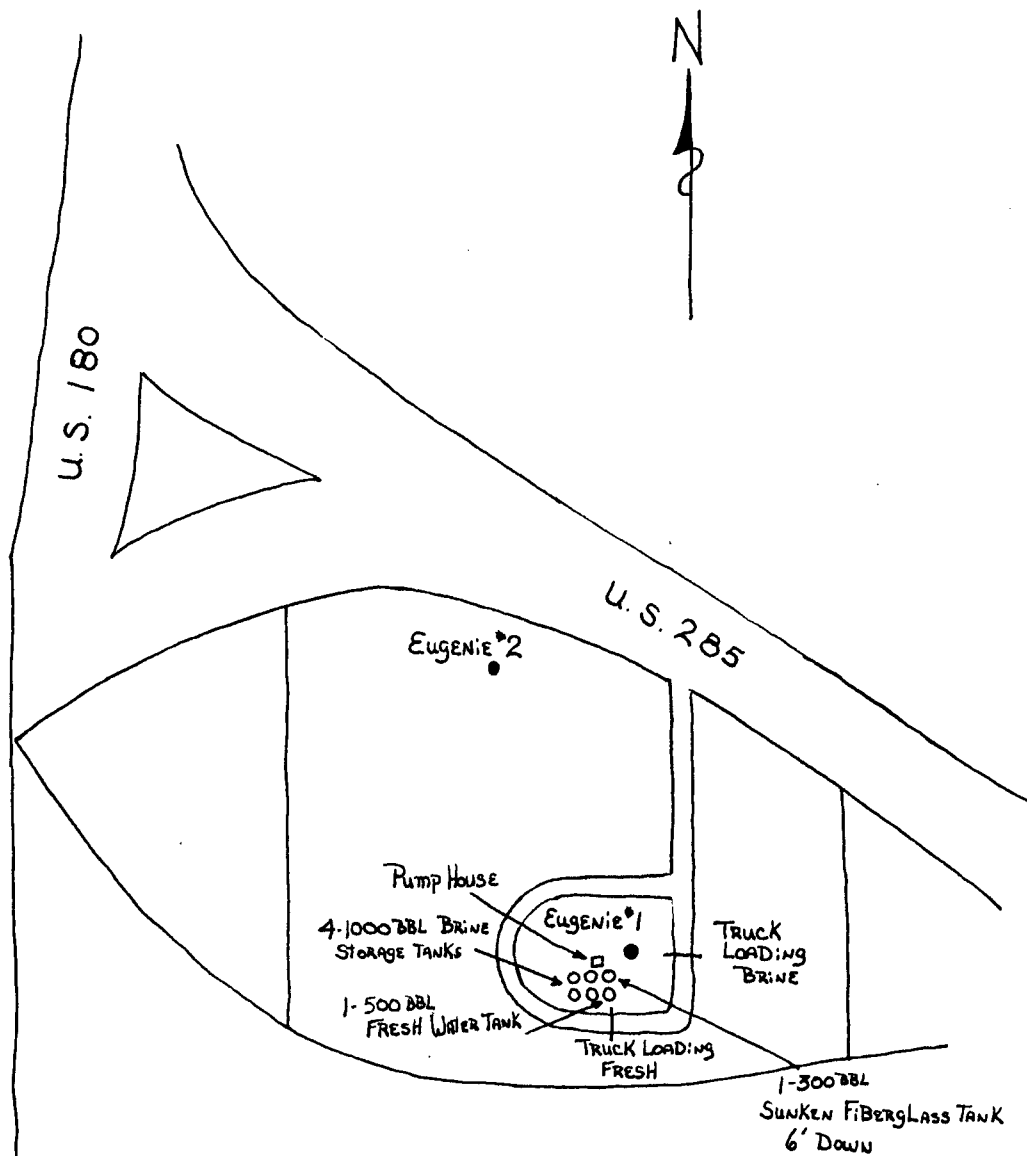
A search of the area surrounding the brine station did not reveal the presence of any fresh water wells.

The flood potential of this station appears remote. It is approximately 50' above the normal level of the Pecos River, 20' above the downtown area of Carlsbad and the highways provide excellent drainage to the west. See USGS Map 2, attached.

Sample connections are provided at the well heads of the brine wells.

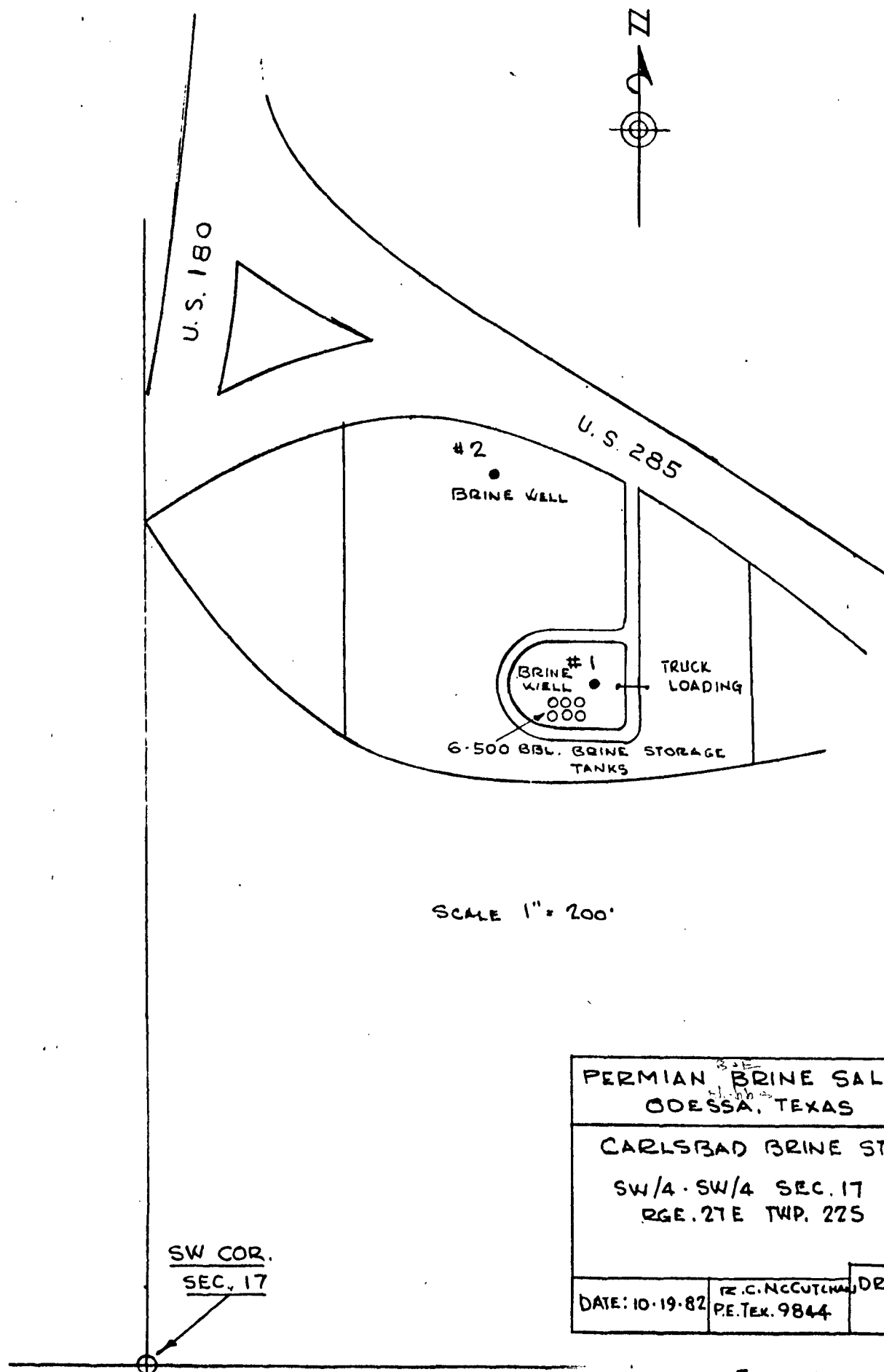
A drillers logs for both wells are attached, exhibits 1 & 2 which describes the lithological character of the underground formations.

Since there are no water wells in the vicinity of the brine station no facilities for monitoring are available.

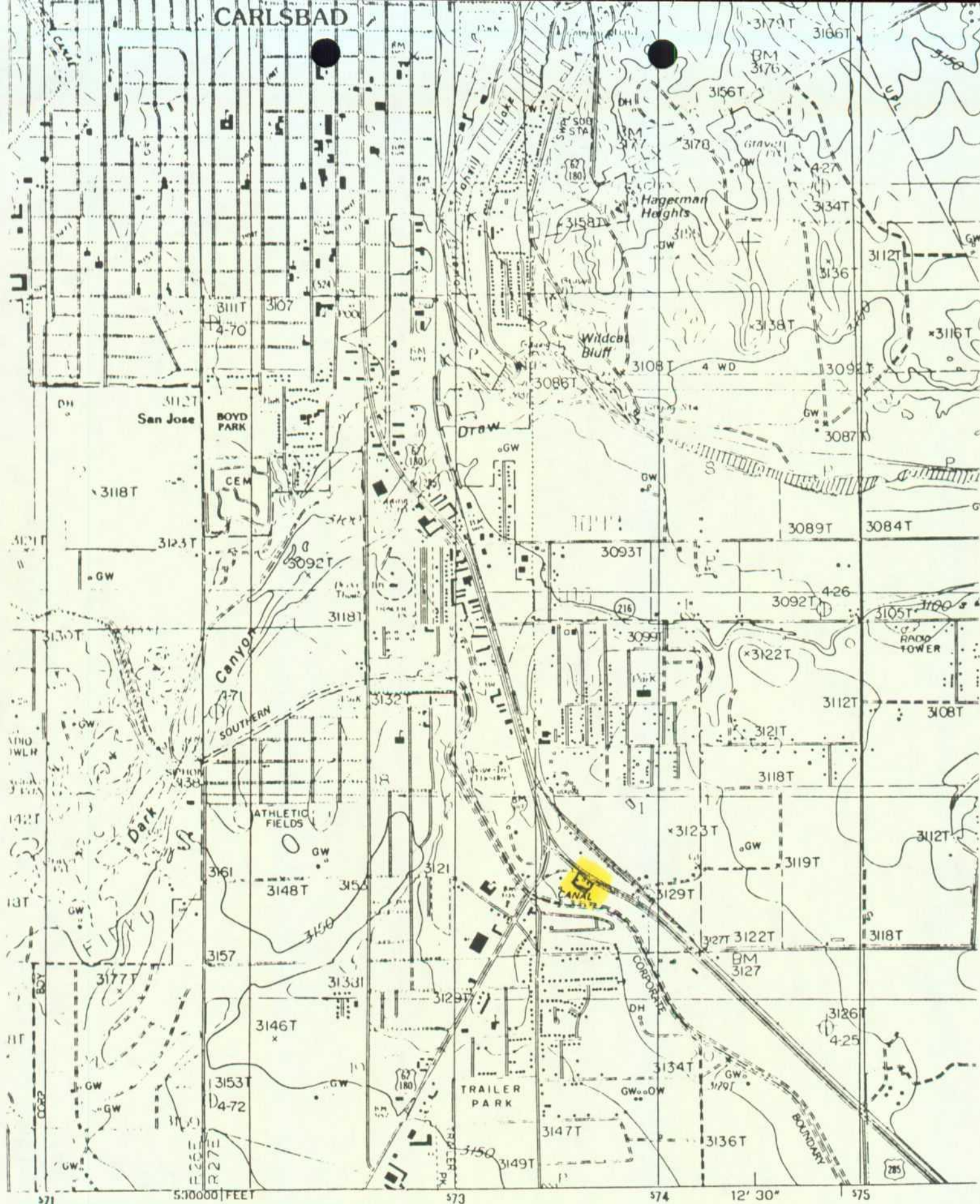


Facility Plot Plan
Map A

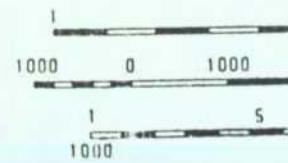
B&E BRINE SALES INC. HOBBS N. MEXICO P.O. BOX 2292		
EUGENIE #1 - EUGENIE #2 BRINE STATION SW/4 - SW/4 SEC. 17 RGE. 27 E TWP. 22 S		
DATE 5-7-87	GENE PRUITT B&E INC	REVISED DRAWING #1

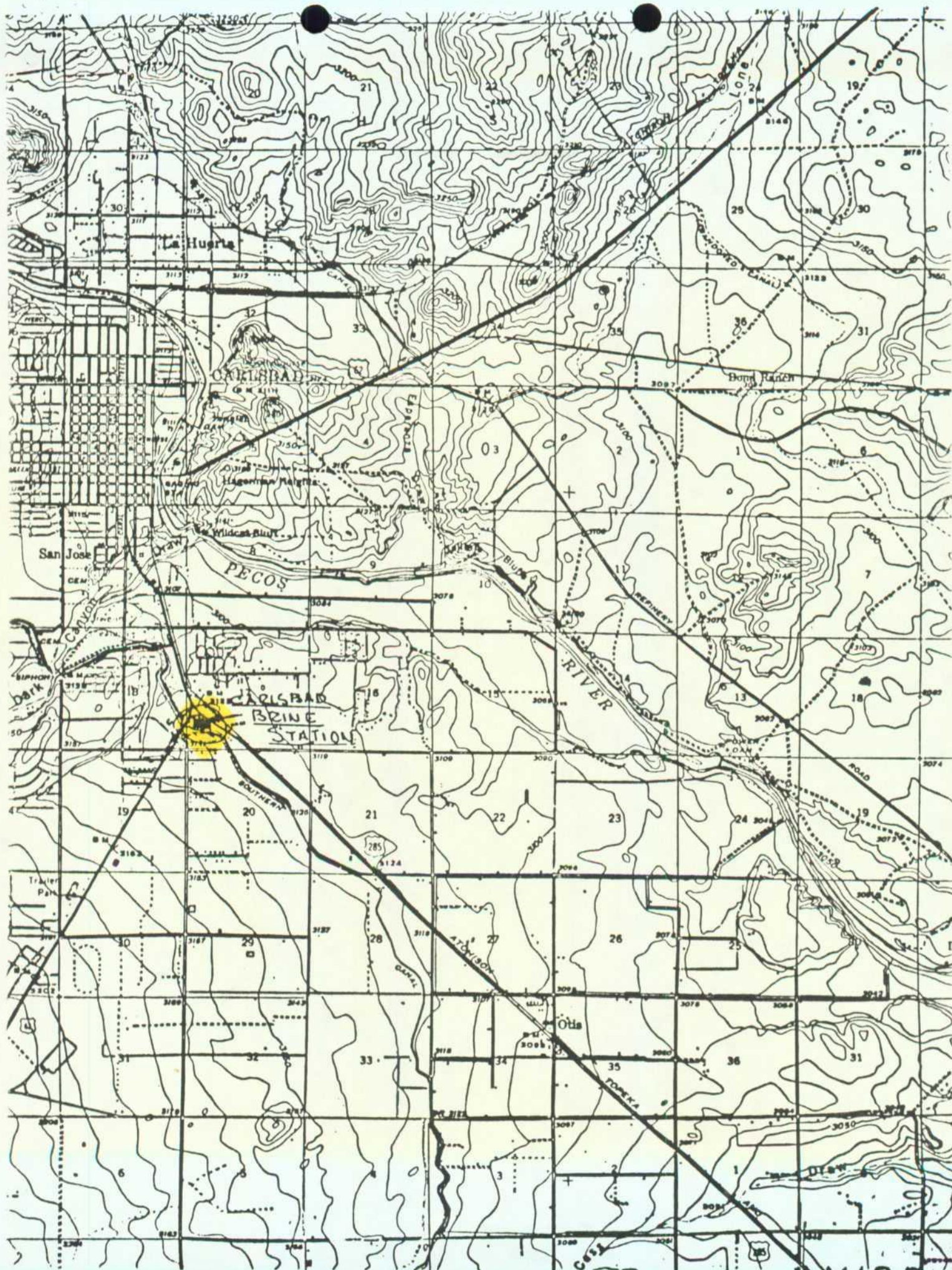


CARLSBAD



PREPARED BY THE UNITED STATES GEOLOGICAL SURVEY
 FROM AERIAL PHOTOGRAPHS TAKEN 1977
 CHECKED 1978 MAP EDITED 1985
 PROJECTION TRANSVERSE MERCATOR
 SPHEROID GAYLORD C. KENT
 STATE GRID TICS NEW MEXICO, EAST ZONE
 DECLINATION 0°26' EAST
 TRUE NORTH DECLINATION 10° EAST





*Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal*

B & E, INC.

South Y
P. O. Box 756
Carlsbad, N.M. 88220
Phone (505) 885-6663

*Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks*

II. DESCRIPTION OF FACILITY

A. Surface Facilities

1. See attached Map D - Facility Storage Dimensions.
2. Also see attached Map D. - 4-1000 bbl tanks are manifolded together with 6" PVC pipe. Flowline leaving Eugenie #2 (discharge well) to the storage tanks is 2½" PVC Pipe. Underground Flowline to the brine overhead loading rack is 4" PVC Pipe
3. Due to the continuing depressed drilling rig activity, we have gone weeks and sometimes months that we haven't produced any brine to sell. It is impossible due to the above stated facts to give a daily figure of discharge. Please refer to Part IV - (Procedures to Protect Ground Water Quality) No. 5.
4. 4-1000 bbls welded tanks; sealed flake line plastic coated interiors.

B. Underground Facilities

Please see all remaining attached data under Part II.

Map B
Map C-1
Map C-2
Drilling & Completion Log
Pressure Charts
Pipe Casing Specs
NMOCC Reports & Data
ETC.

II. DESCRIPTION OF FACILITY

A. Surface Facilities

1. Dimension of storage and/or disposal pond(s)/tank(s)
-include side slope angle for ponds
2. Length and type of pipe(s) carrying fluids to from well to/from pond(s)/tank(s)
3. Average daily discharge to and, if applicable, withdrawal from pond/tank (3-106.C.1)
4. Type of pond liner, if any
-include manufacturer's specs, technique used to seal seams

B. Underground Facilities

1. Depth, diameter, production and protection casing and tubing specs of well(s)
-include schematic drawings (5-102.B.1.d.8.; 5-210.B.13; 5-205.A.3.d.)
2. Construction procedures, including cementing and casing program, logging procedures, deviation checks and a drilling, testing and coring program (5-102.B.1.d.9.; 5-210.B.14; 5-204.B.2.b; 5-205.A.3.d,e). Include logs and results of tests for all new and worked-over wells (5-205.A.4).
3. Stimulation program (5-102.B.1.d.6.; 5-210.B.11). Note: 5-206 limitations.
4. Maximum and average injection pressures, injection volume, and other injection procedures (5-102.B.1.d.7.; 5-210.B.12; 5-203.B.1; 5-205.A.3.b,f).
5. Notification prior to drilling, casing etc. (5-205.A.5).
6. The proposed formation testing program to obtain an analysis or description, whichever the Director requires, of the chemical, physical and radiological characteristics of, and other information on, the receiving formation (5-102.B.1.d.5)

U.S. 285

EUGENIE*2

TIRE
BUILDING

OLD
OFFICE
BUILDING

FUEL STORAGE

OFFICE

SHOP

TRUCK PARKING

TRUCK PARKING

TRUCK PARKING

1000 bbl tanks - 16' h }
21' 6" w }

2" PVC supply
line to storage
tanks

underground pipe
4" PVC to
overhead loading

EUGENIE*1

1000 BBL
BRINE
TANK

1000 BBL
BRINE
TANK

300 BBL
FIBERGLASS
TANK
SUNSHINE 6

1000 BBL
BRINE
TANK

1000 BBL
BRINE
TANK

500 BBL
FRESH
WATER
TANK

4" OVERHEAD VALVE IN CENTER
BRINE WATER LOADING TRUCK
15' high

Dimensions
(1' high
21' 6" wide)

6" PVC pipe
manifolded
(brine)

underground
fresh water
3" line to overhead

4" OVERHEAD VALVE IN CENTER
FRESH WATER LOADING TRUCK
15' high

Facility
Storage
dimensions

M.H.D.

OVERHEAD DRAWING

B&E Inc.

SOUTH Y CARLEBAND NJ 08820

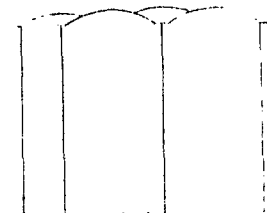
DATE

May 7, 1987

Gene Hewitt

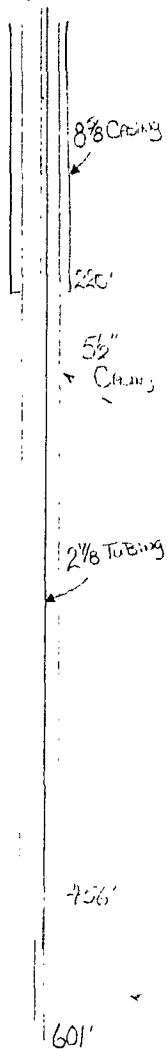
B&E Inc

4-1000 BBL BRINE
STORAGE TANKS

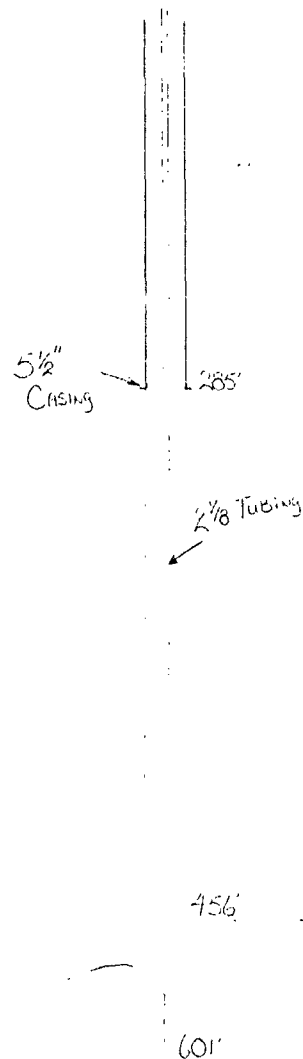


EUGENIE #1
Discharge Brine
To Storage Tanks

GROUND SURFACE



EUGENIE #2
FW Injection
Down hole



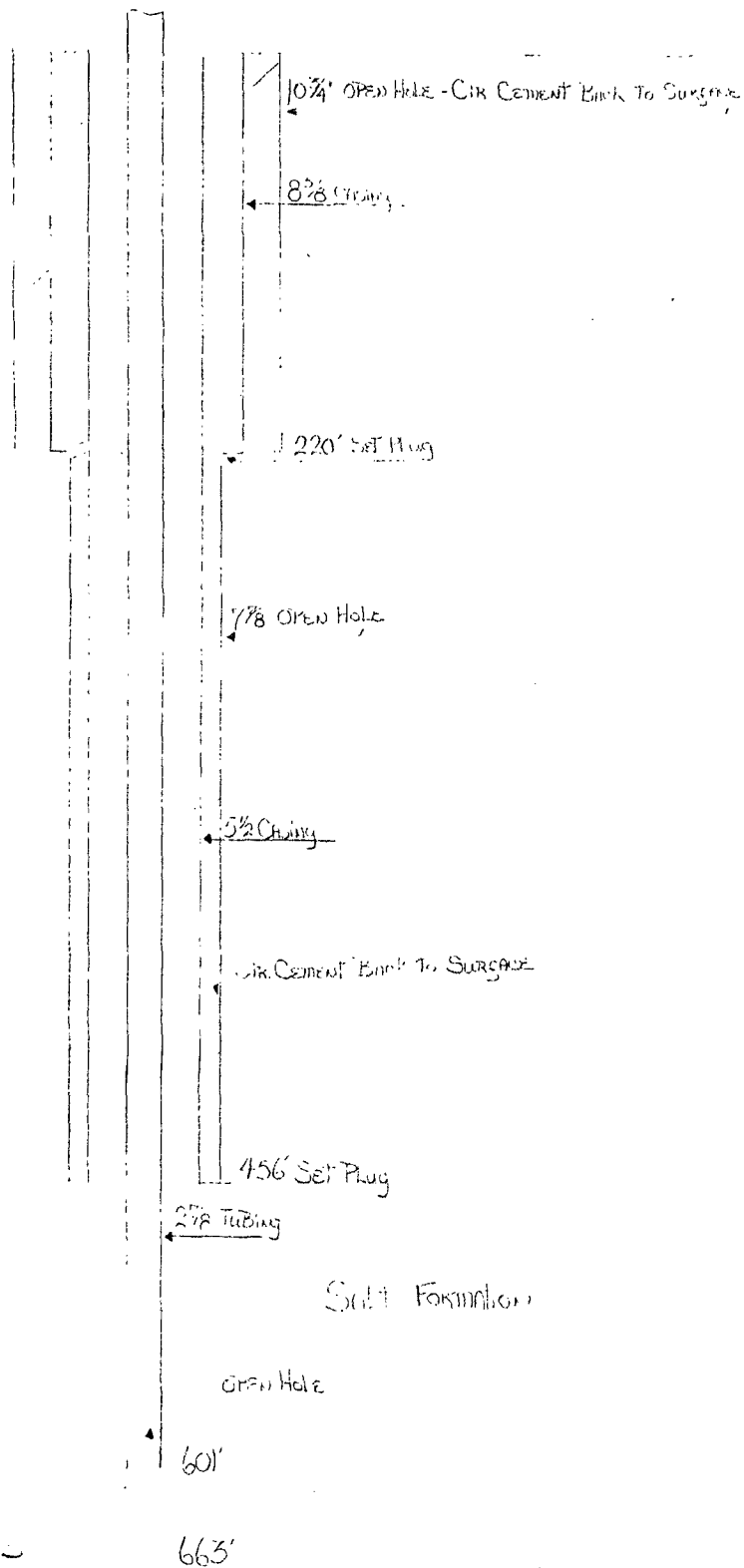
Top of Salt
SALT FORMATION

663'

Depth, Diameter
Casing & Tubing
Specs
Map B

WELL SURFACE SCHEMATIC DRAWING
of Eugenie #1 & Eugenie #2
B&E Inc. SOUTH Y CARLSBAD 11.7M 88220
DATE May 7, 1987
GENE PRUITT
B&E Inc.

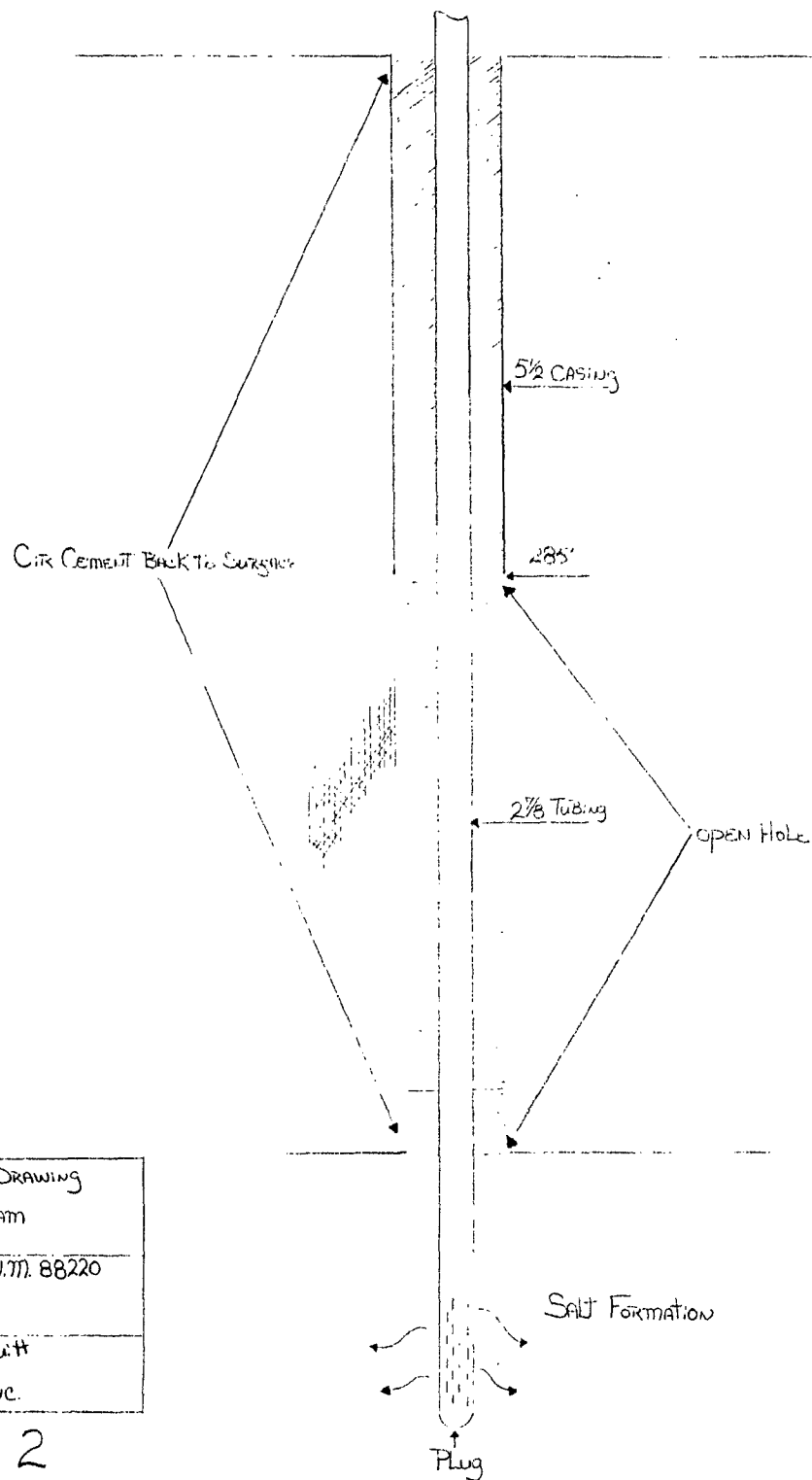
EUGENIE*1
B/W DISCHARGE



SUB-SURFACE SCHEMATIC DRAWING OF CEMENTING & CASING PROGRAM	
B+E INC. SMITH Y CARLSBAD N.M. 88220 EUGENIE*1	
DATE MAY 7, 1987	GENE PRUITT B+E INC.

Map C-1
Cementing & Casing Specs

EUGENIE 2
FW Injection
Down Hole



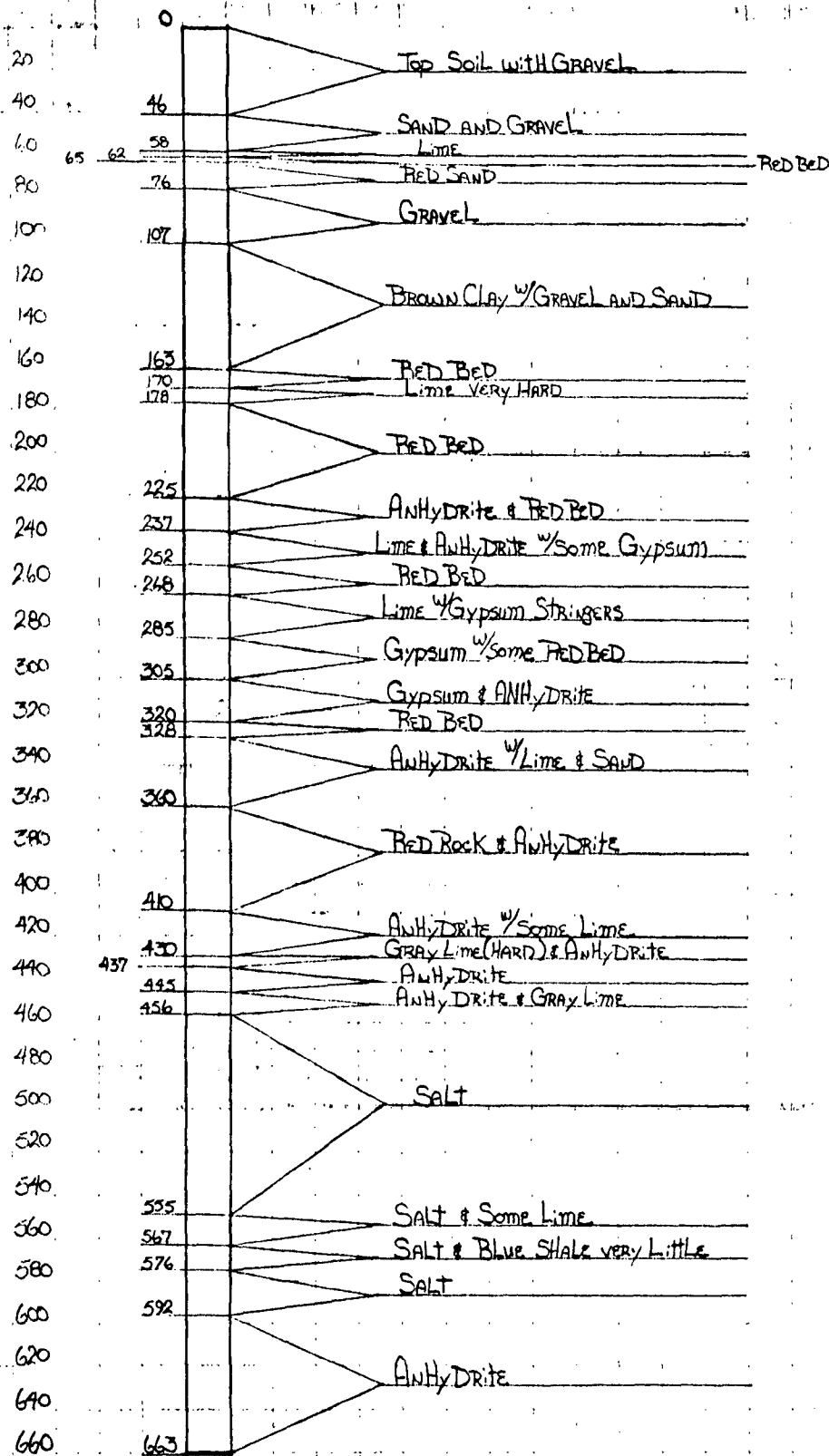
SUB-SURFACE SCHEMATIC DRAWING OF CEMENTING & CASING PROGRAM	
B&E INC. SOUTH Y CARLSBAD N.M. 88220	
EUGENIE #2	
DATE May 7, 1987	GENE PRUITT B&E INC.

MAP C - 2

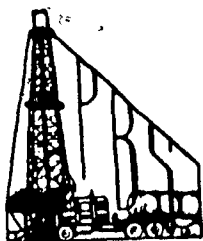
Cementing & Casing Specs

5'8"

Eugenie* 1 - discharge well $\frac{1}{4}$ " = 20 Foot



Map E = #1
 Testing & Coring
 Program



PERMIAN BRINE SALES, INC.

24-HOUR BRINE SERVICE THROUGHOUT THE PERMIAN BASIN

ODESSA, TEXAS

79760

PHONE 332-0531

P. O. BOX 1591

JUNE 30, 1978

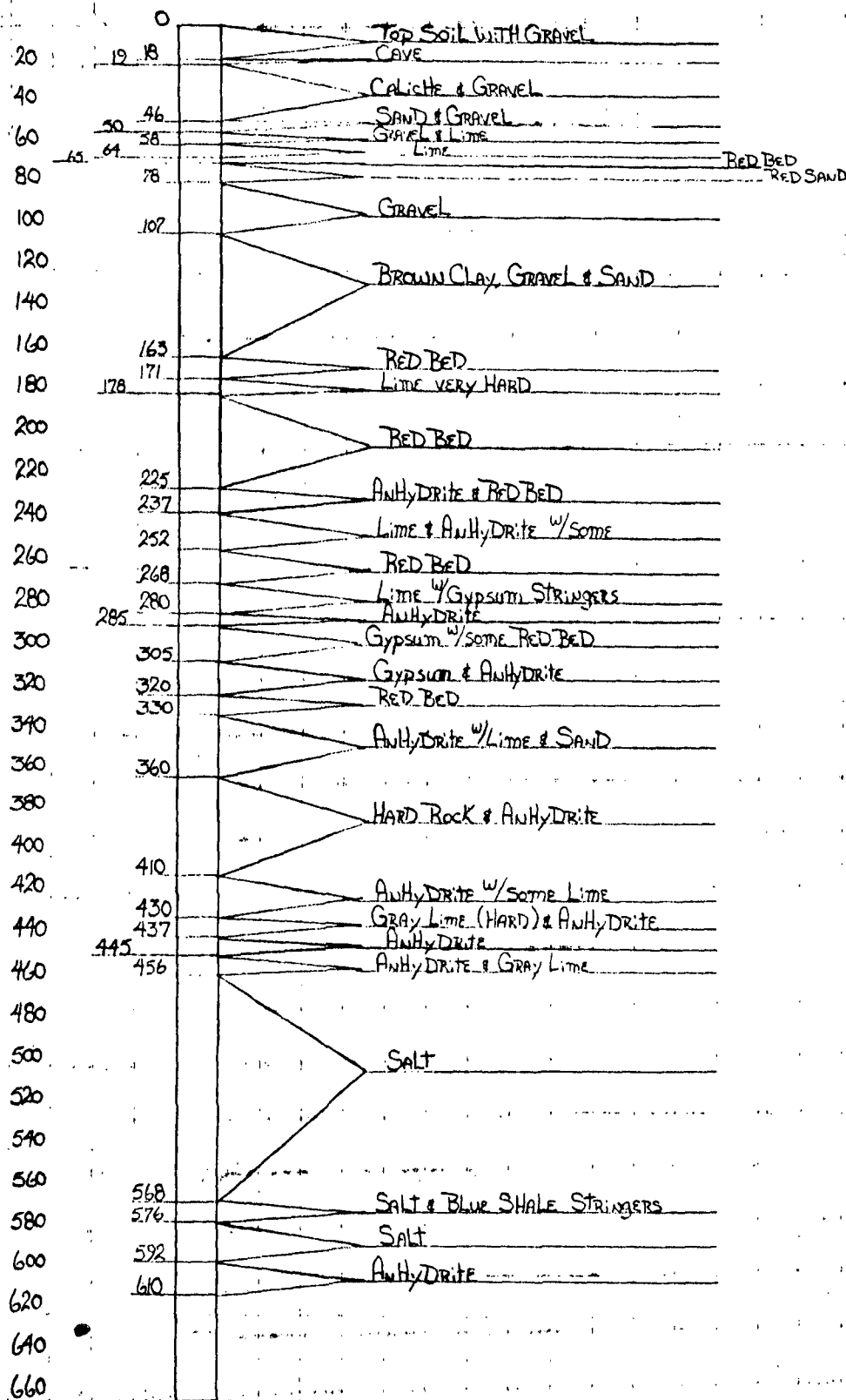
EXHIBIT No. 1

EUGENIE No. 1 - Sec 17-T22S-R27E

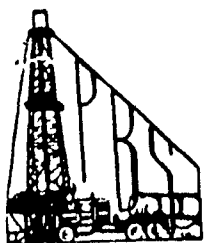
Eddy County, New Mexico

0 to 46	-----	TOP SOIL WITH GRAVEL
46 to 58	-----	SAND AND GRAVEL
58 to 62	-----	LIME
62 to 65	-----	RED BED
65 to 76	-----	PED SAND
76 to 107	-----	GRAVEL
107 to 163	-----	BROWN CLAY W/GRAVEL AND SAND
163 to 170	-----	RED BED
170 to 178	-----	LIME VERY HARD
178 to 225	-----	RED BED
225 to 237	-----	ANHYDRITE & RED BED
237 to 252	-----	LIME & ANHYDRITE W/SOME GYPSUM
252 to 268	-----	RED BED
268 to 285	-----	LIME W/GYPSUM STRINGERS
285 to 305	-----	GYPSUM W/SOME RED BED
305 to 320	-----	GYPSUM & ANHYDRITE
320 to 328	-----	PED BED
328 to 360	-----	ANHYDRITE W/LIME & SAND
360 to 410	-----	RED ROCK & ANHYDRITE
410 to 430	-----	ANHYDRITE W/SOME LIME
430 to 437	-----	GRAY LIME (HARD) & ANHYDRITE
437 to 445	-----	ANHYDRITE
445 to 456	-----	ANHYDRITE & GRAY LIME
456 to 555	-----	SALT
555 to 567	-----	SALT & SOME LIME
567 to 576	-----	SALT & <u>BLUE SHALE VERY LITTLE</u>
576 to 592	-----	SALT
592 to 663	-----	ANHYDRITE

EUGENIE 2 - injection well 1/4" - 20 Foot



Map E = #2
Testing & Coring
Program



P. O. BOX 1591

PERMIAN BRINE SALES, INC.

24-HOUR BRINE SERVICE THROUGHOUT THE PERMIAN BASIN

ODESSA, TEXAS

79760

PHONE 332-0831

November 30, 1979

EXHIBIT NO. 2

EUGENIE No.2 - Sec 17-T22S-R27E

PAGE 1

Carlsbad, New Mexico

0 to 18	-----	TOP SOIL WITH GRAVEL
18 to 19	-----	CAVE
19 to 46	-----	CALICHE & GRAVEL
46 to 50	-----	SAND & GRAVEL
50 to 58	-----	GRAVEL & LIME
58 to 64	-----	LIME
64 to 65	-----	RED BEDS
65 to 78	-----	RED SAND
78 to 107	-----	GRAVEL
107 to 163	-----	BROWN CLAY, GRAVEL & SAND
163 to 171	-----	RED BEDS
171 to 178	-----	LIME VERY HARD
178 to 225	-----	RED BEDS
225 to 237	-----	ANHYDRITE & RED BEDS
237 to 252	-----	LIME & ANHYDRITE W/ SOME
252 to 268	-----	RED BED
268 to 280	-----	LIME W/GYP. STRINGERS
280 to 285	-----	ANHYDRITE
285 to 305	-----	GYP. W/SOME RED BEDS
305 to 320	-----	GYP. & ANHYDRITE
320 to 330	-----	RED BEDS
330 to 360	-----	ANHYDRITE W/LIME & SAND

360 to 410-----HARD ROCK & ANHYDRITE
410 to 430-----ANHYDRITE W/SOME LIME
430 to 437-----GRAY LINE (HARD) & ANHYDR
437 to 445-----ANHYDRITE
445 to 456-----ANHYDRITE & GRAY LIME
456 to 568-----SALT
568 to 576-----SALT & BLUE SHALE STRINGE
576 to 592-----SALT
592 to 610-----ANHYDRITE

January 15, 1980

*ALH
File
Copy*

Mr. W.A. Gressett
New Mexico Oil Conservation Commission
P.O. Drawer DD
Artesia, New Mexico 88210

Dear Mr. Gressett:

Re: Eugenie No. 2
Sec. 17 T 22S-R27E

Attached are forms 103 and 105 for our drilling and completing the second brine well on our location at Carlsbad.

Form 103 is for the completion of the well. Form 105 has the cable tool drilling log attached.

If additional information is desired, please advise.

Very truly yours,

PERMIAN BRINE SALES, INC.

A.L. Hickerson
President

ALH/sp
Attachment

cc Phil Withrow

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OPERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION WELL COMPLETION OR RECOMPLETION REPORT AND LOG

Form C-105
Revised 10-68

5a. Lease and Type of Lease
State ☐ Fee ☒
5b. Lease oil & gas Lease No.

1. TYPE OF WELL

OIL WELL ☐ GAS WELL ☐ DRY ☐ OTHER **Brine Water Well**

2. TYPE OF COMPLETION

NEW WELL ☒ WORK OVER ☐ DEEPEN ☐ PLUG BACK ☐ DIFF. HORIZ. ☐ OTHER

Name of Operator

Permian Brine Sales & Service, Inc.

Address of Operator

Box 1591, 212 W. 5th St., Odessa, Texas 79760

Location of Well

3. LETTER **M** LOCATED **1288** FEET FROM THE **South** LINE AND **497** FEET FROM

4. **West** LINE OF SEC. **17** TWP. **22S** RGE. **27E** NMPM

5. Date Spudded **Oct. 22, 1979** 16. Date T.D. Reached **11-19-79** 17. Date Compl. (Ready to Prod.) **11-22-79** 18. Cementing (DF, RKB, RF, GR, etc.) **GL 3126** 19. Flow: Condufflaxia

6. Total Depth **618'** 21. Plug Back T.D. **583'** 22. If Multiple Compl., How Many **1** 23. Intervals Drilled By **Rotary Tools** 24. Casing Tools **X**

4. Producing Interval(s), of this completion -- Top, Bottom, Range

Salt Top 456' Bottom 592

6. Type Electric and Other Location

None

No

27. Was Well Cased

No

CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
5 1/2"	17#	285'	8"	100 sx Circulated	None
2 1/2"	6.5#	583'	5"	100 sx Circulated	None

7. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN
		None		

8. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
	None	

1. Perforation record (Interval, size and number)

None

3. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL AMOUNT AND KIND MATERIAL USED

None

9. PRODUCTION

10. Date First Production **11-22-79** Production Method (Flowing, gas lift, pumping -- Size and type pump) **Water Pump** Well Status (Prod. or Shut-in) **Brine Water**

Date of Test	Hours Tested	Choke Size	Prod'n. Per Test Period	Oil -- PHL	Gas -- MCF	Water -- PHL	Grav. -- API (Corr.)
Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil -- PHL	Gas -- MCF	Water -- PHL	Grav. -- API (Corr.)	

4. Disposition of Gas (Sold, used for fuel, vented, etc.)

Test Witnessed By

5. List of Attachments

6. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNED **A.L. Hickerson**

TITLE **President**

DATE **11-30-79**

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ILE	
S.G.S.	
AND OFFICE	
PERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-101
Supersedes Old
C-102 and C-103
Effective 1-1-65

5a. Indicate Type of Lease	
State ☐	Fee ☒
5. State Oil & Gas Lease No.	
7. Unit Agreement Name	
8. Farm or Lease Name	
Eugenie	
9. Well No.	
2	
10. Field and Pool, or Wildcat	
12. County	
Eddy	

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-1011 FOR SUCH PROPOSALS.)

OIL WELL ☐	GAS WELL ☐	OTHER: Brine Water Well
Name of Operator		
Permian Brine Sales & Service, Inc.		
Address of Operator		
Box 1591, 212 W. 5th St., Odessa, Texas 79760		
Location of Well		
UNIT LETTER M	1288	FEET FROM THE South LINE AND 497
THE West	LINE, SECTION 17	TOWNSHIP 22S RANGE 27E NMPM.

15. Elevation (Show whether DF, RT, GR, etc.)

GL 3126

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

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☒
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	PLUG AND ABANDONMENT ☐
PULL OR ALTER CASING ☐	OTHER ☐	CASING TEST AND CEMENT JOBS ☐	OTHER ☐

7. 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.

It is proposed to set the 5 1/2" casing and cement @ 285' instead of 380' as originally approved. All fresh water has been penetrated and the red beds are sloughing on the cable tools.

COMPLETION
Ran 285' of 17# 5 1/2" CASING. B.T. cemented on 11/6/79
WITH 125 SK CLASS C CEMENT WITH 2% A-7 Calcium Chloride.
Cement circulated. LET SET 36 HOURS. Drilled out PLUG WITH CABLE
TOOLS. NO WATER.
Ran 583' of 6.5# 2 7/8 TUBING. B.T. Cemented 11/20/79
WITH 100 SK OF CLASS C CEMENT WITH 2% A-7 Calcium Chloride
Cement circulated. LET SET 24 HOURS.
NOV 21, 1979 FRACTURED ACROSS TO EUGENIE No 1 in SHALE
STRINGER BETWEEN N 57C & 592.

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

SIGNED A.L. Hickerson TITLE President DATE

APPROVED BY TITLE DATE

CONDITIONS OF APPROVAL, IF ANY:

P.B.S. & S.
BOX 1591
ODESSA, TEXAS 79760

JUNE 30, 1978

SALT & 1

0 to 46	TOP SOIL WITH GRAVEL
46 to 58	SAND & GRAVEL
58 to 62	LIME
62 to 65	RED BED
65 to 76	RED SAND
76 to 107	GRAVEL
107 to 163	BROWN CLAY W/GRAVEL & SAND
163 to 170	RED BED
170 to 178	LIME VERY HARD
178 to 225	RED BED
225 to 237	ANHYDRITE & RED BED
237 to 252	LIME & ANHYDRITE W/SOME GYP.
252 to 268	RED BED
268 to 285	LIME W/GYP. STRINGERS
285 to 305	GYP. W/SOME RED BED
305 to 320	GYP. & ANHYDRITE
320 to 328	RED BED
328 to 360	ANHYDRITE W/LIME & SAND
360 to 410	RED ROCK & ANHYDRITE
410 to 430	ANHYDRITE W/SOME LIME
430 to 437	GRAY LINE (HARD) & ANHYDRITE
437 to 445	ANHYDRITE
445 to 456	ANHYDRITE & GRAY LIME
456 to 555	SALT
555 to 567	SALT & SOME LIME
567 to 576	<u>SALT & BLUE SHALE VERY LITTLE</u>
576 to 592	SALT
592 to 663	ANHYDRITE

ASING 349

1" - 456

1" - 587

P.B.S. & S.

JUNE 30, 1978

BOX 1591

ODESSA, TEXAS 79760

SALT & 1

0 to 46 -----	TOP SOIL WITH GRAVEL
46 to 58 -----	SAND & GRAVEL
58 to 62 -----	LIME
62 to 65 -----	RED BED
65 to 76 -----	RED SAND
76 to 107 -----	GRAVEL
107 to 163 -----	BROWN CLAY W/GRAVEL & SAND
163 to 170 -----	RED BED
170 to 178 -----	LIME VERY HARD
178 to 225 -----	RED BED
225 to 237 -----	ANHYDRITE & RED BED
237 to 252 -----	LIME & ANHYDRITE W/SOME GYP.
252 to 268 -----	RED BED
268 to 285 -----	LIME W/GYP. STRINGERS
285 to 305 -----	GYP. W/SOME RED BED
305 to 320 -----	GYP. & ANHYDRITE
320 to 328 -----	RED BED



BJ-HUGHES INC.
A SUBSIDIARY OF HUGHES TOOL COMPANY

P. O. BOX 2250 LONG BEACH, CALIFORNIA 90801

INVOICE

TERMS: NET 20TH PROX.
STATEMENTS ON REQUEST ONLY

PAYABLE TO: LONG BEACH, CALIFORNIA

DATE 11-19-79 NO. 30-83615

DATE OF JOB <u>11/6/79</u>	DISTRICT <u>Carlsbad NM</u>	NEW WELL ☒	OLD WELL ☐	CUSTOMER'S ORDER NO.
CUSTOMER <u>Permian Brine Sales</u>	WELL NO. <u>EUGENIA #2</u>	LEASE		
ADDRESS <u>212 W. 5th St.</u>	COUNTY <u>EDDY</u>	STATE <u>N.M.</u>		
CITY <u>Odessa</u>	FIELD			
AUTHORIZED BY <u>48560</u>	WELL OWNER			

(OFFICE USE ONLY)

PERMIAN BRINE SALES & SERVICE INC.
212 WEST 5TH STREET
ODESSA TX 79760

TRUCK CALLED	DATE	TIME
	<u>11/6</u>	<u>8:30 AM</u>
ARRIVED AT JOB		<u>10:30 AM</u>
START OPERATION		<u>11:09 AM</u>
FINISH OPERATION		<u>12:10 PM</u>
RELEASED		<u>12:30 PM</u>
MILES FROM STATION TO WELL	<u>1</u>	
BULK TICKET NO.	<u>B77-32287</u>	

Type Job: <u>Casing</u>	Depth: <u>289</u> Ft.	CEMENT DATA: Bulk ☐ Sacks ☐
Surface ☐ Intermediate ☐ Production ☐ Remedial ☐	Sacks	Brand
Size Hole: <u>8 1/2</u>	Depth: <u>289</u> Ft.	<u>125</u>
Size & Wt. Casing: <u>5 1/2</u>	NEW USED ☒	Depth: <u>289</u> Ft.
Size & Wt. D. Pipe or Tubing	Depth: <u>289</u> Ft.	
Top Plugs: <u>1</u>	Type: <u>Rubber</u>	Weight of Slurry: <u>14.8</u> LBS./GAL.
Bottom Plugs:	Type:	Volume of Slurry: <u>1.32</u> LBS./CU. FT.
Pump Tr. No. <u>1361</u>	Fluid Pumped <u>H₂O</u>	Sacks Cement Treated With <u> </u> % of <u> </u>

STAGE NO.	TOTAL PREV. GALS.	MAX. DEPTH <u>289</u> FT.	MAX. PRESSURE	P.S.I.
-----------	-------------------	---------------------------	---------------	--------

CONTRACT CONDITIONS: (This agreement must be signed before work is commenced)

The undersigned, as authorized agent of the customer, agrees and acknowledges that the services, materials, products and supplies provided for in this order shall be subject to the terms and conditions appearing on the front and reverse sides of the customer copy hereof and no additional terms and conditions shall apply to this order without the consent of an authorized representative of BJ-HUGHES Inc.

3-2051 NOV 9 1979 SIGNED: [Signature] AGENT OF OWNER OR CONTRACTOR

PRICE REF. NO.	DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL
201.05	Pump Charge 0-300'			325.00
261.00	Milage Charge 1 mi @ 1.50 per mi	1.50	1.50	2.25
223.05	1 ea 5 1/2 Top Rubber Plug			28.90
	Subtotal			355.40
0-999.30	23 1/4% New Mexico Gross Receipts Tax			13.33
	TOTAL			368.73

SERVICE REPRESENTATIVE:

[Signature]

THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY:

[Signature]
(WELL OWNER OPERATOR OR AGENT)

JOB TICKET NO. FORM NO. S-211

S 77 58043





A SUBSIDIARY OF HUGHES TOOL COMPANY

P. O. BOX 2260 LONG BEACH, CALIFORNIA 90801

ORIGINAL INVOICE

TERMS: NET 20TH
STATEMENTS ON REQUEST ONLY

LONG BEACH, CALIFORNIA

DATE 11-30-79 NO. 30-86119

DATE OF
JOB

11/21/79

DISTRICT

Permian Brine Sales & Service Inc.

NEW WELL ☒ OLD WELL ☐CUSTOMER'S
ORDER NO.

CUSTOMER

Permian Brine Sales & Service Inc.

WELL NO. #2

LEASE Eugene #2

ADDRESS

P.O. Box 1591

COUNTY RADISH Eddy

STATE N.M.

CITY

Odessa ODESSA STATE Texas

FIELD

AUTHORIZED BY

79760

WELL OWNER

48560

(OFFICE USE ONLY)

PERMIAN BRINE SALES & SERVICE INC
BOX 1591
ODESSA TX 79760

	DATE	TIME
TRUCK CALLED	11/21	8:30 PM
ARRIVED AT JOB	"	9:00 PM
START OPERATION	"	9:00 PM
FINISH OPERATION	"	11:45 PM
RELEASED	"	11:45 PM
MILES FROM STATION TO WELL	1	
BULK TICKET NO.		

Type Job: Pump	Depth: Ft.	CEMENT DATA: Bulk ☐ Sacks ☐
Surface ☐ Intermediate ☐ Production ☐ Remedial ☒	Sacks	Br. MAIL REMITTANCE TO: Admires
Size Hole:	Depth: Ft.	BJ-Hughes Inc.
Size & Wt. Casing: NEW USED 8	Depth: Ft.	P.O. Box 3634
Size & Wt. D. Pipe or Tubing	Depth: Ft.	Main Post Office
Top Plugs: Type:	Weight of Slurry:	Dallas, Texas 75285
Bottom Plugs: Type:	Volume of Slurry:	
Pump Tr. No. 1341	Fluid Pumped 130	Sacks Cement Treated With % of

STAGE NO.	TOTAL PREV. GALS.	MAX. DEPTH	FT.	MAX. PRESSURE	P.S.I.
-----------	----------------------	------------	-----	---------------	--------

CONTRACT CONDITIONS: (This agreement must be signed before work is commenced)

The undersigned, as authorized agent of the customer, agrees and acknowledges that the services, materials, products and supplies provided for in this order shall be subject to the terms and conditions appearing on the front and reverse sides of the customer copy hereof and no additional terms and conditions shall apply to this order without the consent of an authorized representative of BJ-HUGHES Inc.

SIGNED:

X A. L. Dickerson

AGENT OF OWNER OR CONTRACTOR

PRICE REF. NO.

25701

261.00

Truck chg.
Mileage chg.

1 mi @ 1.20 per mi.

300.50
1.50

Subtotal

301.50

999.30 33 1/4% NEW MEXICO GROSS RECEIPTS TAX

11.31

Total

312.81

SERVICE
REPRESENTATIVE

Jim Calicut

THE ABOVE MATERIAL AND SERVICE
ORDERED BY CUSTOMER AND RECEIVED BY

A. L. Dickerson

(WELL OWNER OPERATOR OR AGENT)

BULK TICKET NO.
RM NO. S-211

S 77-56080



BJ-HUGHES Inc.
A SUBSIDIARY OF HUGHES TOOL COMPANY
P. O. BOX 2250 LONG BEACH, CALIFORNIA 90801

INVOICE

TERMS: NET 20TH PROX.
STATEMENTS ON REQUEST ONLY

PAYABLE LONG BEACH, CALIFORNIA

DATE 11-30-79 NO. 30-86117

DATE OF JOB	11-20-79	DISTRICT	CHILDS	NEW WELL	☒	OLD WELL	☐	CUSTOMER'S ORDER NO.	
CUSTOMER	Permian Brine Sales & Service Inc			WELL NO.	2		LEASE	FUGA	
ADDRESS	212 West 5th Street			COUNTY	EDDY		STATE	NM	
CITY	ODESSA TX 79760			FIELD					
AUTHORIZED BY	48560			WELL OWNER					

(OFFICE USE ONLY)

PERMIAN BRINE SALES & SERVICE INC
212 WEST 5TH STREET
ODESSA TX 79760

DATE	TIME
TRUCK CALLED	11-20 PM 10:30
ARRIVED AT JOB	11-20 AM 11:30
START OPERATION	11-20 AM 12:05
FINISH OPERATION	11-20 PM 12:30
RELEASED	11-20 PM 12:45
MILES FROM STATION TO WELL	1
BULK TICKET NO.	B-77-32103

Type Job:	Casing	Depth:	600 Ft.	CEMENT DATA:	Bulk ☐	Sacks ☐
Surface	☐ Intermediate ☐ Production ☐ Remedial ☒	Sacks		Brand		Type
Size Hole:	5"	Depth:	600 Ft.			% Gel
Size & Wt. Casing:	NEW USED B	Depth:	Ft.			Admixes
Size & Wt. D. Pipe or Tubing	2 1/2 x 15	Depth:	600 Ft.			
Top Plugs:	Type:	Weight of Slurry:	14.8	LBS./GAL.		LBS./GAL.
Bottom Plugs:	Type:	Volume of Slurry:	1.32	LBS./CU. FT.		LBS./CU. FT.
Pump Tr. No.	1361	Fluid Pumped	Brine-H ₂ O	Sacks Cement Treated With		% of

STAGE NO. TOTAL PREV. GALS. MAX. DEPTH 600 FT. MAX. PRESSURE P.S.I.

CONTRACT CONDITIONS: (This agreement must be signed before work is commenced)

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SIGNED: *Jack Burrows*
AGENT OF OWNER OR CONTRACTOR

PRICE REF. NO.		
201.10	Pump Chatter 0-300'	325.00
201.11	Pump Chatter 300-600'	111.00
261.00	Mileage on Pump Unit	1.50
Sub TOTAL		437.50
0-999.30	33 1/4% NEW MEXICO GROSS RECEIPTS TAX ON	16.41
TOTAL		453.91

SERVICE REPRESENTATIVE: *Myk Hansen*
JOB TICKET NO. **S77-56007**
FORM NO. S 211

THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: *Jack Burrows*
(WELL OWNER OPERATOR OR AGENT)



A SUBSIDIARY OF HUGHES TOOL COMPANY

P. O. BOX 2250 LONG BEACH, CALIFORNIA 90801

INVOICE

TERMS: NET 20TH PROX.
STATEMENTS ON REQUEST ONLY
PAYABLE AT LONG BEACH, CALIFORNIA

DATE 11-30-79 NO. 30-86118

DATE OF JOB	11-20-79	DISTRICT	Carlsbad	NEW WELL	☒	OLD WELL	☐	CUSTOMER'S ORDER NO.
CUSTOMER	Permian Brine Sales & SERVICE INC.			WELL NO.	#2			
ADDRESS	212 West Fifth St. 5th Street			COUNTY	Eddy			
CITY	Odessa	STATE	TX	79760	FIELD	NM		
AUTHORIZED BY				WELL OWNER				

48560

(OFFICE USE ONLY)

PERMIAN BRINE SALES & SERVICE INC
212 WEST 5TH STREET
ODESSA TX 79760

Truck & Trailer No.	No. Loads	Truck & Trailer No.	No. Loads	Other Equipment No.	MILES FROM STATION TO WELL:
5339				1361-6256	1
					SERVICE TICKET NO. 5-77-56007

CONTRACT CONDITIONS: (This agreement must be signed before work is commenced)

The undersigned, as authorized agent of the customer, agrees and acknowledges that the services, materials, products and supplies provided for in this order will be subject to the terms and conditions appearing on the front and reverse sides of the customer copy hereof and no additional terms and conditions shall apply to this order without the consent of an authorized representative of BJ-HUGHES Inc.

NOV 21 1979

SIGNED: *[Signature]*

AGENT OF OWNER OR CONTRACTOR

	PRICE UNIT NO.	MATERIAL TYPE	QUANTITIES				RATE	PRICE	
			ORDERED	USED	RETURNED	CHARGED			
MATERIALS	815.00		Class "C" Cement	100			100	4.65	465.00
	840.00		Calcium Chloride	2 cwt.			2 cwt.	15.60	31.20
	806.03		Minimum Drayage chg.						35.00
SERVICES			Bentonite _____ % Gel. In. _____ Sacks Cement						
	810.00	MIXING SERVICE	On Cement & Additives (Calcium Chloride)				104 cu ft.	.72	74.88
		RET'D MTL. CHARGE							
		WAITING TIME							
		MILEAGE CHARGE	_____ lbs. _____ miles				/ton /mile		

Subtotal

606.08

1-999.30 3 3/4% NEW MEXICO GROSS RECEIPTS TAX 22.73
TOTAL 628.81

SERVICE REPRESENTATIVE: Kelly

THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: *[Signature]*

JOB TICKET NO. B 77 - 32103

(WELL OWNER OPERATOR OR AGENT)

CHANDLER EUGENIE STATION

Foreword

The Eugenie No. 1 brine well, completed in August of 1978, has been slow in developing enough cavern space to permit production of large quantities of 10 lb. brine. The well, which has a bottom @ 592' with tubing hung @ 547', allows production rates of only about 500 to 600 barrels of brine per day when maintaining 10 lb. brine.

Drilling continues active in the area so it was decided to drill a second well and fracture across to No. 1 in order to increase the production rate, and to increase the effective life of the station.

DRILLING AND COMPLETION

Carlsbad Eugenie #2

- Oct. 19, 1979 - Bill Taylor moved rig in
- Oct. 22 - Started drilling w/ 6" bit, Reamed w/ 8" bit.
At 18' - bit 6" cave, lost water & mud from
18 1/2' to 50' - Caliche & Gravel
- Oct. 23 - Wayland Evans looking after well.
41' - some water - (think) may be from irrigation canal
90' - some water
120' - drilling in Brown sand & red sticky clay
- Oct. 24 - P.B.S. moved casing & tubing to location
- water standing in hole @ 52'
- told Wayland to get 18" x 3/4" centralizers welded on 3 of the 5 1/2" JTS for bottom middle & top
- for 2 1/2" - centralizers on 4 joints from bottom @ 450' - 330' @ top
- centralizers 12" to 18" long & 1/2" thick
- Oct. 25 - to 154' yesterday
- Taylor dumping mud back into hole because he was afraid hole would not stand up. Bailer is too light for heavy mud, so work goes slow.
- to 182' - In red clay
- tools hung in hole for 1 hour
- casing collar on bottom of 5 1/2"
- before we start to cement will pull joint of 9 5/8" set at 20'
- Oct. 26 - 182' to 209' still using heavy mud
- Oct. 27 - 209' to 238'
(233 1/2 - 235 1/2 anhydrite)
- Dec. 28 - Sunday - DOWN
- Oct. 29 - 238 to 249 in Brown clay. - 7" bailer won't go to bottom because mud is so heavy
- Nov. 1 - 8a.m. - Hole swelling & sluffing
- getting plugs @ 85', 120', 190'
- water & mud level continues to drop to 56' each morning
- putting 1500# Gel per day in hole
- infringement bad - getting maximum of 2' drilling per trip
- tried FW Gel & lime mixture
- carrying heavy clay all way along w/ Gel & lime
- thinning with water, much less consistency now
- bottom dumping w/ water in bailer
- used water swap method - baler for baler
- tried combination of 2 with adding water to top
- gone from 7" baler to 6" to be sure not to be swabbing hole
- often can't get to drilling zone with baler just often coming out of hole w/ tools
- spent three days trying everything
- Nov. 2 - Phil Withrow 12 A.M. CALLED AND DISCUSSED PROBLEMS
- Wayland - burned real bad IN ACCIDENT AT HOME
- driller wanting to go to work by hour
- Nov. 5 - Phil & Bill Taylor decided to quit the hole @ 285'
- Bill Gressett, NMOCC, gave approval to SET CEMENT 5 1/2" casing at 285'
- Nov. 6 - Welded shoe on 5 1/2"
- running in 5 1/2" casing
- cemented - circulated 30 + SXS-pulled out 9 5/8" joint
- filled hole back up w/ 3/4yd. redi-mix cement

Nov. 8 - Bill Taylor rigging down
 - Clyde Tidwell & Son - Artesia on way to move their unit on hole
 - drillers - Clyde & Dennis Tidwell
 - Pushers - Jack Burroughs & Morris Lucas

Nov. 12 - Monday - 445' in anhydrite

Nov. 13 - Tuesday 456' - Top of salt to 490' in salt

Nov. 14 - Shut down - gone deer hunting

Nov. 15 - "Ditto"

Nov. 16 - Friday - drilled from 490 to 535' in salt

Nov. 17 - Sat. - Shut down

Nov. 18 - Sun. - 535' - 555' Salt & anhydrite ^{THIS STRINGER OF} & clay

Nov. 19 - Mon. - 555' - at 2 PM 587' - some blue clay at 583' bottom of salt - 592 then anhydrite

Nov. 20 - Tuesday 8 AM - drlg. @ 610' in anhydrite. TD 618'

8:30 AM - cleaned hole with bailer
 10:30 AM - started running tubing
 12 NOON - tubing hung at 614'
 12:30 - BJ on location
 - 614' - of 2 7/8" 8 round thread tubing in hole w/ contrailizers & 2 baskets at 570' & 580'
 - centralizers @ 10' - 280' - 320' - 395' - 425' TD 618' in anhydrite
 W.B. Weaver - NMOCC on location
 1:15 PM - BJ cleaned hole with brine before cementing
 1:30 - 1:37 - Cemented with 100 SX - ~~CIRCULATED~~ EXCESS
 1:45 - displaced tubing plus 60 feet of annulus with water (4 1/2 bbls total - tubing 3 1/2 and annulus 1 bbl.
 - Pulled up one joint of 2 7/8" to 583'
 - hung on ~~slips~~ SLIPS
 - wait on cement - 3 hours
 - released rig after laying down joint
 - waiting on cement
 - tubing TD - 583'
 - Baskets at 553 & 543
 - circulated water behind cement ^{UP TO} 523' (30' above baskets - 60' above 583')

~~Nov. 21~~

Nov. 21, 1979 - ~~1~~ Fracture - Eugenie #2 to #1
 - Called NMOCC - bled down #1 well
 - Equipment - 500 bbl Frac tank
 2" - makeup water line
 tank truck to haul water
 BJ pumper - for Frac
 (All Times NM) - Pump down 2 7/8" tubing in #2 well
 - Water volume in frac tank - 532 bbl.
 8:20AM 2" - Meter reading - 330, 870 bbls.

** ROD HOUTCHENS
BJ OPERATORS*

8:50 AM - BJ Pump truck arrived. Jim Calicoat connected
 suction to ~~5 red tanks~~ operators frac tank
~~and the discharge down tubing of #2~~
 9:20 - pumped 1/2 bbl - pressure 750# let set
 9:30 - another 1/2 bbl - pressure @ 1500# - broke thru
 9:31 - 1/2 BPM - 750#
 9:34 - 7 BPM - 900#
 9:36 - 10.5 BPM - 1250#
 9:40 - started flowing out casing of #1 well @ 35% (after
 only 60 bbls)
 9:50 - switched No. 1 from pit to ~~tanks~~ TANKS
 9:54 - 10.5 BPM - 1250# Flow started to tank 95%
 10:05 - slowed to 2 BPM - 500#
 10:07 - Still @ 2 BPM - 500#
 10.5 BPM - 800#
 10:10 - "Ditto"
 10:13 - NMOCC representatives arrived - Mike Williams
 Larry Brooks
 10:15 - Flow to #1 tanks 98%
 10:36 - Slowed pumps to 2 BPM - 500#
 10:39 - Slowed pumps to 1 BPM - 400#
 10:40 - shut BJ down
 - connected hose from our pump to well #2
 10:46 - checked pressure in pumphouse on pump discharge -
 PRESSURE over 200# - letting #1 well bleed down
 11:25 - Reconnected BJ - still 400# on their Gauge.
 11:30 - Released BJ

<u>Water Used</u>		<u>Barrels</u>
Frac Tank 532 start - 350 end	=	182
one truck load	=	140
Metered - 331227 end - 330,870	=	<u>457</u>
TOTAL		779 bbls.

#1 well bled down and stopped flowing to tanks
 Bled #1 well casing to pit and hauled off water
 Circulated No. 1 well down tubing to be sure tubing had not stopped
 up. Tubing was clear. Circulated No. 1 well normal - down casing
 and out tubing with well casing valve pinched on outlet to put
 150-160# on cavern with #2 well opened back to frac tank with hose.
 No. 2 well pressure bled off to frac tank and then to pit. 100%
 brine then flow stopped completely, therefore no reverse flow pressure
 connection from No. 1 to No. 2 @ 150#.

- Shut down for Thanksgiving

Nov. 23 - Plan to connect #1 pump to No. 2 and see if we
 can get circulation. If not get pump truck &
 pump down #2 and across to No. 1 until low pressure
 still flowing brine connection established.

Nov. 24 - Got BJ Pump again
 still no low pressure connection only one pump on
 unit

11:00 - 1 1/2 BPM 400 # Flow to #1

11:24 - 7 1/8- BPM 400#

shut down pressure 300# switched pumps

2:00 - Tried 15 bbls with red dye

2:08 - Started again - pumped 1700 bbls. *NO DYE OUT No. 1..*

2:10 - 6 BPM - 650#

4:42 - shut down

Nov. 25 - Rented a reverse pump from Davis Tool. Connected
 to Frac Tank by 1 PM static pressure still 275#
 started pumping 3 BPM @ 440# - return in 2 minutes
 at #1 - turned brine into tanks @ #1 after 1 hour

static 365# (265?) 97% Brine

- Nov. 25 Cont. - after 3 hours - press 460# static 375# (265?)
Brine 97% shut down 4 PM
- Nov. 26 - pumped 6 AM to 6 PM 2000 bbls. Circulation to #1
after 1-2 minutes press 450# Recovered 1000 bbls.
(800 bbls of 95 + % - 200 of 85%) shut in
390# static (290?) pumped again ~~th~~through night,
Shut down 6 AM 11-27-79
- Nov. 27 - Bled 70 bbl. of 97% Brine to tanks in 1 hr.
12 Noon 118# on No. 1 #2 - 240# (From 250#)
This gauge found to be 100# too high
Plan to let bleed down until Wed. Morning
Hauled off 600 bbls (~~log~~ brine
LIGHT
- Nov. 28 - Wed. Morning
Flowing good brine
21" in 1 hr. in 500 bbl. tank (58 gpm)
20# on tubing flowing 60# shutdown
- Nov. 29 - Still flowing
- Nov. 30 - Bled pressure off No. 2 took BJ valve, etc., off.
Connected our pump. Pressured No. 2 up to 160 lbs..
No flow out No. 1 left city pressure on No. 2
overnight.
- Dec. 1 - 7 AM - trickle of 100% brine into tanks 30# on
#1 casing & 160# on No. 2
- Dec. 2 - Sun. - Trickle to #1 w/ City press on #2
- Dec. 3 - 1 bbl/hr. overnight
Phil came to Odessa after reverse pump
- Dec. 4 - replaced 3 valves & 2 seats in pump
ran 3 PM to 6 PM made 26" in 500 ~~BAL~~ TANK
= 24 BPH - 17 GPM 100%
260# pressure - 245# static indicates press.
drop 15# @ 17 GPM
- Dec. 5 - still 260# static 245*
pumped 450 bbls in 10 hrs.
saturation dropped to 95% showed to 22 BPH overnight
still 95%
- Dec. 6 - Still pumping 260# - static 245*
- Dec. 7 - Ditto
- Dec. 8 - Ditto
- Dec. 9 - B & E returned diesel engine driven pump to Pyote
and picked up triplex from PBS yard. Flowed no. 1
well with only city pressure. Made 200 bbls. of 100%
overnight.
- Dec. 14 - Triplex not yet connected will hook it up, ~~over~~
~~the well~~ ~~electrical~~ maybe tomorrow.
Made 500 bbls in #1 overnight w/ city pressure - 100%
Makes 10-15 BPH pumping @ 160# in #2 out #1
with centrifugal pump
- Dec. 17 - Triplex connected. Pumped 1.5 BPM for six hours
@ 210# - 100% brine - when plastic line broke.

Conclusions:

The No. 2 Eugenie was completed with 5 1/2" surface casing cemented at 285' and 2 7/8" tubing cemented at 583 feet. Open hole was left in bottom of salt section from 592' - 532'.

A fracture was successfully initiated between No. 2 and No. 1. Fresh water was pumped down No. 2 and brine produced out the tubing of No. 1. Brine saturation immediately increased from No. 1, indicating that the fracture was made into No. 1 at a low level in the cavern.

The fracture probably was made just below a layer of clay or shale, as a relatively large amount of fresh water was pumped from No. 2 to No. 1 before obtaining a "low pressure" connection.

B. 3 F

9:30 AM 1500 #
10 1/2 BPM @ 1250 #
9:36 AM

- Slowed to 2 BPM - 900 #
10:07 AM
Back to 12 1/2 BPM - 800 #
10:36 AM slowed to 2 BPM - 500 #
10:39 AM slowed to 1 BPM - 400 #
10:40 AM shut down
- 400 # stable

105
Polaroid
06/11/90

INVOICE

WALTER D. BRININSTOOL

2502 SO. CANAL

CARLSBAD, N.M. 88220

Permian Brine Sales & Service, Inc.
P.O. Box 1591
Odessa, Texas 79760

June 28, 1978
Invoice: 6-280

Carlsbad

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
0'	9 5/8" Casing	7.00	\$ 700.00
7'	7" Casing	3.00	1,611.00
51.7'	2 7/8" Tubing	.90	1,306.53
			<u>\$ 3,617.53</u>

141,609

ILCO Supply Company, Inc.

Order Date: ~~6/28/78~~
6/28/78

NEW AND USED EQUIPMENT -- PIPE AND PIPE THREADING

P. O. BOX 847

TEL. 746-6682

ARTESIA, NEW MEXICO -- 88210

STORE Artesia

INVOICE NO. 25806

DATE June 30, 1978

CUSTOMER'S
ORDER NO.

LEASE

TO Permian Brine Sales & Service, Inc.
Box 1591
Odessa, TX 79760

DELIVERED TO Wayland M Evans

TERMS:

Carlsbad

QUANTITY	DESCRIPTION		AMOUNT
1	7" Female HFC #4CS8 Tubing Head	143.50	143.50
207.10 ft.	9-5/8 Casing	5.10	1,056.21
			<u>1,199.71</u>
		4% Tax	47.99
			<u>1,247.70</u>

Yard Phone 332-5886

INVOICE

ABBOTT BROTHERS

WATER WELL CONTRACTORS

Box 637

HOBBS, NEW MEXICO

No 08965

Carlsbad

Permian Brine Sales and Service

P.O. Box 1591

Odessa, Texas 79760

Date July 1, 1978

Lease Salt # 1

Ordered By Al Hickerson

Rig No. Jeter

State New Mexico

Terms Net: 8% Interest After 20 Days

To move in and out, \$200.00 each way.

\$ 400.00

189 1/2 hrs. @ 45.00 per hr.

8505.00

Southwest L.P. Gas tickets #4647, 4676, 4685 & 4717.

270.71

9175.71

3 3/4 % Sales Tax 344.09

9519.60

PAYABLE AT LONG BEACH, CALIFORNIA

DATE 4-30-78 NO. 20-20643

DATE OF JOB 6/28/78		DISTRICT Carlsbad		NEW WELL ☒	OLD WELL ☐	CUSTOMER'S ORDER NO.
CUSTOMER	Permian Brine Sales & Service Inc.			WELL NO. #1	LEASE Eugenie Carlsbad St.	
ADDRESS	212 West Fifth St.			COUNTY Eddy	STATE NM	
CITY	Odessa STATE Texas			FIELD		
AUTHORIZED BY	79760			WELL OWNER	Same	
18560				(OFFICE USE ONLY)		
				DATE 6/28/78 AM 1:45		

PERMIAN BRINE SALES & SERVICE INC
212 WEST FIFTH STREET
ODESSA TEXAS 79760

	DATE	TIME
TRUCK CALLED	6-28	AM PM 1:45
ARRIVED AT JOB		AM PM 2:00
START OPERATION		AM PM 4:28
FINISH OPERATION		AM PM 6:00
RELEASED	6-28	AM PM 6:15
MILES FROM STATION TO WELL		1
BULK TICKET NO.	B-77-	21730

Type Job: Prod Casing		Depth: 453 Ft.		CEMENT DATA: Bulk ☒ Sacks ☐				06017	
Surface ☐ Intermediate ☐ Production ☒ Remedial ☐		Depth: 663 Ft.		Brand		Type	% Gel	Admixes	
Size Hole: 8"		Depth: 453 Ft.		G				3% A7	
Size & Wt. Casing: 7" 23#		Depth: 453 Ft.		135 SX					
Size & Wt. D. Pipe or Tubing		Depth: Ft.							
Top Plugs: 1		Type: Rubber		Weight of Slurry: 14.8		LBS./GAL.		LBS./GAL.	
Bottom Plugs:		Type:		Volume of Slurry: 1.32		LBS./CU. FT.		LBS./CU. FT.	
Pump Tr. No. 1361		Fluid Pumped 120 / 8 BBL		Sacks Cement Treated With _____ % of _____					
TOTAL PREV. GALS.		JUL 05 1974		MAX. DEPTH 663 FT.		MAX. PRESSURE 200		P.S.I.	

CONTRACT CONDITIONS: (This agreement must be signed before work is commenced)

The undersigned, as authorized agent of the customer, agrees and acknowledges that the services, materials, products and supplies provided for in this order shall be subject to the terms and conditions appearing on the front and reverse sides of the customer copy hereof and no additional terms and conditions shall apply to this order without the consent of an authorized representative of **BJ-HUGHES Inc.**

SIGNED:

AGENT OF OWNER OR CONTRACTOR

RICE REF. NO.		AGENT OF OWNER OR CONTRACTOR
01.02	One Cement Pump Unit @ 63'	411.79
01.00	Mileage on Pump Unit @ 1.20	1.20
08.00	One Guide Shoe Regular	82.00
08.00	One Float Shoe Regular	169.00
08.00	One Centralizer	27.50
73.07	One Top Rubber Plug	33.35
	SUB TOTAL	642.84
	SUB TOTAL	642.84
2 999.30	4% New Mexico Gross Receipts Tax	25.71
		668.55

SERVICE REPRESENTATIVE: W. Warren Allen
JOB TICKET NO. S 77- 29291

THE ABOVE MATERIAL AND SERVICE
ORDERED BY CUSTOMER AND RECEIVED BY:

(WELL OWNER OPERATOR OR AGENT)

P. O. BOX 2250 LONG BEACH, CALIFORNIA 90801

BULK MATERIAL

INVOICE

TERMS: NET 20TH PROX.
STATEMENTS ON REQUEST ONLY

PAYABLE AT LONG BEACH, CALIFORNIA

DATE 6-30-78 NO. 30-20644

DATE OF JOB	6-28-78	DISTRICT	CARLSBAD	NEW WELL	☒	OLD WELL	☐	CUSTOMER'S ORDER NO.	
CUSTOMER	Permian Brine Sales & Service, Inc.			WELL NO.	#1		LEASE	Eugene CARLSBAD	
ADDRESS	212 WEST FIFTH ST			COUNTY	ELDO		STATE	N-MEX	
CITY	Odessa		STATE	Texas		FIELD			
AUTHORIZED BY	18560			WELL OWNER	S.A.M.E.				
(OFFICE USE ONLY)									

PERMIAN BRINE SALES & SERVICE INC
212 WEST FIFTH STREET
ODESSA TEXAS 79760

Truck & Trailer No.	No. Loads	Truck & Trailer No.	No. Loads	Other Equipment No.	MILES FROM STATION TO WELL: 7
5339	1			1361	
		JUL 05 1978			SERVICE TICKET NO. 5-77-29291 ✓

CONTRACT CONDITIONS: (This agreement must be signed before work is commenced)

The undersigned, as authorized agent of the customer, agrees and acknowledges that the services, materials, products and supplies provided for in this order shall be subject to the terms and conditions appearing on the front and reverse sides of the customer copy hereof and no additional terms and conditions shall apply to this order without the consent of an authorized representative of **BJ-HUGHES Inc.**

SIGNED:

AGENT OF OWNER OR CONTRACTOR

PRICE REF. NO.	BRAND AND TYPE	QUANTITIES				RATE	PRICE	
		ORDERED	USED	RETURNED	CHARGED			
815.00	class "C" cement	135			135	4.10	553	50
840.00	calcium chloride	4 cwt			4 cwt	14.75	59	00
890.00	Bentonite	25x			25x	4.45	8	90
	Bentonite _____ % Sol. in. _____ Sacks Cement							
810.00	MIXING SERVICE	Cement & Calcium Chloride				143	.62	88 66
	RET'D MTL. CHARGE					20.17		
	WAITING TIME							
806.03	MILEAGE CHARGE	13090	lbs.	_____ miles	min chg	/ton /mile		27 00

SUB TOTAL	737	06
-----------	-----	----

999.30	4%	New Mexico Gross Receipts Tax	29	48
			766	54

VICE
REPRESENTATIVE: *KP/16*

THE ABOVE MATERIAL AND SERVICE
ORDERED BY CUSTOMER AND RECEIVED BY:

3 TICKET NO. **B 77 - 06017**

(WELL OWNER OPERATOR OR AGENT)

BJ-HUGHES Inc.
A SUBSIDIARY OF HUGHES TOOL COMPANY
P. O. BOX 2250 LONG BEACH, CALIFORNIA 90801

P. O. BOX 2250 LONG BEACH, CALIFORNIA 90801

ORIGINAL

BULK MATERIAL

INVOICE

TERMS: NET 20TH PROX.
STATEMENTS ON REQUEST ONLY
CALIFORNIA

DATE 6-30-78 NO. 30-19536

FILE OF
ON 6/20/78 DISTRICT Carlsbad

NEW WELL ☒

OLD WELL ☐

**CUSTOMER'S
ORDER NO.**

CUSTOMER Permian Brine Sales & Service Co. Inc.

WELL NO. #1

LEASE Eugenie, Carlsbad Sta.

ADDRESS 212 West Fifth St.

COUNTY
PARISH Eddy

STATE NM

Y Odessa STATE Texas

FIELD

FORWARDED BY

8560

(OFFICE USE ONLY)

WELL OWNER

Same

MAIL REMITTANCE TO:

8.3 Hughes Inc.

P.O. Box 3234

Min Post Office

Dallas, Texas 76285

PERMIAN BRINE SALES & SERVICE INC
212 WEST FIFTH STREET
ODESSA TEXAS 79760

Truck & Trailer No.	No. Loads	Truck & Trailer No.	No. Loads	Other Equipment No.
---------------------	-----------	---------------------	-----------	---------------------

456 8607

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

Other Equipment No. _____

1313

MILES FROM STATION TO WELL:

SERVICE
TICKET NO. 5-77-29281

CONTRACT CONDITIONS: (This agreement must be signed before work is commenced)

The undersigned, as authorized agent of the customer, agrees and acknowledges that the services, materials, products and supplies provided for in this order be subject to the terms and conditions appearing on the front and reverse sides of the customer copy hereof and no additional terms and conditions shall apply to this order without the consent of an authorized representative of B.J. HUGHES Inc.

SIGNED:

AGENT OF OWNER OR CONTRACTOR

PRICE REF. NO.		BRAND AND TYPE	QUANTITIES				RATE	PRICE	
			ORDERED	USED	RETURNED	CHARGED			
815.00	3-2051	Class "C" Cement	170			170	4.10	697	00
	Bentonite _____ % Gel. in. _____ Sacks Cement								
810.00	MIXING SERVICE	Cement And Additives				170	.62	105	40
	RET'D MTL. CHARGE								
	WAITING TIME								
806.03	MILEAGE CHARGE	_____ lbs. 1 miles * Min. Charge						27	00

		829 40
	934 80	
- 999.30	4% New Mexico General Receipts Tax	33 18
		862 58

ICE REPRESENTATIVE: *DAVIS*

TICKET NO. **B 77 - 21797**

THE ABOVE MATERIAL AND SERVICE
ORDERED BY CUSTOMER AND RECEIVED BY:

WELL OWNER OPERATOR OR AGENT

BJ-HUGHES INC.
A SUBSIDIARY OF HUGHES TOOL COMPANY.
P. O. BOX 2250 LONG BEACH, CALIFORNIA 90801

INVOICE

TERMS: NET 20TH PROX.
STATEMENTS ON REQUEST ONLY

PAYABLE AT LONG BEACH, CALIFORNIA

DATE 6-30-78 NO. 30-19535

FILE OF
DOB 6/20/78 DISTRICT Carlsbad

NEW WELL ☒ OLD WELL ☐

CUSTOMER'S
ORDER NO.

PERMIA
TOMER Permian Brine Sales & Service, Inc.

WELL NO. #1

LEASE Eugenie Carlscad St

ADDRESS 212 West Fifth St.

COUNTY
PARISH

STATE NPS

Odessa STATE Texas

FIELD

HORIZED BY

WELL OWNER Same

(OFFICE USE ONLY)

PERMIAN BRINE SALES & SERVICE INC
212 WEST FIFTH STREET
ODESSA TEXAS 79760

	DATE	TIME
TRUCK CALLED	6-20	9:30 PM
ARRIVED AT JOB		10:00 PM
START OPERATION		11:00 PM
FINISH OPERATION		11:45 PM
RELEASED	6-20	12:00 AM
MILES FROM STATION TO WELL		1
BULK TICKET NO	87-217974	

Job: Casing		Depth: 317	Ft.	CEMENT DATA: Bulk ☒ Sacks ☐			
face ☒ Intermediate ☐ Production ☐ Remedial ☐				Sacks	Brand	Type	% Gel
e Hole: 12-1/2		Depth: 317	Ft.	170		C	
e & Wt. Casing: 9-5/8	NEW USED ☒	Depth:	Ft.				
e & Wt. D. Pipe or Tubing		Depth:	Ft.				
Plugs: /	Type: JUN 26 1978			Weight of Slurry: 14.8	LBS./GAL. LBS./CU. FT.		LBS. GAL. LBS. CU. FT.
tom Plugs: /	Type:			Volume of Slurry: 1.32			
np Tr. No. 1313	Fluid Pumped	620	22.5	Sacks Cement Treated With		% of	

AGE NO.	TOTAL PREV. GALS.	MAX. DEPTH <u>317</u>	FT.	MAX. PRESSURE <u>150</u>	P.S.I.
---------	----------------------	-----------------------	-----	--------------------------	--------

CONTRACT CONDITIONS: (This agreement must be signed before work is commenced)

The undersigned, as authorized agent of the customer, agrees and acknowledges that the services, materials, products and supplies provided for in this contract shall be subject to the terms and conditions appearing on the front and reverse sides of the customer copy hereof and no additional terms and conditions shall apply to this order without the consent of an authorized representative of B.J. HUGHES Inc.

SIGNED:

AGENT OF OWNER OR CONTRACTOR

CE REF. NO.		AGENT OF OWNER OR CONTRACTOR	
201.02	One Cement Pump Unit		277 67
261.00	Mileage on Pump Unit		1 20
298.00	One Guide Shoe Regular		143 00
298.00	One Stop Rih g		6 00
298.00	3 Centralizers @ 35.00 each		105 00
		SUB TOTAL	552 87
999.30	4% New Mexico Sales Receipt Tax		22 11
			574 98

VICE
REPRESENTATIVE: Warren Allen
B TICKET NO. C 77 20281

THE ABOVE MATERIAL AND SERVICE
ORDERED BY CUSTOMER AND RECEIVED BY:

WE, THE OWNER OPERATOR OR AGENT

JOHNSON BUILDING SYSTEMS

RT. 4, BOX 740 381-4920

ODESSA, TEXAS 79763

not posted

0 Pennian Crane Sales & Service SHIP TO Mr. Hickerson will pickup
 ADDRESS Box 1591 ADDRESS _____
 CITY Odessa, Texas 79760 CITY Carlsbad, New Mexico

REQ. NO. _____ FOR Carlsbad Station DATE REQUIRED _____ TERMS _____ HOW SHIP Their truck DATE 7-13-78

QUANTITY ORDERED	QUANTITY RECEIVED	DESCRIPTION	PRICE	TAX	TOTAL
1					
2	one	12x14 Storage building			
3		Two doors in the 12' side			
4		brown metal with white trim			
5		One sky light no floor	885.	00	
6			35.	40	Tax
7			920.	40	
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

pd. CR. 08018

IMPORTANT

OUR ORDER NUMBER MUST APPEAR ON ALL INVOICES, PACKAGES, ETC.

PLEASE NOTIFY US IMMEDIATELY IF YOU ARE UNABLE TO SHIP COMPLETE ORDER BY DATE SPECIFIED.

PLEASE SEND COPIES OF YOUR INVOICE WITH ORIGINAL BILL OF LADING

Wayne Whitaker

PURCHASING AGENT

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SANTA FE	
FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	/

RECEIVED NEW MEXICO OIL CONSERVATION COMMISSION

MAY 28 1978

O. C. C.
ARTESIA, OFFICE

30-015-22574
Form C-101
Revised 1-1-65

5A. Indicate Type of Lease
STATE ☐ FEE ☒
5. State Oil & Gas Lease No.

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work b. Type of Well OIL WELL ☐ GAS WELL ☐ OTHER Brine Water Well SINGLE ZONE ☒ MULTIPLE ZONE ☐		7. Unit Agreement Name	
2. Name of Operator Permian Brine Sales & Service, Inc.		8. Farm or Lease Name Eugenia	
3. Address of Operator P. O. Box 1591, 212 West 5th St., Odessa, Texas 79760		9. Well No. 1	
4. Location of Well UNIT LETTER M LOCATED 995 FEET FROM THE South LINE AND 641 FEET FROM THE West LINE OF SEC. 17 TWP. 22S RGE. 27E N44PM		10. Field and Pool, or Wildcat Wildcat	
11. Elevation (Show whether DE, RL, etc.) 3,126' G.L.		13. Proposed Depth 1,450	14. Formation Salt
21A. Kind & Status Plug. Bond one well - \$5,000 No. 610003738-8	21B. Drilling Contractor Not Selected Yet	20. Rotary or C.T. C.T.	
22. Approx. Date Work will start June 10, 1978			

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
12"	10-3/4"	54#	335'	100 sx.	Circulated
10"	8-5/8"	36#	550'	120 sx.	Circulated

We propose to drill a 12" cable tool hole through the fresh water, hang 10-3/4" casing at 335' and circulate cement. Then drill a 10" hole inside the 10-3/4" casing to the top of the salt at approximately 500', hang 8-5/8" casing and circulate cement. Then drill an 8" hole through the upper rock salt section and hang 2-7/8" tubing in open hole for circulation.

City of Carlsbad Notified

APPROVAL VALID
FOR 90 DAYS UNLESS
DRILLING COMMENCED

EXPIRES **9-12-78**

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM; IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

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

Signed *W. A. Gressett* Title **President** Date **5-19-78**

(This space for State Use)

505-741-4861

APPROVED BY *W. A. Gressett* TITLE **SUPERVISOR, DISTRICT II** DATE **JUN 12 1978**

CONDITIONS OF APPROVAL, IF ANY:

1. Cement must be circulated to surface behind casing
2. Casing must be cemented
3. Casing must be tested

all casing

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section

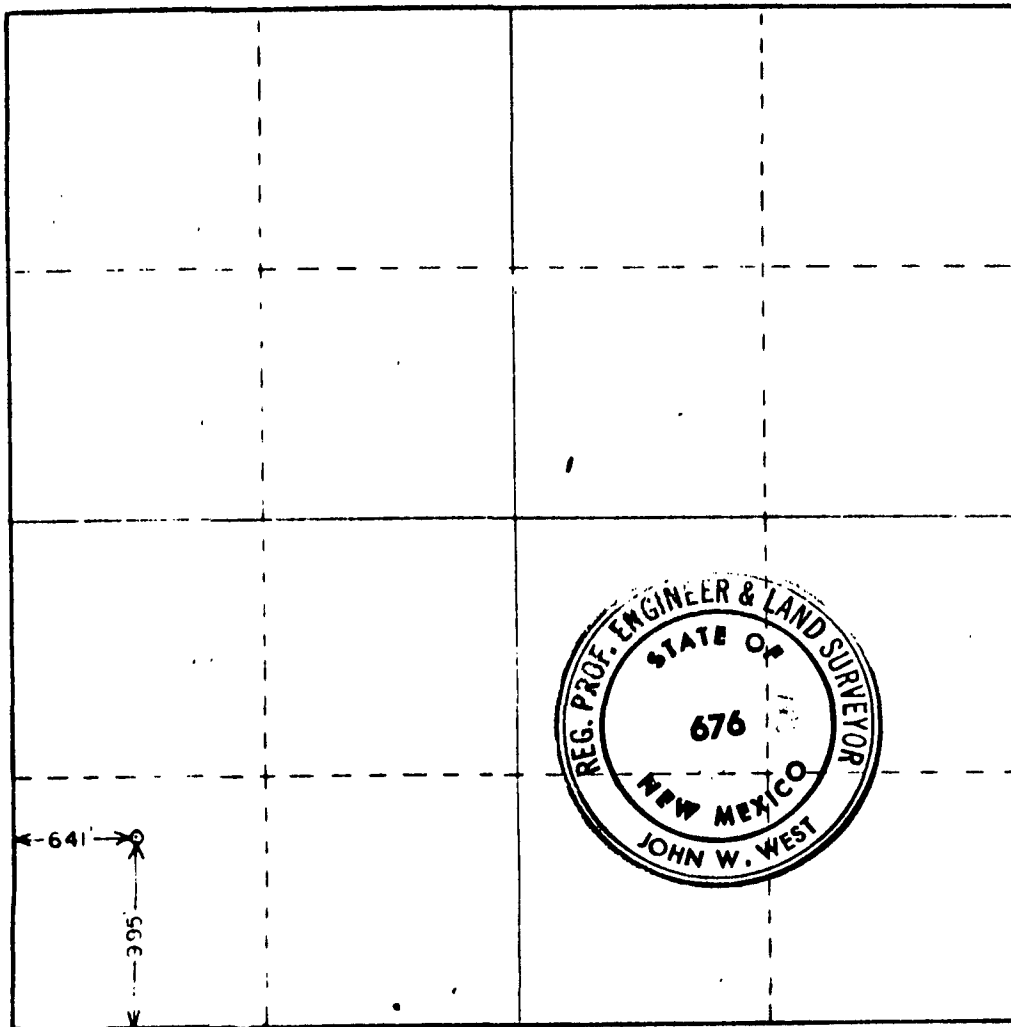
Operator Permian Brine Sales & Service, Inc.		Lease Salt Water Eugene		Well No. 1
Section M	Section 17	Township 22 South	Range 27 East	County Eddy
Actual Footage Location of Well: 995 feet from the South line and 641 feet from the West line				
Ground Level Elev 3126.4	Producing Formation		Pool	Dedicated Acreage 1.00

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

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

John W. West
President

Position
Permian Brine Sales & Service
Company
5-26-78

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

• May 15, 1978

Date Surveyed

Registered Professional Engineer and/or Land Surveyor

John W. West

Certificate No. **John W. West 676**

Ronald J. Eldson 3239

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U.S.G.S.	
LAND OFFICE	
OPERATOR	/

NEW MEXICO OIL CONSERVATION COMMISSION

RECEIVED

JUL 20 1978

O. C. C.
ARTEBIA, OFFICE

Form C-103
Supersedes Old
C-102 and C-103
Effective 1-1-65

Carl Bradwell

SUNDRY NOTICES AND REPORTS ON WELLS

DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO PLUG OR TO PLUG BACK TO A DIFFERENT RESERVOIR.
APPLICATION FOR PERMIT TO DRILL OR TO PLUG OR TO PLUG BACK TO A DIFFERENT RESERVOIR.

OIL WELL ☐ GAS WELL ☐ OTHER- Brine Water Well

Name of Operator Permian Brine Sales & Service, Inc.

Address of Operator P.O. Box 1591, 212 West 5th St., Odessa, Texas 79760

Location of Well

UNIT LETTER M 995 FEET FROM THE South LINE AND 641 FEET FROM THE West LINE, SECTION 17 TOWNSHIP 22 South RANGE 27 East NADEN.

3a. Indicate Type of Lease
State ☐ Fee ☒

5. State Oil & Gas Lease No.

7. Unit Agreement Lease

8. Name of Lease Owner Eugenie

9. Well No. 1

10. Field and Pool, or Wildcat Wildcat

11. County Eddy

15. Elevation (Show whether DF, RT, GR, etc.)

3126 GL

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. ☐

DRILLING-TEST-AND-REABMENT JOBS ☒

ALTERING CASING ☒

PLUG AND ABANDONMENT ☐

OTHER ☐

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.

Used 9 5/8 - 40# - 349.4' Depth

Used 7" - 23# - 456' Depth

170 sacks cement circulated

waited on cement 48 hours
135 sacks cement circulated,
with 4 sacks calcium chloride
and 2 sacks Bentonite.

waited on cement 18 hours
A.L.H.

6-29-78 drilled out plug and bailed to 658 ft
No water intrusions

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

SIGNED A. L. Dickerson

TITLE

President
7-19-78

DATE

7-19-78

APPROVED BY

W. A. Gussert

TITLE

SUPERVISOR, DISTRICT II

DATE

JUL 26 1978

CONDITIONS OF APPROVAL, IF ANY:



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
ARTESIA DISTRICT OFFICE

JERRY APODACA
GOVERNOR

NICK FRANKLIN
SECRETARY

P.O. DRAWER DD
ARTESIA NEW MEXICO 88210
(505) 746-4861

July 21, 1978

Permian Brine Sales & Service, Inc.
P.O. Box 1591
Odessa, Texas 79760

Re: Eugenie
#1-M-17-22-27
Eddy County, NM

Gentlemen:

We are returning the enclosed Forms C-103 on the subject well for additional information.

Please show the WOC time and pressure or bail test on each string of casing in accordance with Rule 107.

If you have any questions concerning this matter, please feel free to call upon me.

Sincerely yours,

W. A. Gressett
Supervisor, District II

WAG:ro

Enclosure

7/24/78

Mr. Gressett -
I have added information desired
Thanks
A. L. H.

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section

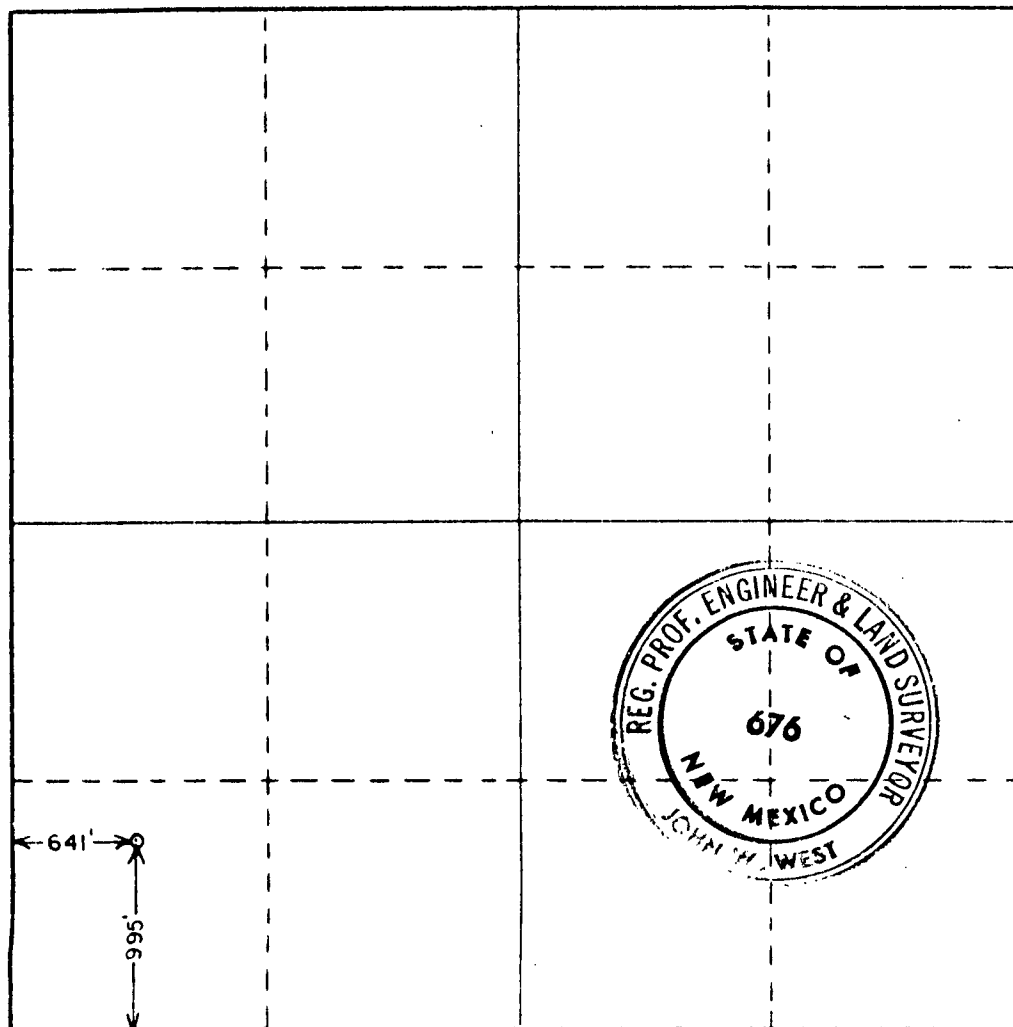
Operator Permian Brine Sales & Service, Inc.		Lease Salt Water		Well No. 1
Tract Letter M	Section 17	Township 22South	Range 27East	County Eddy
Actual Footage Location of Well: 995 feet from the South line and 641 feet from the West line				
Ground Level Elev. 3126.4	Producing Formation	Pool	Dedicated Acreage: Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

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

John W. West

Name *President*

Position *Permian Brine Sales & Service, Inc.*

Company *5 26-78*

Date

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

May 15, 1978

Date Surveyed

Registered Professional Engineer and/or Land Surveyor

John W. West

Certificate No. **John W. West 676**

Ronald J. Eidson 3239

333 660 990 1320 1660 1980 2310 2640 2970 3300 3630 3960 4290 4620 4950 5280 5610 5940 6270 6600 6930 7260 7590 7920 8250 8580 8910 9240 9570 9900

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S.G.S.	
ND OFFICE	
ERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION WELL COMPLETION OR RECOMPLETION REPORT AND LOG

Form C-101
Revised 11-1-68

1. Indicate Type of Lease	
Time ☐	Fee ☒
2. Name of Lessee	
Eugenie	
3. Name of Operator	
Wildcat	

TYPE OF WELL
OIL WELL ☐ GAS WELL ☐ OTHER ☐ Brine Water Well

TYPE OF COMPLETION
NEW WELL ☒ WORK OVER ☐ DEEPEN ☐ PLUG BACK ☐ DIFF. REPAIR ☐ OTHER ☐

Name of Operator
Permian Brine Sales & Service, Inc.
P. O. Box 1591, 212 West 5th St., Odessa, Texas 79760

LETTER M LOCATED 995 FEET FROM THE South 641 FEET FROM
West LINE OF SEC. 17 TWP. 22S RGL. 27E

Date Spudded 6-14-78	16. Late T.D. Reached 6-28-78	17. Date Compl. (Ready to Prod.) 6-30-78	18. Elevations (D.F., RKB, KI, GR, etc.) 3126 G.L.	19. Elev. Casing Head 3129
Total Depth 663	21. Depth to T.D. 587	22. Intervenor (Depth, how Many)	23. Intervenor (Depth, how Many)	24. Intervenor (Depth, how Many)

Producing Interval(s), at this completion - Top, Bottom, Name
456 Top of Salt to 592 Bottom of Salt

Type Electric and Other Logs Run
Cable Tool Drillers Log

CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB. FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
9-5/8"	40	349.4	12"	170 sx. - circulated	None
7"	23	456	9"	135 sx. - circulated	None

LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2-7/8	587	No

Perforation Record (Interval, size and number)

None

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
	None

PRODUCTION DATA

1. First Production	2. Production Method (Flowing, gas lift, pumping - size and type pump)	3. Well Status (Prod. or Shut-in)
4. Date of Test	5. Hours Tested	6. Casing Size
7. Flowing Pressure	8. Casing Pressure	9. Calculated 24-hour rate
10. Disposition of Gas (Sold, used for fuel, vented, etc.)	11. Test Witnessed by	

List of Attachments

Drillers Log

I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNED _____ TITLE _____ DATE _____

This form is to be filed with the appropriate District Office of the Commission not later than 20 days after the completion of any newly drilled or reopened well. It shall be accompanied by one copy of all electrical and fluid activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All data reported shall be measured by data in the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 1 through 14 shall be reported for each zone. The form is to be filed in quadruplicate except on state land, where six copies are required. See Rule 1105.

Southeastern New Mexico

F. Anhy _____	T. Canyon _____
F. Banta 456 _____	T. Strawn _____
F. Salt 592 _____	T. Atoka _____
F. Yates _____	T. Miss _____
F. 7 Rivers _____	T. Devonian _____
F. Queen _____	T. Silurian _____
F. Grayburg _____	T. Montoya _____
F. San Andres _____	T. Simpson _____
F. Glorieta _____	T. McKee _____
F. Paddock _____	T. Ellenburger _____
F. Illinebry _____	T. Gr. Wash _____
F. Tubb _____	T. Granite _____
F. Drinkard _____	T. Delaware Sand _____
F. Abo _____	T. Bone Springs _____
F. Wolfcamp _____	T. _____
F. Penn. _____	T. _____
F. Cisco (Bough C) _____	T. _____

Northwestern New Mexico

T. Ojo Alamo _____	T. Penn. "W" _____
T. Kirtland-Fruitland _____	T. Penn. "C" _____
T. Pictured Cliffs _____	T. Penn. "D" _____
T. Cliff House _____	T. Leadville _____
T. Menefee _____	T. Madison _____
T. Point Lookout _____	T. Elbert _____
T. Mancos _____	T. McCracken _____
T. Gallup _____	T. Ignacio Quartz _____
Base Greenhorn _____	T. Granite _____
T. Dakota _____	T. _____
T. Morrison _____	T. _____
T. Todilto _____	T. _____
T. Entrada _____	T. _____
T. Wingate _____	T. _____
T. Chino _____	T. _____
T. Pennian _____	T. _____
T. Penn. "A" _____	T. _____

o. 1, from to No. 4, from to
o. 2, from to No. 5, from to
o. 3, from to No. 6, from to

include data on rate of water inflow and elevation to which water rose in hole.

o. 1, from to feet.

o. 2, from to feet.

o. 3, from to feet.

o. 4, from to feet.

FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation

INVOICE

TERMS: NET 20TH PROX.
STATEMENTS ON REQUEST ONLY

PAYABLE AT LONG BEACH, CALIFORNIA

DATE 6-30-78 NO 20-1255

OF <u>6/20/78</u>	DISTRICT <u>Carlsbad</u>	NEW WELL ☒	OLD WELL ☐	CUSTOMER'S ORDER NO.
OWNER <u>Permian Brine Sales & Service, Inc.</u>	WELL NO. <u>#1</u>	LEASE <u>Eugenie Carlsbad St</u>		
ESS <u>212 West Fifth St.</u>	COUNTY <u>Eddy</u>	STATE <u>NM</u>		
<u>Odessa</u>	FIELD			
ORDERED BY <u>560</u>	WELL OWNER <u>Same</u>			

(OFFICE USE ONLY)

PERMIAN BRINE SALES & SERVICE INC
212 WEST FIFTH STREET
ODESSA TEXAS 79760

DATE 6-20 AM 9:30
TRUCK CALLED 6-20 PM 9:30
ARRIVED AT JOB 6-20 PM 10:00
START OPERATION 6-20 PM 11:00
FINISH OPERATION 6-20 PM 11:45
RELEASED 6-20 PM 12:00
MILES FROM STATION TO WELL 1
BULK TICKET NO. 877-21797

Job: <u>Casing</u>	Depth: <u>347</u> Ft.	CEMENT DATA: Bulk ☒ Sacks ☐
☒ Intermediate ☐ Production ☐ Remedial ☐	Sacks	Brand
Size: <u>12-1/2</u>	Depth: <u>947</u> Ft.	Type <u>C</u> % Gel <u>Neat</u>
Wt. Casing: <u>9-5/8</u>	NEW USED ☒ Depth: <u> </u> Ft.	
Wt. D. Pipe or Tubing	Depth: <u> </u> Ft.	
Plugs: <u>1</u>	Type: <u>JUN 26 1978</u>	Weight of Slurry: <u>14.8</u> LBS./GAL.
n Plugs: <u>1</u>	Type: <u> </u>	Volume of Slurry: <u>1.32</u> LBS./CU. FT.
Tr. No. <u>1313</u>	Fluid Pumped <u>120 22.5</u>	Sacks Cement Treated With <u> </u> % of

E NO. TOTAL PREV. GALS. MAX. DEPTH 317 FT. MAX. PRESSURE 150 P.S.I.

CONTRACT CONDITIONS: (This agreement must be signed before work is commenced)

The undersigned, as authorized agent of the customer, agrees and acknowledges that the services, materials, products and supplies provided for in this order are subject to the terms and conditions appearing on the front and reverse sides of the customer copy hereof and no additional terms and conditions shall apply to this order without the consent of an authorized representative of BJ-HUGHES Inc.

SIGNED: Richie W. Wetherill
AGENT OF OWNER OR CONTRACTOR

REF. NO.	DESCRIPTION	AMOUNT
01.02	One Cement Pump Unit	297.61
61.00	Mileage on Pump Unit	1.20
298.00	One Guide Shoe Regular	243.00
298.00	One Stop Rih g	6.00
298.00	3 Centralizers @ 35.00 each	105.00
SUB TOTAL		552.81
1930	4% New Mexico Sales Receipt Tax	22.11
		574.92

RECEIVED BY: Warrn Allen
KEY NO. S 77 00001

THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: Richie W. Wetherill
(WELL OWNER OPERATOR OR AGENT)

CARLSBAD BRINE STATION

LAYOUT

SCALE - 1" = 40'

FORNEY

BURIED
PIPER LINE

FRESH WATER IN

1.22 Acre PROPERTY

TICKET LEAN-TO

BRINE
WELL

PITS

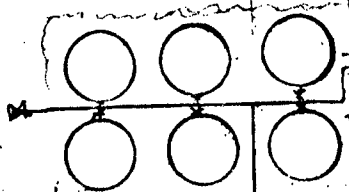
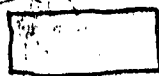
LOADING
RACK

ROAD

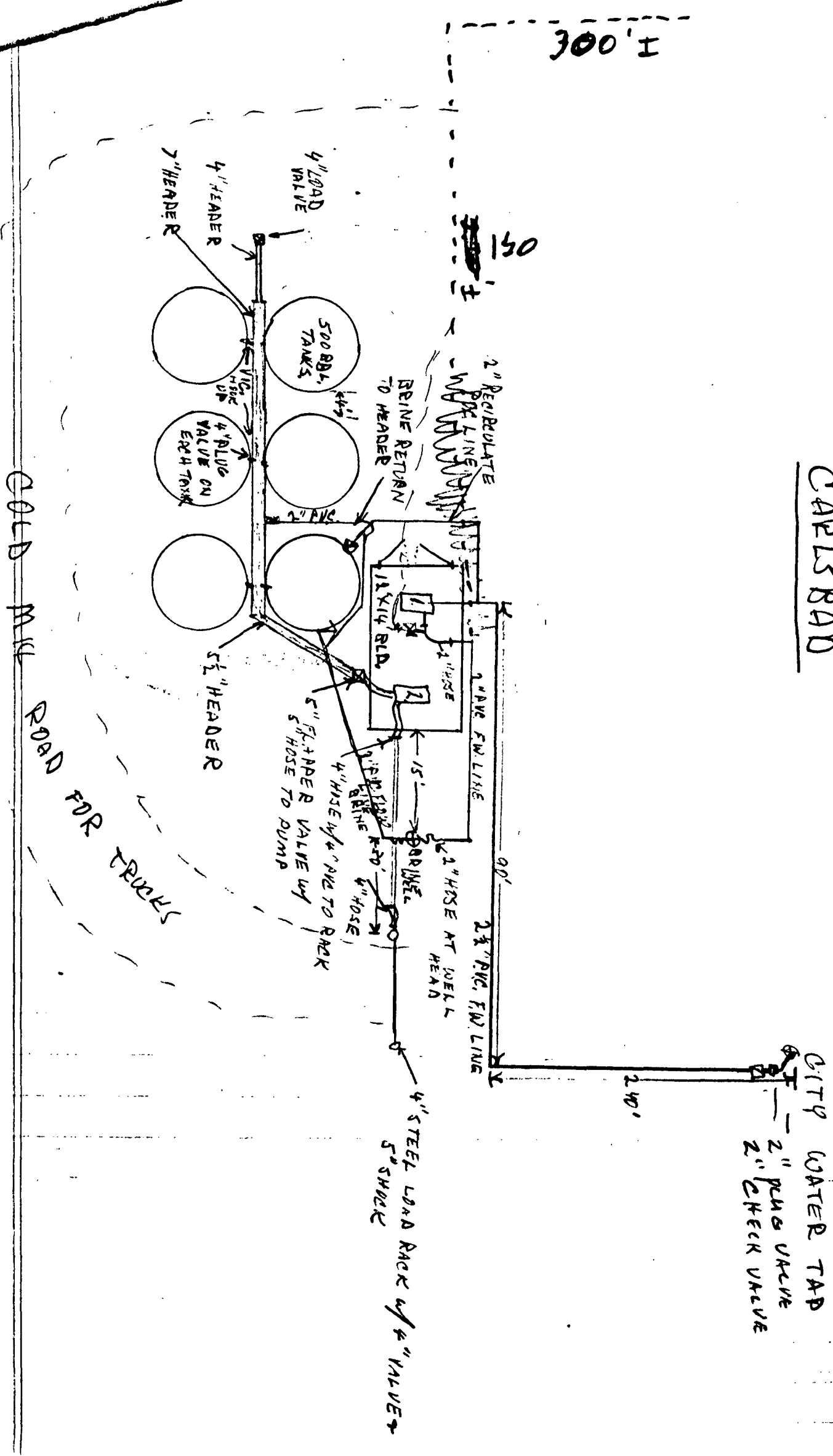
DRAINAGE PIT

ROAD

CANAL



CARLSBAD



NOT TO SCALE

Carlsbad

▲ 758-347

1-8-79

3' SB. to 466
14" SB. to 480'

▲ 455

TOP OF
SALT

ROCK & FILL

543
549 } DEEP

555 32' LEDGE-LINE

572 39' LEDGE-SHALE

ROCK & FILL

587-BIT-

592-BTM. SALT

SALT

LEDGE

SALT

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

South Y
P. O. Box 756
Carlsbad, N.M. 88220
Phone (505) 885-6663

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

III. SITE CHARACTERISTICS

A. Soils

This section does not apply to this injection and discharge facility.
There are no open pits or open ponds.

B. Geology

1. Stratigraphic Section (drilling logs) - See attached EXHIBIT #1 and EXHIBIT #2.
2. Geological Structures including Faults - There are no known faults. See attached Geological map.
3. Depth & Lithologic description of Rock - See attached Map E #1 and Map E #2 along with EXHIBITS #1 & #2.

C. Hydrology

1. Vertical & Lateral Limits of ground water - See attached Hydrological Map.
2. Injection wells - See attached Hydrological Map.
3. Flooding potential - The flood potential seems to be remote. We have normal rainfall and no recorded flooding. See description under Section I of the General Description.
4. Depth & Quality ground water affected if spill or leak occurred - the property in question has no fresh water wells for injection processes. Fresh water is supplied by the City of Carlsbad thru mainline and billed to us monthly.
5. Analysis of Water - Being a city water system it is unlikely we would experience a change in makeup of the water.
6. Chemical Analysis - See attached Unichem International Water Analysis report.

III. SITE CHARACTERISTICS

A. Soils (This section need only be submitted if unlined surface impoundments are proposed or in use. Additional ground water monitoring may be required for facilities using unlined surface impoundments. If impoundments do not adequately protect ground water, they will not be approved for use.)

1. Texture class
2. Soil Conservation Service (SCS) assessment of capability/limitations
3. Percolation test

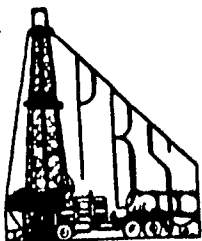
B. Geology (5-203.C.3)

1. Stratigraphic section (drilling log) of well(s) on the site, indicating depth, thickness and chemical characteristics of water-bearing strata 3-106.C.3,6; 5-205.A.3.j). Also give the lithology, stratigraphy, and fracture pressure of the receiving formation and confining zones (5-205.A.3.i).
2. Maps and cross-sections detailing the geology and geologic structures of the local area, including faults (known or suspected) (5-102.B.1.d.4.; 5-210.B.6 & 7). Are the faults known conduits or barriers to ground water flow?
3. Depth to and lithologic description of rock at base of alluvium below the discharge site, if such information is available (3-106.C.6)

Continued next
page

C. Hydrology (5-203.C.3)

1. Maps and cross-sections indicating the general vertical and lateral limits of all ground water having 10,000 mg/l or less TDS within one mile of the site, the position of such ground water within this area relative to the injection formation, and the direction of water movement, where known, in each zone of ground water which may be affected by the proposed injection operation (5-102.B.1.d.3.; 5-210.B.5).
2. A map showing the injection well(s) which are to be constructed and the number, name, and location of all producing wells, injection wells, abandoned wells, dry holes, surface bodies of water, springs, mines, quarries, residences and roads, and any other pertinent surface features that are within a quarter-mile radius of the well or well field (5-102.B.1.d.2.; 5-202.B.3; 5-210.B.2.)
3. Flooding potential of the site (3-106.C.4).
4. Depth to and quality of ground water most likely to be affected by spills/leaks (3-106.C.3). Analysis should include sodium (Na^+), potassium (K^+), calcium (Ca^{++}), magnesium (Mg^{++}), bicarbonate (HCO_3^-), carbonate (CO_3^{--}), chloride (Cl^-), sulfate (SO_4^{--}), and nitrate (NO_3^-) TDS.
5. Analysis or description of water used for injection (if different from III.C.4, above) (3-106.C.1; 5-203.C.1). Include density, corrosiveness and temperature (5-205.A.3.g), as well as above constituents. Analyses to be submitted at least quarterly (5-207.C.1), unless the source is such that a change in makeup is very unlikely (e.g. a city water system).
6. Chemical analysis or description of discharge to the surface (if facility is presently in operation) (3-106.C.1). Analysis should include those constituents indicated in III.C.4. Once in operation, reports to be submitted quarterly (5-207.C.1).



P. O. BOX 1591

PERMIAN BRINE SALES, INC.

24-HOUR BRINE SERVICE THROUGHOUT THE PERMIAN BASIN

ODESSA, TEXAS

79760

PHONE 332-0831

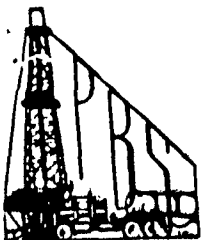
JUNE 30, 1978

EXHIBIT No. 1

EUGENIE No. 1 - Sec 17-T22S-R27E

Eddy County, New Mexico

0 to 46	-----	TOP SOIL WITH GRAVEL
46 to 58	-----	SAND AND GRAVEL
58 to 62	-----	LIME
62 to 65	-----	RED BED
65 to 76	-----	PED SAND
76 to 107	-----	GRAVEL
107 to 163	-----	BROWN CLAY W/GRAVEL AND SAND
163 to 170	-----	RED BED
170 to 178	-----	LIME VERY HARD
178 to 225	-----	RED BED
225 to 237	-----	ANHYDRITE & RED BED
237 to 252	-----	LIME & ANHYDRITE W/SOME GYPSUM
252 to 268	-----	RED BED
268 to 285	-----	LIME W/GYPSUM STRINGERS
285 to 305	-----	GYPSUM W/SOME RED BED
305 to 320	-----	GYPSUM & ANHYDRITE
320 to 328	-----	PED BED
328 to 360	-----	ANHYDRITE W/LIME & SAND
360 to 410	-----	RED ROCK & ANHYDRITE
410 to 430	-----	ANHYDRITE W/SOME LIME
430 to 437	-----	GRAY LINE (HARD) & ANHYDRITE
437 to 445	-----	ANHYDRITE
445 to 456	-----	ANHYDRITE & GRAY LIME
456 to 555	-----	SALT
555 to 567	-----	SALT & SOME LIME
567 to 576	-----	SALT & <u>BLUE SHALE VERY LITTLE</u>
576 to 592	-----	SALT
592 to 663	-----	ANHYDRITE



PERMIAN BRINE SALES, INC.

24-HOUR BRINE SERVICE THROUGHOUT THE PERMIAN BASIN

ODESSA, TEXAS

79760

PHONE 332-0831

P. O. BOX 1591

November 30, 1979

EXHIBIT NO. 2

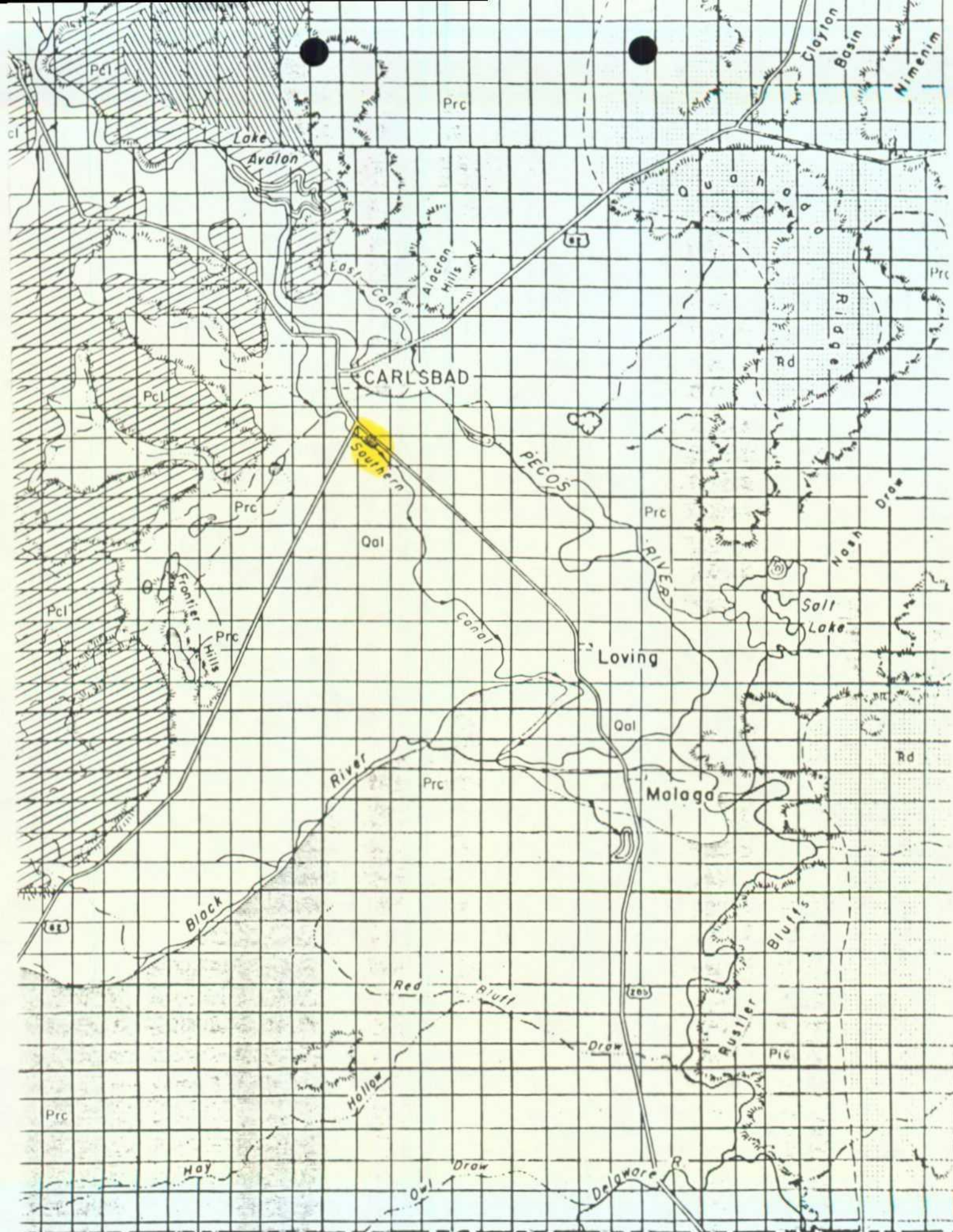
EUGENIE No.2 - Sec 17-T22S-R27E

PAGE 1

Carlsbad, New Mexico

0 to 18	-----	TOP SOIL WITH GRAVEL
18 to 19	-----	CAVE
19 to 46	-----	CALICHE & GRAVEL
46 to 50	-----	SAND & GRAVEL
50 to 58	-----	GRAVEL & LIME
58 to 64	-----	LIME
64 to 65	-----	RED BEDS
65 to 78	-----	RED SAND
78 to 107	-----	GRAVEL
107 to 163	-----	BROWN CLAY, GRAVEL & SAND
163 to 171	-----	RED BEDS
171 to 178	-----	LIME VERY HARD
178 to 225	-----	RED BEDS
225 to 237	-----	ANHYDRITE & RED BEDS
237 to 252	-----	LIME & ANHYDRITE W/ SOME
252 to 268	-----	RED BED
268 to 280	-----	LIME W/GYP. STRINGERS
280 to 285	-----	ANHYDRITE
285 to 305	-----	GYP. W/SOME RED BEDS
305 to 320	-----	GYP. & ANHYDRITE
320 to 330	-----	RED BEDS
330 to 360	-----	ANHYDRITE W/LIME & SAND

360 to 410-----HARD ROCK & ANHYDRITE
410 to 430-----ANHYDRITE W/SOME LIME
430 to 437-----GRAY LINE (HARD) & ANHYDRITE
437 to 445-----ANHYDRITE
445 to 456-----ANHYDRITE & GRAY LIME
456 to 568-----SALT
568 to 576-----SALT & BLUE SHALE STRINGER
576 to 592-----SALT
592 to 610-----ANHYDRITE



R. 25 E.

R. 26 E.

R. 27 E.

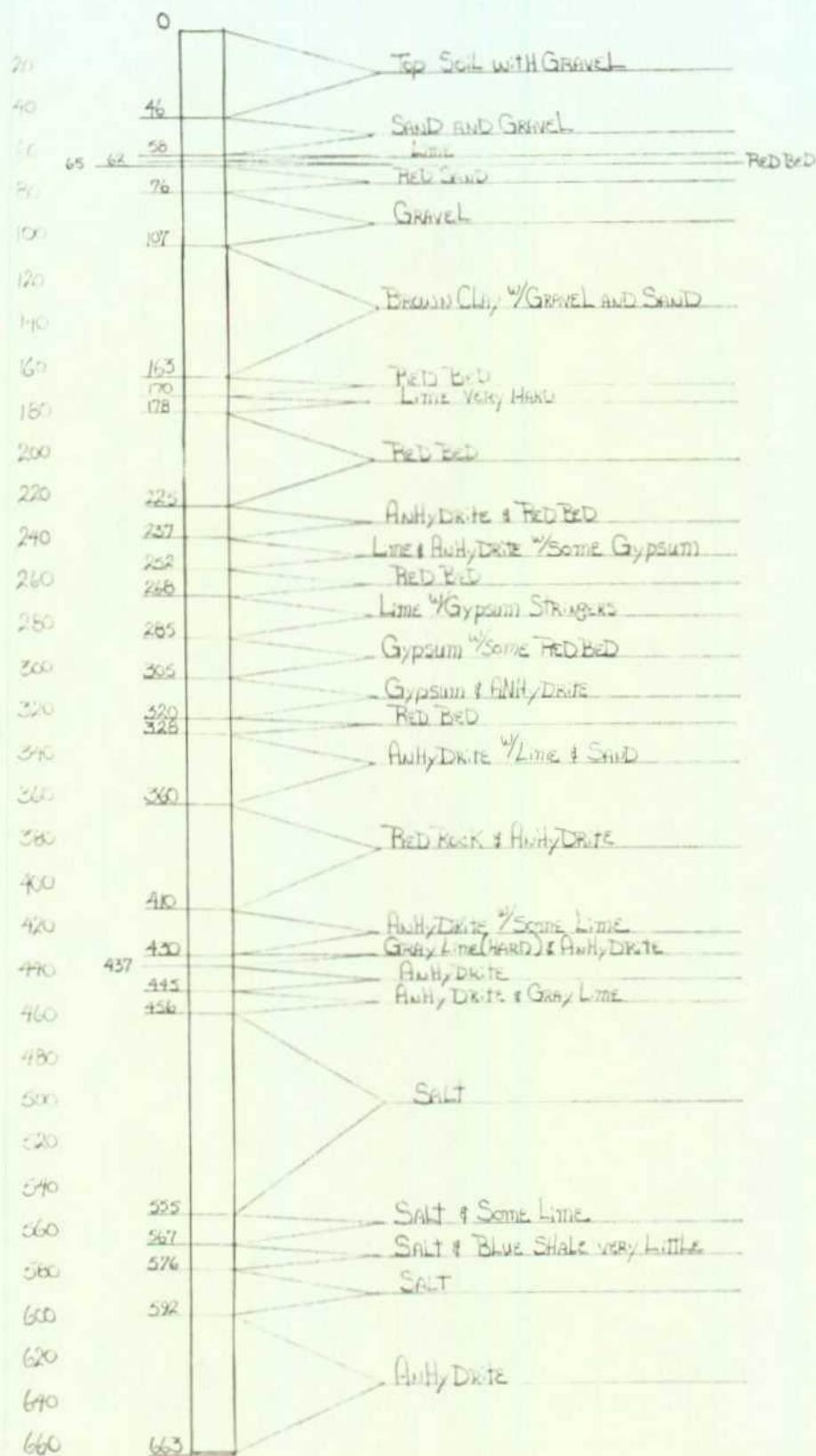
R. 28 E.

R. 29 E.

GEOLOGICAL MAP

Eugenie 1 - Discharge well

1/4" = 20 Foot

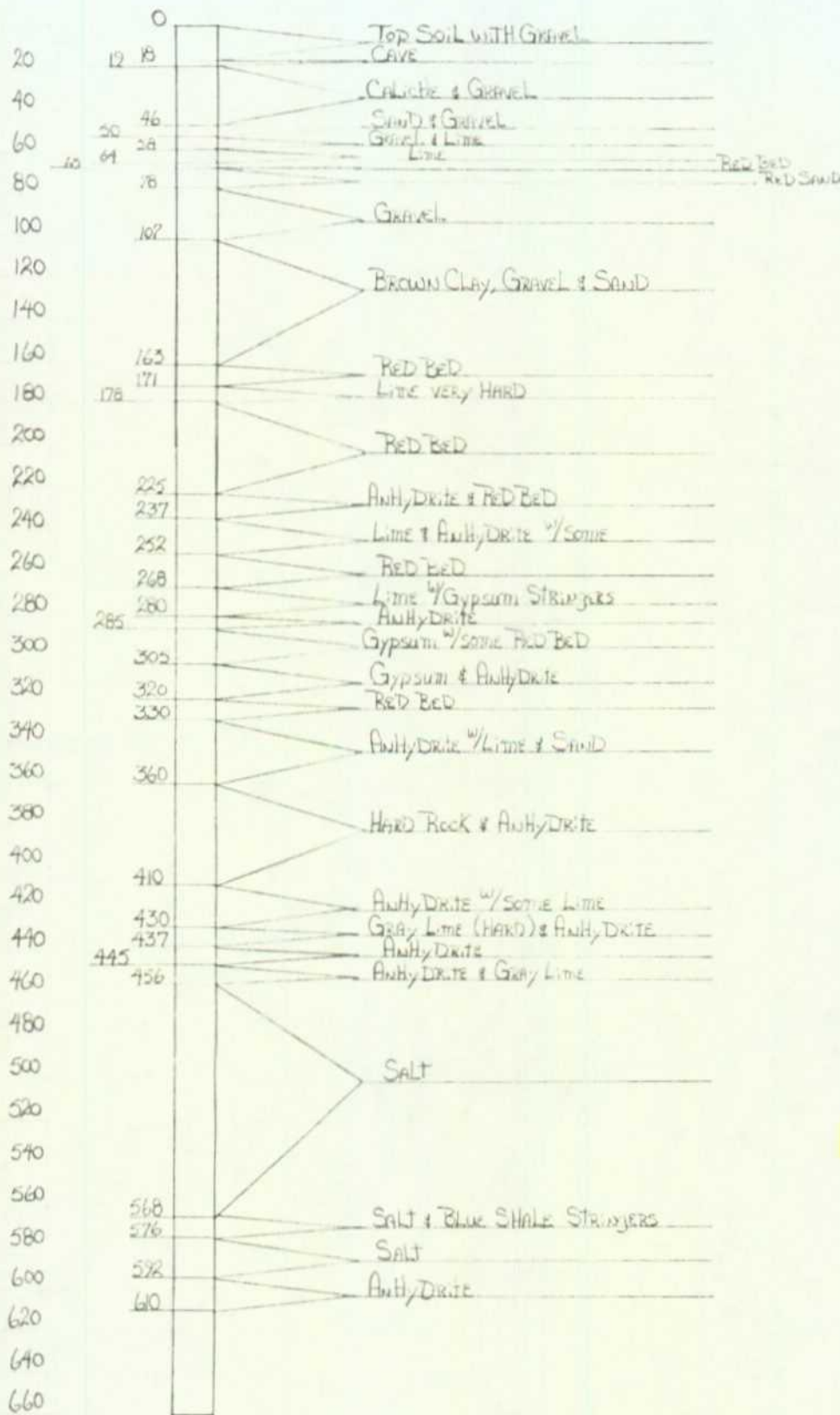


MAP E #1

Discharge Well

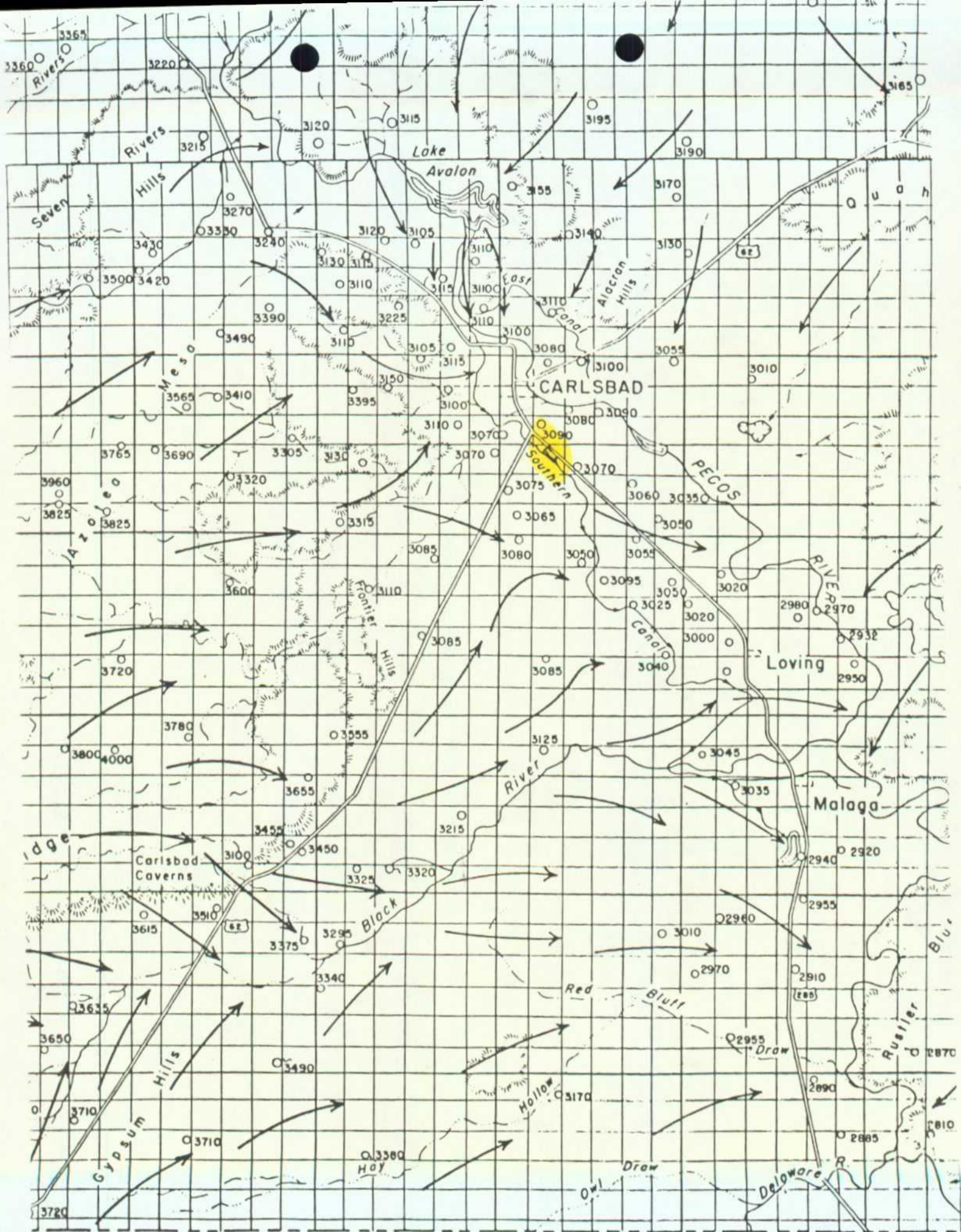
EUGENIE #2 - Injection well

1/4" = 20 Foot



MAP E #2

Injection Well



24 E.

R. 25 E.

R. 26 E.

R. 27 E.

R. 28 E.

R. 29 E.

Hydrological Map



UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P. O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

Company B & E, Inc.

Field

Lease Brine Well #1

Sampling Date 2-12-80

Type of Sample

WATER ANALYSIS

IONIC FORM	me/l *	mg/l *
Calcium (Ca++)	92.00	1,840
Magnesium (Mg++)	6.00	72 ✓
Sodium (Na+) (CALCULATED)	5,306.19	121,989
Iron (Total)		0.30
Bicarbonate (HCO ₃ -)	3.90	238 ✓
Carbonate (CO ₃ -)	Not	Found
Hydroxide (OH-)	Not	Found
Sulfate (SO ₄ -)	84.59	4,063
Chloride (Cl-)	5,315.70	188,500
<i>Fluoride as NaCl 20 25.8</i>	<i>5,315.70</i>	<i>310,968</i>
Total Dissolved Solids		316,702
6.69 pH c 68 °F 10.0377 @ 68°F		
Dissolved Solids on Evap. at 103° - 105° C		
Hardness as Ca CO ₃	98.00	4,900
Carbonate Hardness as CaCO ₃ (temporary)	3.90	195
Non-Carbonate Hardness as CaCO ₃ (permanent)	94.10	4,705
Alkalinity as CaCO ₃	3.90	195
Specific Gravity c 68° F 1.205		

* mg/l = milligrams per Liter

* me/l = milliequivalents per Liter

aCO₃ S. I. positive @ 86°F (0.51)

aSO₄ S. I. negative (0.81)

Possible Combinations

	<u>mg/l</u>	<u>mg/l</u>	<u>ppm</u>	<u>%</u>
Calcium Bicarbonate $\text{Ca}(\text{HCO}_3)_2$	3.9	312	259	0.025%
Calcium Sulfate CaSO_4	78.59	5,344	4,435	0.4435%
Magnesium Sulfate MgSO_4	6.0	361	300	0.0300%
Calcium Chloride CaCl_2	9.51	528	438	0.0438%
Sodium Chloride NaCl	5,306.91	310,410	257,602	25.7602%

Weight/gal = 10.04 @ 68°F

If this sample were evaporated - the probable solids concentrations would be as follows: in order of their solubilities.

1 l of water evaporated

Iron Oxide Fe_2O_3	0.54 mg	— %
Calcium Carbonate CaCO_3	195.00 mg	0.06 %
Calcium Sulfate CaSO_4	5344 mg	1.69 %
Magnesium Sulfate MgSO_4	361 mg	0.11 %

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

South Y
P. O. Box 756
Carlsbad, N.M. 88220
Phone (505) 885-6663

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

IV. PROCEDURES TO PROTECT GROUND WATER QUALITY

A. During Operation

1. No known wells exist that have been plugged or abandoned within required radius.
2. No requirement to limit pressure.
3. Mechanical Integrity - 1500 lbs to 300 lbs. Down pressure due to brine section taking fresh water. Pumped from #2 to #1 with 55 lbs. pressure.
4. Measuring inflow - inflow is determined by city commercial fresh water meter. Outflow is determined by number of bbls shown on daily tickets hauled from storage tanks.
5. Volume injected to volume extracted - with 100 bbls of fresh water injected, we extract about 86-90 bbls of brine water. Loss of fresh water is due to displaced salt crystals. Approx. 8-12% loss.
6. Quality Sampling - quality of fresh - City of Carlsbad fresh water from city mainline. Quality of brine determined by using hydrometer.
7. Leak detection system - visually inspected each day. Underground fiberglass tank in the case of an overflow (precaution we have taken).
8. Detect deterioration ground water quality - We have no access to existing water wells. Fresh water wells still exist according to Hydrological Map in Section 8 and Section 16. See Hydrological Map.
9. Prevention of spills & leaks - physically monitored by driver while opening and closing valves when loading.
10. Contingency plans - In the event this could happen, the existing would be totally circulated with cement and plugged. We would refer you to our Cement & Casing Program on Eugenie #2.
11. We would definitely commit to notifying the EID within 48 hours if a leak or spill caused contamination.

B. Post Operational Commitment

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

South Y
P. O. Box 756
Carlsbad, N.M. 88220
Phone (505) 885-6663

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Frac Tanks

IV. PROCEDURES TO PROTECT GROUND WATER QUALITY

continued

1. Plugging and abandonment - Please refer to the attached and approved Pluggine Bond dated 6-6-78 from the State of New Mexico, Energy and Minerals Dept. Oil Conservation Division.
2. Pond Closure - We do not have an open pit or open pond.

IV. PROCEDURES TO PROTECT GROUND WATER QUALITY

A. During Operation

1. Identify those abandoned wells/shafts or other conduits in the area of review which penetrate the injection zone and which, through being improperly sealed, completed or abandoned, provide a pathway for migration of contaminants. Detail what corrective action (e.g. plugging open holes) will be taken to prevent any movement of contaminants into ground water of less than/equal to 10,000 mg/l TDS through such conduits due to the proposed injection activity (5-203.A, B.1). Include completion and plugging records of such wells/shafts (5-203.C.5.).
2. In the event that operations have begun before information comes to light regarding such a conduit that will require plugging, injection pressure will be required to be limited to avoid movement of contaminants through such a conduit into protected ground water (5-203.B.2).
3. Mechanical integrity testing, such as:
 - a. pressure test prior to start of operation (5-204.B.1.a).
 - b. monitoring of annulus pressure (5-204.B.1.b; 5-204.C.)
4. Means and locations for measuring inflow to and outflow from the pond/tank (locations may be indicated on the schematic required under I.C) (3-106.C.2, 5).
5. Compare volumes of fresh water injected to volume of fluid extracted to detect underground losses (3-107.A.1). May be done by recording injection pressure and either flow rate or volume every two weeks, or by metering and daily recording of fluid volumes (5-207.C.2).
6. Location and design of site(s) and method(s) for sampling for quality of fresh water and discharge fluids at facility (3-106.C.5).
7. Leak detection system under pond: drains, lysimeters, other? (3-107.A.1,3,9).
8. Monitoring to detect any deterioration of ground water quality in area; do you have access to water well(s) within _____ (distance) down-gradient from the facility, in order to detect variation in quality? If not, may need to put in observation wells (3-107.A.2,9; 5-205.C); and make periodic quality reports (5-207.C.2.b,c). Also, identify wells in the area for which the potential contamination from your brine operation is very low, which can serve to indicate "background" levels of water quality parameters in the area.
9. How will spillage/leakage be prevented during truck loading or at transfer points within the facility?

Continued Next Page

10. Contingency plans (3-107.A.10) in the event of:

- a. leak/spill from surface facilities;
- b. loss of mechanical integrity of injection/production well.
How will ground water be protected from contamination or treated if contamination has occurred (1-203.A.2)?

11. If there is a leak, spill or other unanticipated discharge of a significant amount of water contaminants on the surface or underground at your facility, will you commit to notifying the EID Ground Water Section within 48 hours (1-203.A.1., 5-208.B.1)?

B. Post-operational commitments required prior to plan approval

1. Plugging and abandonment

- a. Plug and cap wells. Procedure must conform to that specified in 5-209, and be approved in advance.
- b. Demonstrate financial ability (5-210.B.17) to:
 - i. plug well and prepare for proper abandonment;
 - ii. restore protected ground water if contaminated by your brine extraction activities.
 - iii. undertake measures necessary to prevent contamination of groundwater having 10,000 mg/l or less TDS, after cessation of operations.

2. Pond closure

- a. Remove liner, if any, from pit (3-107.A)
- b. Remove salt crust from unlined pit and surrounding area (3-107.A.4, 11)
- c. Restore area to original contours or take other appropriate measures to prevent post-operational contamination.



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

JERRY APODACA
GOVERNOR

NICK FRANKLIN
SECRETARY

June 6, 1978

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

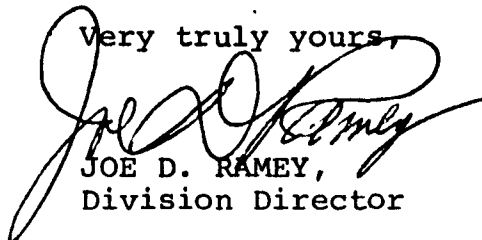
Mr. A. L. Hickerson
Permian Brine Sales &
Service, Inc.
P. O. Box 1591
Odessa, Texas 79760

Re: \$5,000 One-Well Plugging Bond
Permian Brine Sales & Service,
Inc., Principal
United States Fire Insurance
Company, Surety
641' FWL and 995' FSL of
Sec. 17, T-22-S, R-27-E,
Eddy County, Depth: 5,000 ft.
Bond No. 610 003738 8

Dear Mr. Hickerson:

The Oil Conservation Division hereby approves the
above-captioned one-well plugging bond.

Very truly yours,



JOE D. RAMEY,
Division Director

JDR/LT/dr

cc: Oil Conservation Division
Artesia, New Mexico

United States Fire Insurance
Company
P. O. Box 2639
Dallas, Texas 75221

Equipment & Supplies
Fresh Water
Brine Supply Wells
Salt Water Disposal

B & E, INC.

South Y
P. O. Box 756
Carlsbad, N.M. 88220
Phone (505) 885-6663

Vacuum Trucks
Winch Truck
Kill Truck
Frac Tanks

V. SIGN-OFF REQUIREMENT

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.


Phil Withrow
Manager - Owner
B & E, Inc.

V. SIGN-OFF REQUIREMENT

- Responsible official must certify as follows:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment (5-101.H.2).

Quality 2980227 Well Plugging renews 02/22 annually
(B & E, Inc. and Watson Treating on this) premium \$ 50.00

State 24 4477509 Well Plugging renews 07/27 annually
premium \$ 50.00

Eugenie 447513 Well Plugging renews 09/01 annually
premium \$ 50.00

State 31 4477516 Mining Permit renews 06/26 annually
premium \$ 30.00

Eugenie 4719382 Well Plugging renews 03/28 annually
premium \$ 50.00

T.K. ? 4719384 Right of Way/Water Lease renews 06/10 annually
premium \$ 50.00

*no copy
bond*

STATE OF NEW MEXICO

ONE-Well PLUGGING BOND

FOR CHAVES, EDDY, LEA, McKinley, RIO ARriba, ROOSEVELT,
SANDOVAL, AND SAN JUAN COUNTIES ONLY

BOND NO. 4427513
(For Use of Surety Company)

AMOUNT OF BOND \$5,000.00

COUNTY Lea

NOTE: For wells less than 5,000 feet deep, the minimum bond is \$5,000.00*
For wells 5,000 feet to 10,000 feet deep, the minimum bond is \$7,500.00*
For wells more than 10,000 feet deep, the minimum bond is \$10,000.00

*Under certain conditions, a well being drilled under a \$5,000.00 or \$7,500.00 bond may be permitted to be drilled as much as 500 feet deeper than the normal maximum depth, i.e., a well being drilled under a \$5,000.00 bond may be permitted to go to 5,499 feet, and a well being drilled under a \$7,500.00 bond may be permitted to go to 10,500 feet.

File with Oil Conservation Commission, P. O. Box 2080, Santa Fe 87501

KNOW ALL MEN BY THESE PRESENTS:

That B & F, Inc (An individual) (a partnership)
(a corporation organized in the State of New Mexico, with its principal office in the city of
Hobbs, State of New Mexico, and authorized to do business
in the State of New Mexico), as PRINCIPAL, and Safeco Insurance Company, a
corporation organized and existing under the laws of the State of Washington,
and authorized to do business in the State of New Mexico, as SURETY, are held jointly bound unto the State of New
Mexico, for the use and benefit of the Oil Conservation Commission of New Mexico pursuant to Section 65-3-11, New
Mexico Statutes Annotated, 1953 Compilation, as amended, in the sum of Five Thousand & No/100
Dollars lawful money of the United States, for the payment of which, well and truly to be made, said PRINCIPAL and
SURETY hereby bind themselves, their successors and assigns, jointly and severally, firmly by these presents.

The conditions of this obligation are such that:

WHEREAS, The above principal has heretofore or may hereafter enter into oil and gas leases, or carbon dioxide
(CO₂) gas leases, or helium gas leases with the State of New Mexico; and

WHEREAS, The above principal has heretofore or may hereafter enter into oil and gas leases, or carbon dioxide
(CO₂) gas leases, or helium gas leases on lands patented by the United States of America to private individuals, and
on lands otherwise owned by private individuals, and

WIT BE IT: That the above principal, individually, or in association with one or more other parties, as mentioned or
may commence the drilling of one well not to exceed a depth of 5,000 feet, to prospect for and produce oil
or gas, or carbon dioxide (CO₂) gas or helium gas, or does own or may acquire, own or operate such well, or such well
started by others on land embraced in said State oil and gas leases, or carbon dioxide (CO₂) leases, or helium gas leases,
and on land patented by the United States of America to private individuals, and on land otherwise owned by private
individuals, the identification and location of said well being 995 feet from South line and 641' from West line
(Here state exact legal subdivision by acre tract or lot)
Eddy Section 17, Township 22 (North), Range 27 (East) (West) N 41 P M
County, New Mexico

TO HAVE IN FULL: If the above bonded principal and surety or either of them or their successors or assigns or
any one of them shall fail to plug a well when dry or when abandoned in accordance with the rules, regulations, and orders of
the Oil Conservation Commission of New Mexico in such way as to cause a leak of gas, and when in the state in which
it is plugged, it is not plugged into other, then

the above bonded principal and surety or either of them or their successors or assigns or any one of them shall be liable to the State of New Mexico for the cost of plugging such well.

Quality 2980227 Well Plugging renews 02/22 annually
(B & E, Inc. and Watson Treating on this) premium \$ 50.00

State 24 4477509 Well Plugging renews 07/27 annually
premium \$ 50.00

Eugenie 447513 Well Plugging renews 09/01 annually
premium \$ 50.00

State 24 4477516 Mining Permit renews 06/26 annually
premium \$ 30.00

Eugenie 4719382 Well Plugging renews 03/28 annually
premium \$ 50.00

T.K. ? 4719384 Right of Way/Water Lease renews 06/10 annually
premium \$ 50.00

*no copy
; bond*

MAY 31 198

Revised 6-17-77

STATE OF NEW MEXICO
ONE-Well PLUGGING BOND

FOR CHAVIS, LIDDY, ICA, McKINLEY, RIO AGRIMA, ROOSEVELT,
SABINAL, AND SAN JUAN COUNTIES ONLY

BOND NO. 4719382
(For Use of Surety Company)

AMOUNT OF BOND \$5,000.00

COUNTY Eddy

NOTE: For wells less than 5,000 feet deep, the minimum bond is \$5,000.00*
For wells 5,000 feet to 10,000 feet deep, the minimum bond is \$7,500.00*
For wells more than 10,000 feet deep, the minimum bond is \$10,000.00

*Under certain conditions, a well being drilled under a \$5,000.00 or \$7,500.00 bond may be permitted to be drilled as deep as 500 feet deeper than the normal maximum depth, i.e., a well being drilled under a \$5,000.00 bond may be permitted to go to 5,500 feet, and a well being drilled under a \$7,500.00 bond may be permitted to go to 10,500 feet.

File with Oil Conservation Commission, P. O. Box 2038, Santa Fe 87501

KNOW ALL MEN BY THESE PRESENTS:

That B&E, Inc. (An individual) (a partnership)
(a corporation organized in the State of New Mexico with its principal office in the city of
Hobbs State of New Mexico and authorized to do business
in the State of New Mexico), as PRINCIPAL, and Safeco Insurance Company
a corporation organized and existing under the laws of the State of Washington
and authorized to do business in the State of New Mexico, as SURETY, are held jointly bound unto the State of New
Mexico, for the use and benefit of the Oil Conservation Commission of New Mexico pursuant to Section 65-3-11, New
Mexico Statutes Annotated, 1953 Compilation, as amended, in the sum of Five Thousand dollars and no/100-
Dollars lawful money of the United States, for the payment of which, well and truly to be made, said PRINCIPAL, and
SURETY hereby bind themselves, their successors and assigns, jointly and severally, firmly by these presents.

The conditions of this obligation are such that:

WHEREAS, The above principal has heretofore or may hereafter enter into oil and gas leases, or carbon dioxide
(CO₂) gas leases, or helium gas leases with the State of New Mexico; and

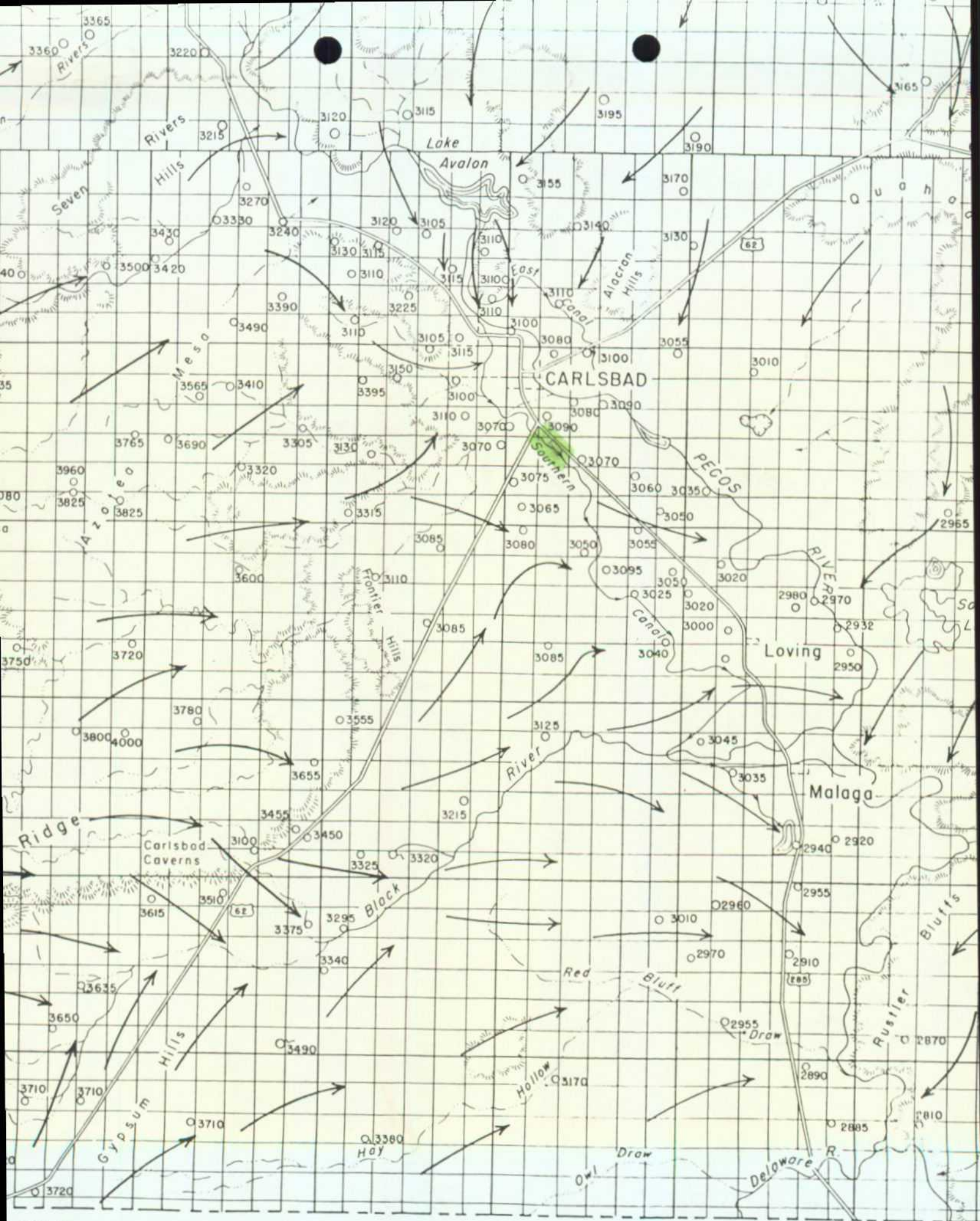
WHEREAS, The above principal has heretofore or may hereafter enter into oil and gas leases, or carbon dioxide
(CO₂) gas leases, or helium gas leases on lands patented by the United States of America to private individuals, and
on lands otherwise owned by private individuals; and

WHEREAS, The above principal, individually, or in association with one or more other parties, has commenced or
may commence the drilling of one well not to exceed a depth of 5,000 feet, to prospect for and produce oil
or gas, or carbon dioxide (CO₂) gas or helium gas, or does own or may acquire, own or operate such well, or such well
started by others on land embraced in said State oil and gas leases, or carbon dioxide (CO₂) leases, or helium gas leases,
and on land patented by the United States of America to private individuals, and on land otherwise owned by private
individuals, the identification and location of said well being: 497' from the West Line and 1288' from

the South Line Section 17 Township 22 (Here state exact legal description by distance and/or lot)
Eddy County, New Mexico. (XXXXX (South), Range 27 (East) (XXXXX N.E. 1/4)

NOW, THEREFORE, If the above bounden principal and surety or either of them or their successors or assigns, or
any of them, shall plug said well when dry or when abandoned in accordance with the rules, regulations, and orders of
the Oil Conservation Commission of New Mexico in such way as to confine the oil, gas, and water in the strata in which
they are found, and to prevent them from escaping into other strata;

THEN, THEREFORE, This obligation shall be null and void; otherwise and in default of complete compliance with
any and all of said obligations, the same shall remain in full force and effect.



R. 24 E.

R. 25 E.

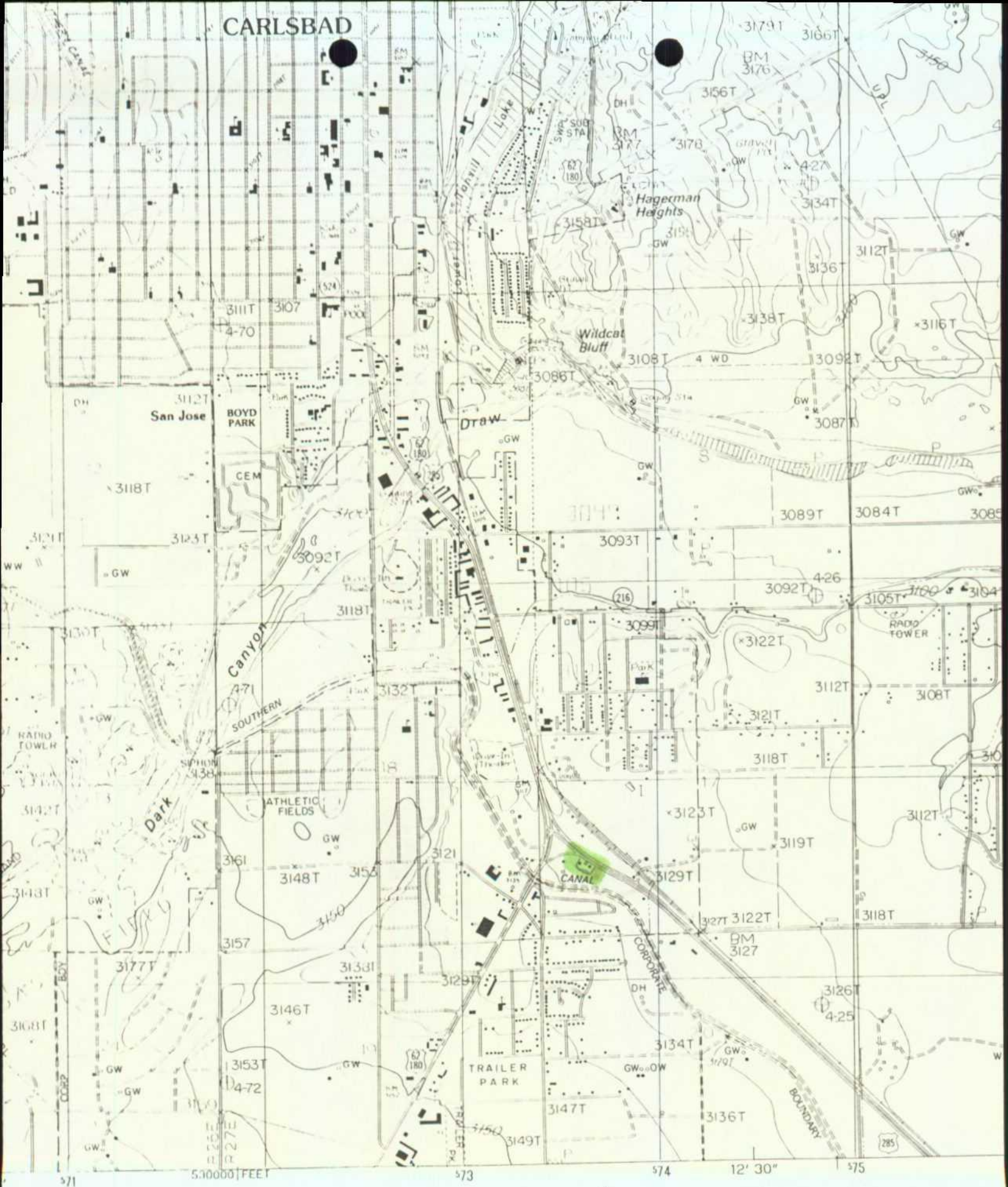
R. 26 E.

R. 27 E.

R. 28 E.

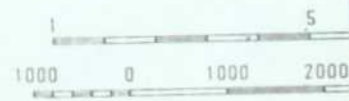
R. 29 E.

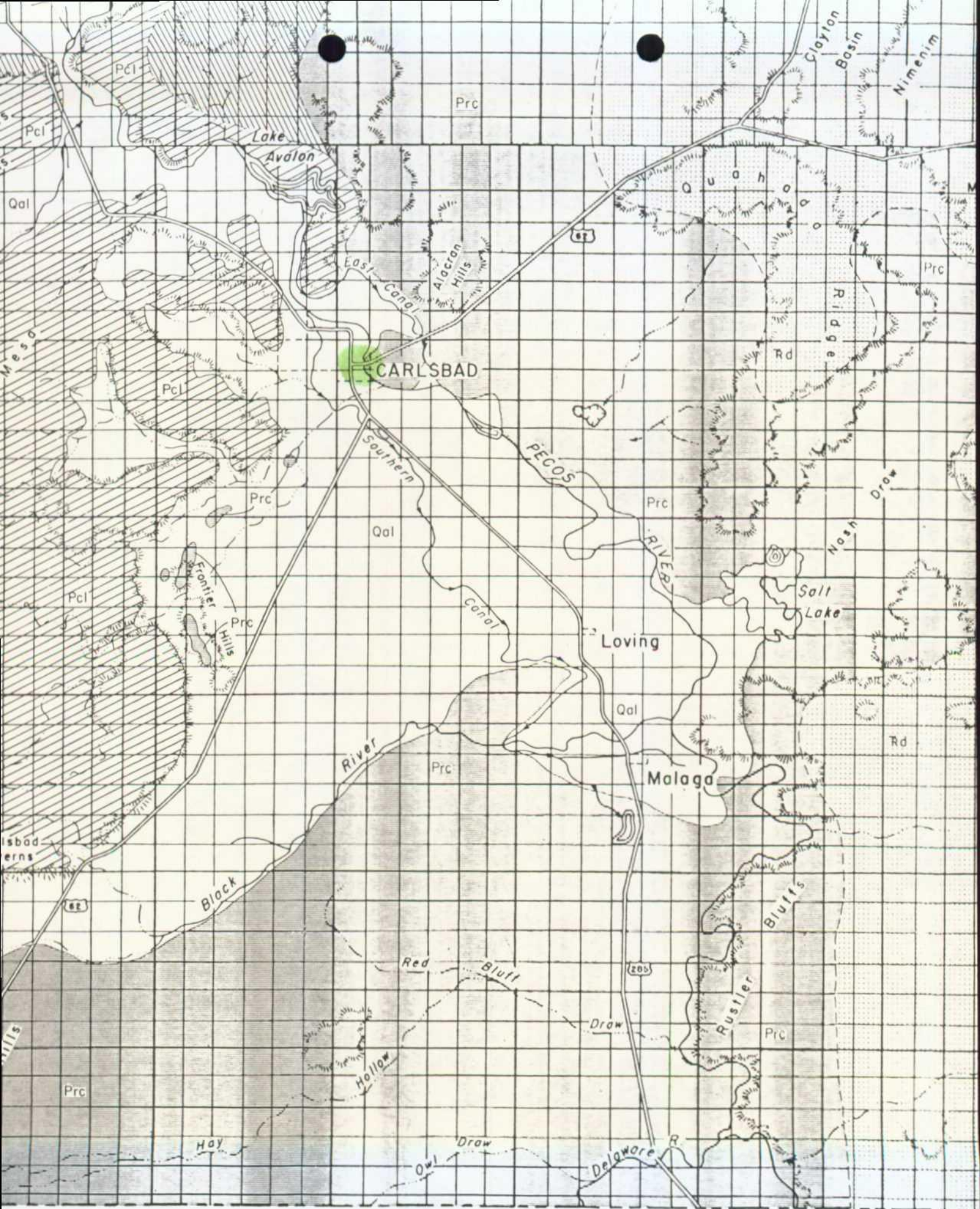
CARLSBAD



PRODUCED BY THE UNITED STATES GEOLOGICAL SURVEY
 CONTROL BY THE UNITED STATES GEOLOGICAL SURVEY
 BASED ON AERIAL PHOTOGRAPHS TAKEN IN 1977
 CHECKED IN 1978
 MAP EDITED IN 1985
 PROJECTION TRANSVERSE MERCATOR
 ZONE 13
 1000-METER UNIVERSAL TRANSVERSE MERCATOR
 1000-FOOT STATE GRID TICS
 NEW MEXICO, EAST ZONE
 0°26' EAST

NORTH





R. 25 E.

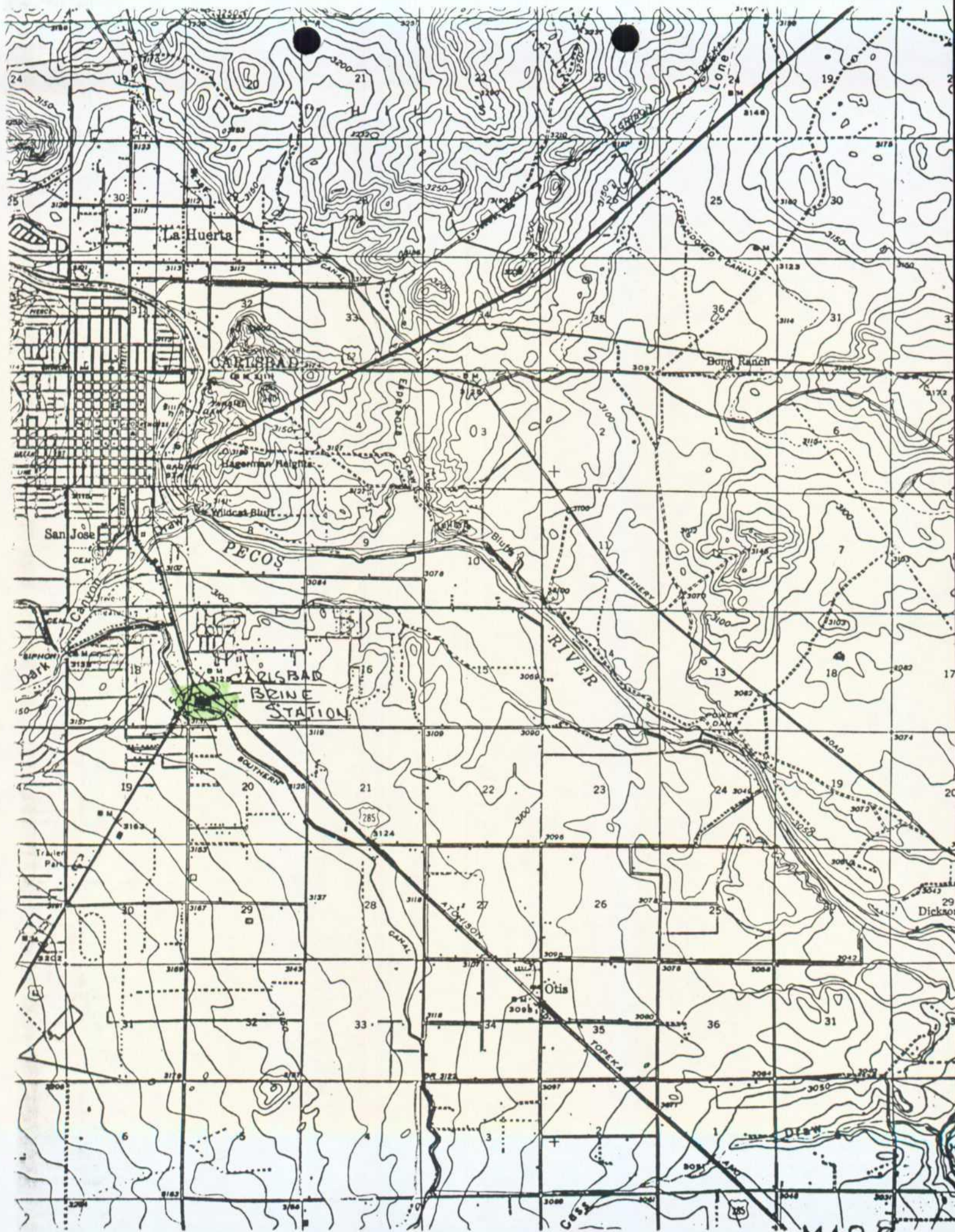
R. 26 E.

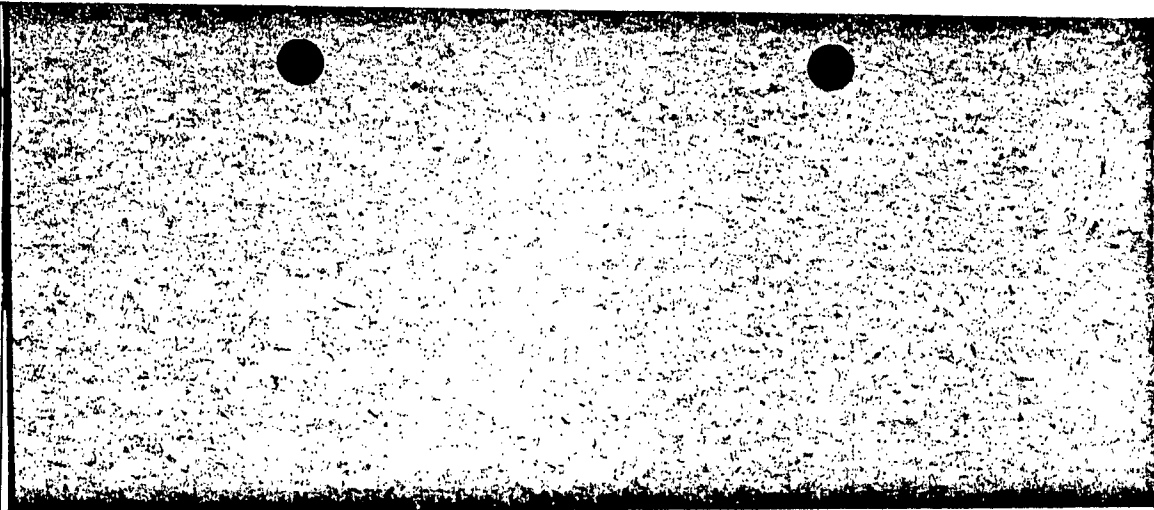
R. 27 E.

R. 28 E.

R. 29 E.

R. 30





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Commencing at the Northwest corner of the SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 17, Township 22 South, Range 27 East, N.M.P.M. Thence on an assumed bearing of due South a distance of 286.9 feet; Thence South 59°30' East a distance of 64.9 feet; Thence South 66°50' East a distance of 100 feet; Thence South 72°40' East a distance of 100 feet; Thence South 78°05' East a distance of 100 feet; Thence South 83°58' East a distance of 104.5 feet; Thence North 0°43' West a distance of 427 feet to the South right-of-way line of the connecting road between U. S. Highways 62 and 285; Thence Easterly along the said right-of-way line to its intersection with a line parallel to and 50 feet distant, the said intersecting point being marked with an iron rail set in concrete and being the point of beginning of the tract herein described; Thence Southeasterly along the said right-of-way line to a point that bears South 74°45' East a distance of 223.5 feet; Thence South 60°39' East along the said highway right-of-way a distance of 28.4 feet to the Northwest corner of the Mays Lumber Company Tract; Thence South 1°56' West along the West line of the said tract a distance of 350 feet; Thence at an angle to the left of 86°02' a distance of 155 feet to the Southeast corner of the said tract; Thence South along the boundary between the Benz-Fisher Tracts as shown in the agreement between the two parties a distance of 9.5 feet, more or less, to the North boundary line of the U.S.R.S. Main Canal; Thence Westerly along the said right-of-way a distance of 372.5 feet; the said point being marked with an iron rail set in concrete; Thence North 0°43' West a distance of 426.5 feet to the point of beginning.

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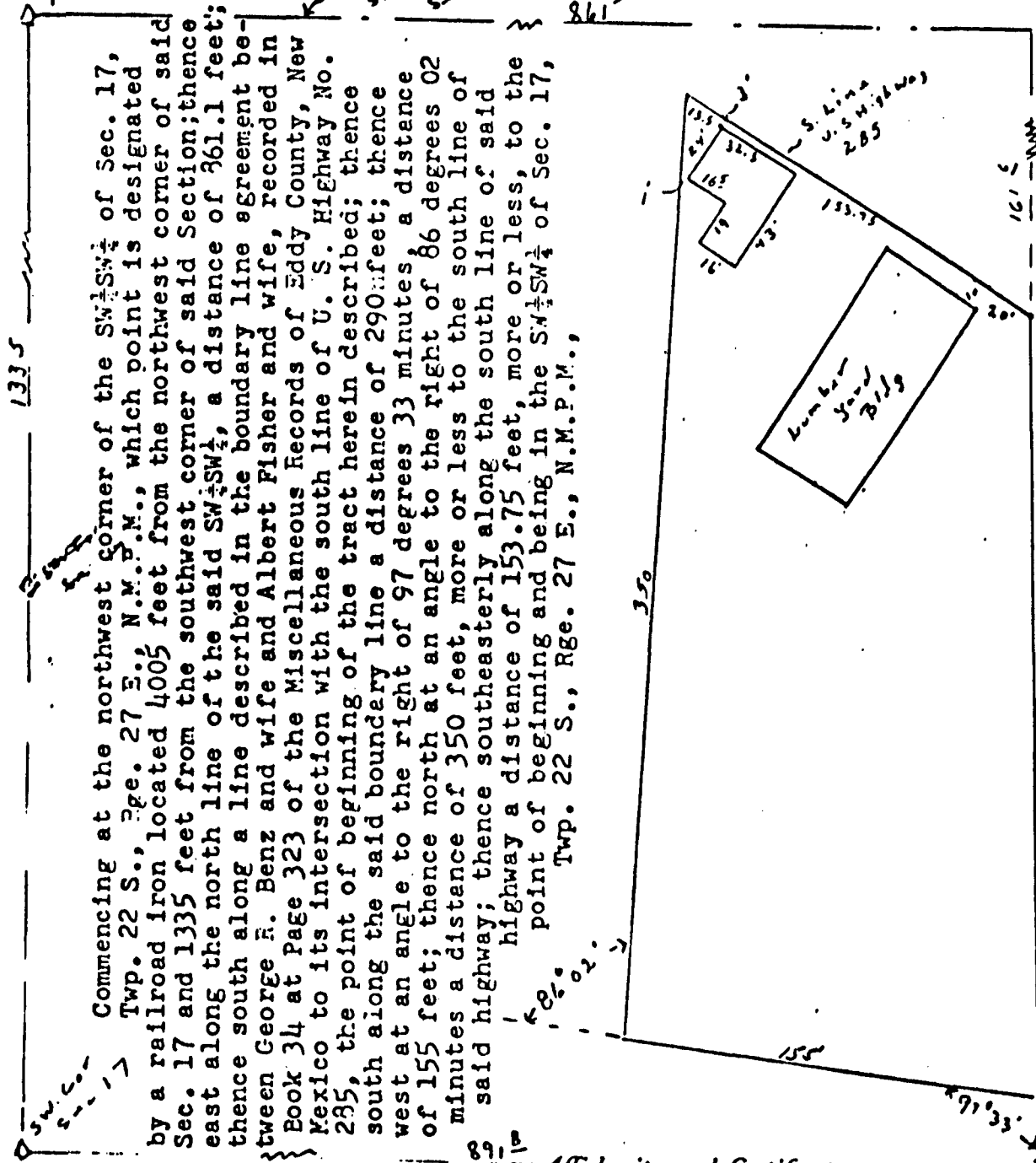
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*Railroad right of way
New line SW 1/4 Sec 17
Twp 27 S. Rge 27 E.*

*N. Line
SW 1/4 Sec 17*

2100



Commencing at the northwest corner of the SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Sec. 17, Twp. 22 S., Rge. 27 E., N.M.P.M., which point is designated by a railroad iron located 4005 feet from the northwest corner of said Sec. 17 and 1335 feet from the southwest corner of said Section; thence east along the north line of the said SW $\frac{1}{4}$ SW $\frac{1}{4}$, a distance of 361.1 feet; thence south along a line described in the boundary line agreement between George R. Benz and wife and Albert Fisher and wife, recorded in Book 34 at Page 323 of the Miscellaneous Records of Eddy County, New Mexico to its intersection with the south line of U. S. Highway No. 285, the point of beginning of the tract herein described; thence south along the said boundary line a distance of 290 feet; thence west at an angle to the right of 97 degrees 33 minutes, a distance of 155 feet; thence north at an angle to the right of 86 degrees 02 minutes a distance of 350 feet, more or less to the south line of said highway; thence southeasterly along the south line of said highway a distance of 153.75 feet, more or less, to the point of beginning and being in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Sec. 17, Twp. 22 S., Rge. 27 E., N.M.P.M.,

891

Affidavit and Certificate

STATE OF NEW MEXICO

COUNTY OF EDDY

ss.

I, John W. Lewis, Jr., being duly sworn, upon my oath state that I am a licensed surveyor of New Mexico

I have surveyed ~~lot xxxxxxxxxx Block~~ the Tract of land hereon described ~~xxx the County of Eddy, N.M.~~, and to my knowledge there is located within the boundaries thereof a ~~bus~~ building

as shown hereon belonging to ~~Mayes Lumber Co.~~

and there is no encroachment on the part of the said building from adjacent properties.

John W. Lewis, Jr.

Section 17 Twp 22S. 1

BRYANT Addition
TO

W.

Hall Subdivision

Block 'A'

Hall Subd

Block 'B'

17

County
Highway
yards 6.72A
state

5.7A
C.F. Thompson

H.T.
Briggs
14.3

H.T. Briggs

H.T.

A.T. & S.F.
A.T. & S.F.

Tracy

Wade
2.1A

5.7A
C.F. Thompson
2.39A
H.T. Briggs
14.3

Gilbert
Gin Co.
3A

R. R.

H.E. Fisher

17A.

A.H. 1

Main Canal

South "y".
Subdivision

Albert
5.43A
Fisher

H.E. Fisher
52A

280
Fisher

4. 1000 GAL BRINE
Storage Tanks

EUGENIE 1

Discharge Brine
To Storage tanks

GROUND SURFACE

8 3/8" Casing

1220'

5 1/2" Casing

2 7/8" Tubing

456'

Top of Salt

SALT FORMATION

601'

EUGENIE 2

1/2" Injection
Draw Hole

5 1/2" Casing

285'

2 7/8" Tubing

456'

601'

663'

Depth, Diameter
Casing & Tubing
Specs
Map B

WLB Schematic Drawing
of Eugenie 1 & Eugenie 2

B&E Inc. South Y CARLSBAD N.M. 89220

Date
May 7, 1987

Gene Pruitt
B&E Inc.

NM OIL CONSERVATION DEPT

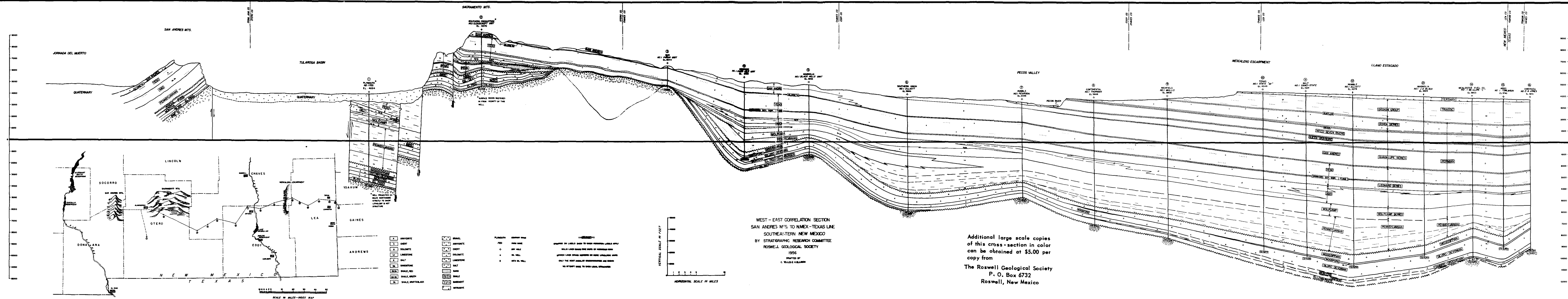
WELL LOG # 1 & 2

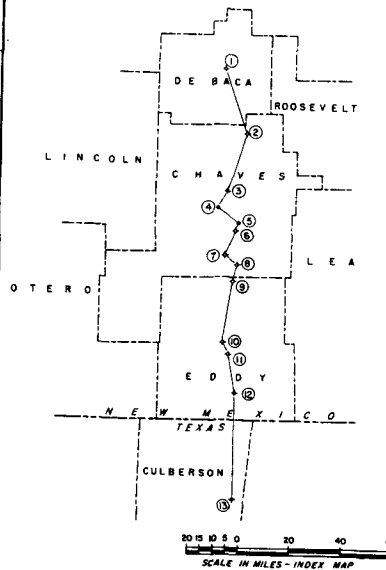
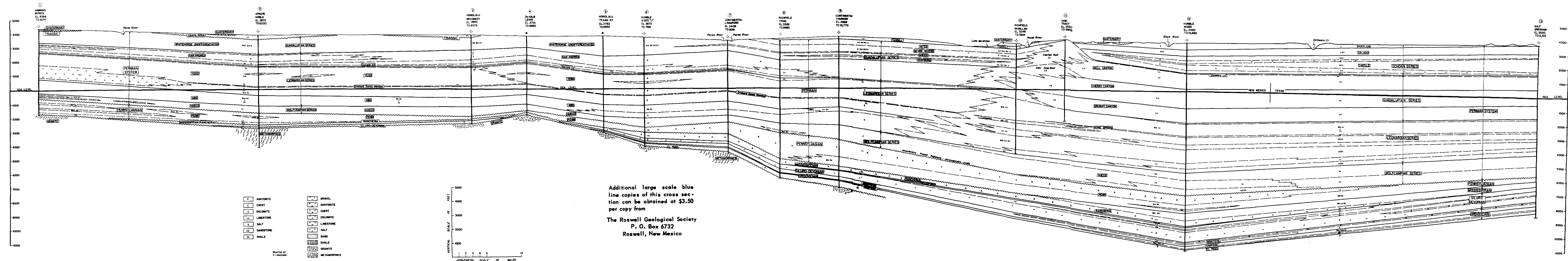
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BW 006 . **BOX**

NUMBER 31

RETURNED TO CUSTOMER



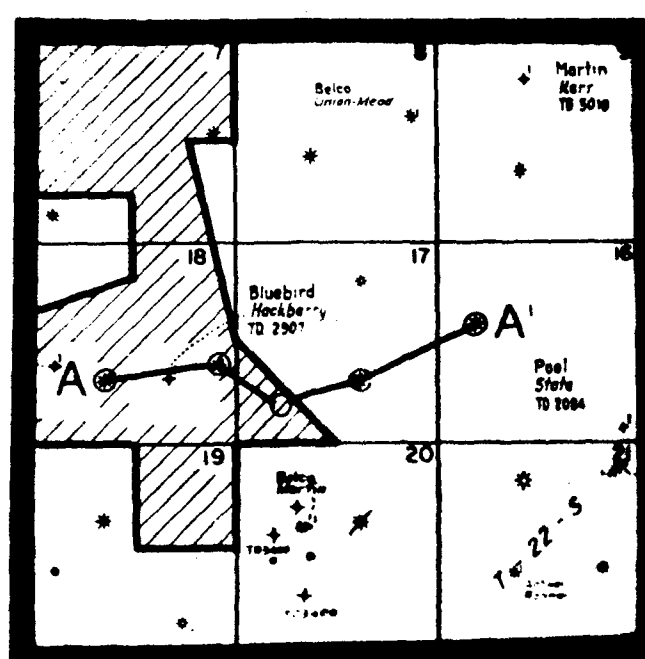
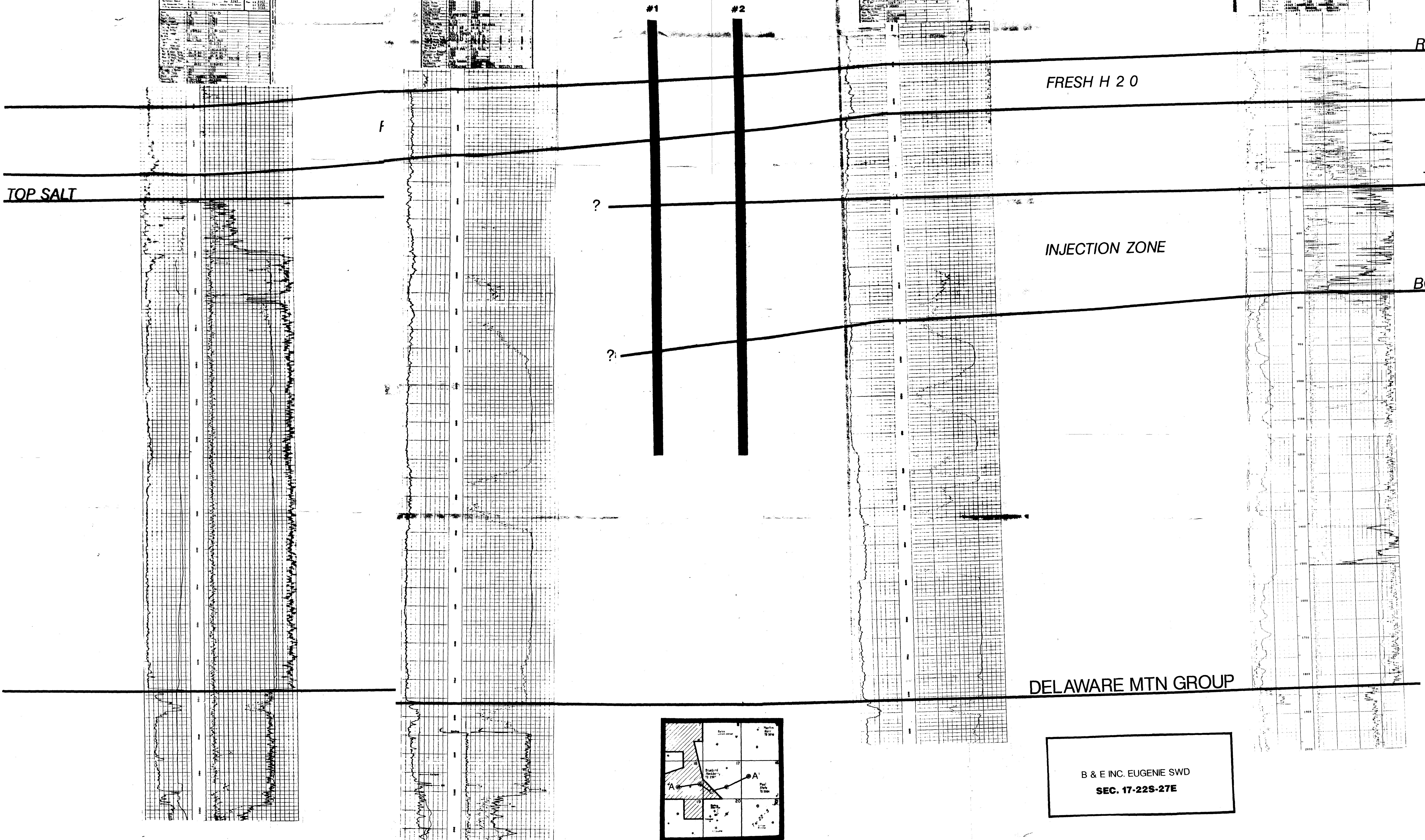


NORTH-SOUTH CORRELATION SECTION
WESTERN FLANK OF PERMIAN BASIN
SOUTHEASTERN NEW MEXICO
BY STRATIGRAPHIC STUDIES COMMITTEE
ROSWELL GEOLOGICAL SOCIETY
MARCH 1953

[illegible]

COMPENSATED NEUTRON FORMATION DENSITY	
TRACK NUMBER 1000 TRACK NUMBER 1000 TRACK NUMBER 1000 Company CITIZEN SERVICE OIL COMPANY WELL TRACK "C" COMD. #1 FREQ SAVIN CABLED Country U.S.A. DATE 1967 FEB 1 TIME 10:00 STATION NEW HEDCO Operator DIL	
U.S. 38 12 22.5 1967 TIME 10:00	
U.S. 38 12 22.5 1967 TIME 10:00	

Schlumberger		COMPENSATED NEUTRON FORMATION DENSITY	
COMPANY: <u>AMERILIS B. METCAL</u> WELL: <u>BEAR #2</u> FIELD: <u>SOUTH CRAWFORD</u> COUNTY: <u>LEWIS</u> STATE: <u>MISSISSIPPI</u> LOG: <u>U.S. 15880-159</u> DATE: <u>11-1-54</u> TIME: <u>11:00</u>			
LOG NO. <u>15880-159</u> DATE: <u>11-1-54</u> TIME: <u>11:00</u>		D.L. <u>15880-159</u> DATE: <u>11-1-54</u> TIME: <u>11:00</u>	
LOG NO. <u>15880-159</u> DATE: <u>11-1-54</u> TIME: <u>11:00</u>		D.L. <u>15880-159</u> DATE: <u>11-1-54</u> TIME: <u>11:00</u>	

[illegible]

B & E INC. EUGENIE SWD
SEC. 17-22S-27E

