BW - 13

GENERAL CORRESPONDENCE

YEAR(S):

1991 → 1984

BW-13
COP-355

INVENTORY OF SOLUTION MINING WELLS -- OIL CONSERVATION DIVISION, 1991

I. OPERATOR/LOCATION INFORMATION

Operator: Kenneth Tank Service Kenneth Kinsdving (owner)

Address: Box 100

Crossroads, NM 88114 Phone: 675-2356

Facility _____

T. 9-S R. 35-E Sec. 27 SE 1/4 SE 1/4 P

County: Lea

Purpose of well (brine supply, LPG storage, potash dissolution) _____

II. DRILLING/SITING INFORMATION

Contractor: Mansell Brine

Date drilling started ≈ 1966 Date drilling completed ≈ 1966

Drilling method _____

Ground Surface Elevation _____ KB Elevation _____

Total depth of hole _____

Attach schematic of well, include open hole interval, perforations, etc.

Type of drilling fluid _____

Describe all casing tests performed to date _____

11-26-84: 230 psi for 30 min. following 200 psi for 25 hours

CASING, TUBING AND CEMENTING RECORD

From	To	Size of Hole	Size of Casing	Weight per Foot	Sacks of Cement	Estimated Top of cmt.
0'	2000'		7"	N80		Circulated to surface?
0'	2900'		2 7/8"	J55		

cement & depths are approximate & based on drillers recollection

Is site within 1/2 mile of another well? Is so, explain. _____

Type of well-head equipment Well-head valving & booster pump

Comments (include problems encountered while drilling, loss of circulation, deviation of hole from vertical, centralizers, used, tools lost or stuck, fracturing techniques used, etc.) Only report on well is C-103 "Sundry Notice & Report" filed with NMOCD 2/28/83. No completion reports available. Drilled by Mr. Mansell & bought later by C.K. Kinsolving.

Well serviced 3 times in 14 years of KTS ownership (1970-1984)

III. FORMATION INFORMATION

Formation Record

From	To	Thickness	Formation (name, description)
			LITHOLOGY FROM LITERATURE & SHELL WELL LOCATED IN SAME SECTION DEPTHS ARE ESTIMATES
0'	to 1960'	1960'	Caliche & red beds. Tertiary Ogallala & Sierra Blanca Volcanics; Cretaceous Sands & Shales; Jurrassic – not present; Triassic Chinle (Santa Rosa not present)
1960'	to 2809'		Halite & Anhydrite; Permian Rustler Anhydrite; Permian Salado Halite (interbedded evaporites)
2809	to		Anhydrite & Dolomite; Permian Guadalupe Series (San Marine ls, sh, ss, evaporites (San Andres Fm ⇒ oil Producing)

PROPOSED DEPTHS USED IN DP-355: (Rustler) 1960' to 2250'; 2250' to 2800' (Salado)

Logs (specify type) None run on brine well. Several open hole (ie above) logs run on nearby oil wells.

Note: EID reported from OCD source that have

~~Identify where logs are on file~~ Triassic Dockum Group [Chinle; ~~Santa Rosa~~; Undifferentiated Perm/Tr red beds or Dewy Lake RB

Dockum Gp – water wells throuout Lea County

Perm [~~Rustler~~; Salado

Located on northern edge of ~~High Plains~~ Permian Basin in the High Plains province.

Gentle SE dip into the Permian basin

IV. AQUIFER INFORMATION

Aquifers in Immediate Area

From	To	Aquifer Description	Amount of Water entering hole	Quality of Water
140'	[redacted] (1030')	Tucumcari Shale (lower K) (Brine supply well + EID Public Notice)		TDS 500 mg/l

WATER-BEARING ROCKS IN AREA

(130') • Tertiary Ogallala - fine unconsolidated sand; unsaturated at facility local; saline near playa lakes
• Cretaceous Tucumcari Shale
• Triassic Chinle - discontinuous sands (alluvial) Not ID'd at facility site but are potential for foreseeable future.

C.W Kinsolving water well in NW/4 NW/4 Sec 35, T9S, R35E Water Sand/Gravel 151'-167'
Drilled 1948. Red bed below

O.K. Lovejoy water well in SW/4 (SE/4 - 1) Sec. 2, T9S, R35E, Water Sand/Gravel 180-200' Sand — 170-190)
Drilled 1961, Produces 9 gpm

Note: If water quality analysis are available please attach.*

Source of aquifer description Public Notice-EID

Source of water level and quality data _____

Depth water first encountered during drilling _____

Direction of water gradient Easterly (20 ft/mi). Maybe retarded or reversed locally due to pumping

Explain any evidence of water contamination 9-85 to 1-86 see lg. increase in TDS & Cl. in A+B.

see attachment

Wells near brine station - ABCDE on Kinsolving property
*A, B - brine supply wells, C - abandoned, old facility (~~Pasture pipe the well~~)
*D - operating pasture well, *E - pasture windmill, *F - domestic well (not Kinsolving)

* Analyses referenced in original DP.

V. PRODUCTION/BRINE STORAGE INFORMATION

Method of production (describe fully) Freshwater from well pumped to freshwater tanks, thru booster pumps, to injection well, down annulus, out tubing, to brine storage tanks, to brine loading ports. Produce & sell 2x as much fresh water as brine - Meter injection water @ injection point for volume records. (1 bbl freshwater => 80 lb. salt)

Was well used previously for some purpose other than brine supply No knowledge of.

If so, explain _____

Use of brine _____

EID - 1 S of tanks
1 W of tanks
commingled

Source of injection water (be specific) 2 source wells previously used. Now only use ~~None next to~~ freshwater tanks. Producing from lower Cretaceous Tucumcari Shale, basal sand unit 10-20' thick. Upper portion of shale eroded away.

Date of first production _____

Volume of brine produced to date _____

Weight of salt removed to date _____

Calculated size and shape of cavity to date _____

Explain any evidence of subsidence and any subsidence monitoring None

See attached diagram

Brine storage facilities (describe) 4 (northernmost tanks) API certified, 10 gauge, bolted, galvanized steel tanks. 2-5410bbl, 2-1048bbl. All tanks interconnected by pipelines & valved at delivery ports & each tank.

Also, 2 freshwater storage tanks (1048 bbl/tank); interconnected & pipelines buried

Explain how brine storage pit is being monitored for leakage

Emergency Pond - designed to fluid flow of 40gpm for 8 hours (2566ft³).
(1ft.) (6mil polyethylene)
Soil-covered, synthetic liner. Fluids in ≤10% time.

Explain brine loading procedures 2 delivery ports @ a brine loading pad with a drain, draining to an emergency pond via 4" PVC pipe.

Explain fresh water loading procedures 1 delivery port.

VI. ABANDONMENT/PLUGGING RECORDS

Date well abandoned/plugged _____

Reason for well abandonment or plugging _____

_____

Method of plugging or proposed plugging (describe fully, include amounts of cement, etc. top, plug type, depth, etc.) _____

_____

_____

_____

_____

List all conduits in the area of review. Include completion and plugging records.

3 fresh water wells at old facility (1960's) local. 2 are bridged above water table, 1 is used for stock well (no records for any).

_____

_____

VII. CHRONOLOGY OF EVENTS

12-16-83: KTS submits 1st draft of Assurance of Discontinuance

12-21-83: KTS " "final" "

1-10-84 Assurance of Discontinuance signed by KTS & WQCC

3-14-84 KTS-Geoscience submits "Proposal to Modify Surface Facilities" (dated 3-9-84)

Construct 1. tank berm 2. lined emergency pond 3. lined catchment for loading

8-6-84 KTS (GeoSci) submits Discharge Plan

8-30-84 KTS (GeoSci) submits final Discharge Plan

11-7-84 EID's response to DP w/ request for additional info

[11-84 to 7-85 Various correspondence between EID & KTS for DP approval]

7-15-85: EID approves KTS DP-355

12-6-89: OCD notifies KTS of transfer of brine well authority

7-15-90: KTS DP-355 (BW-13) expires

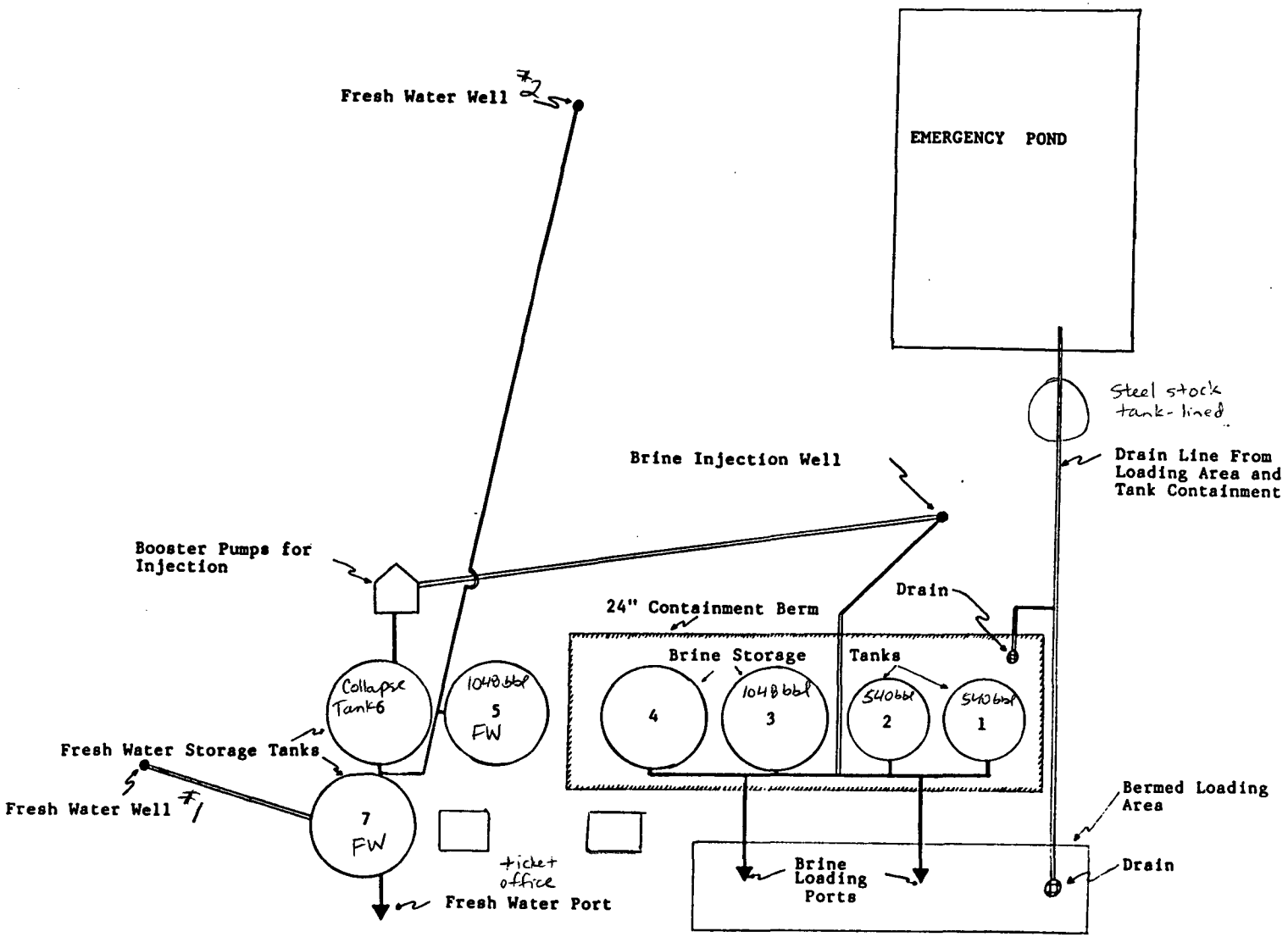
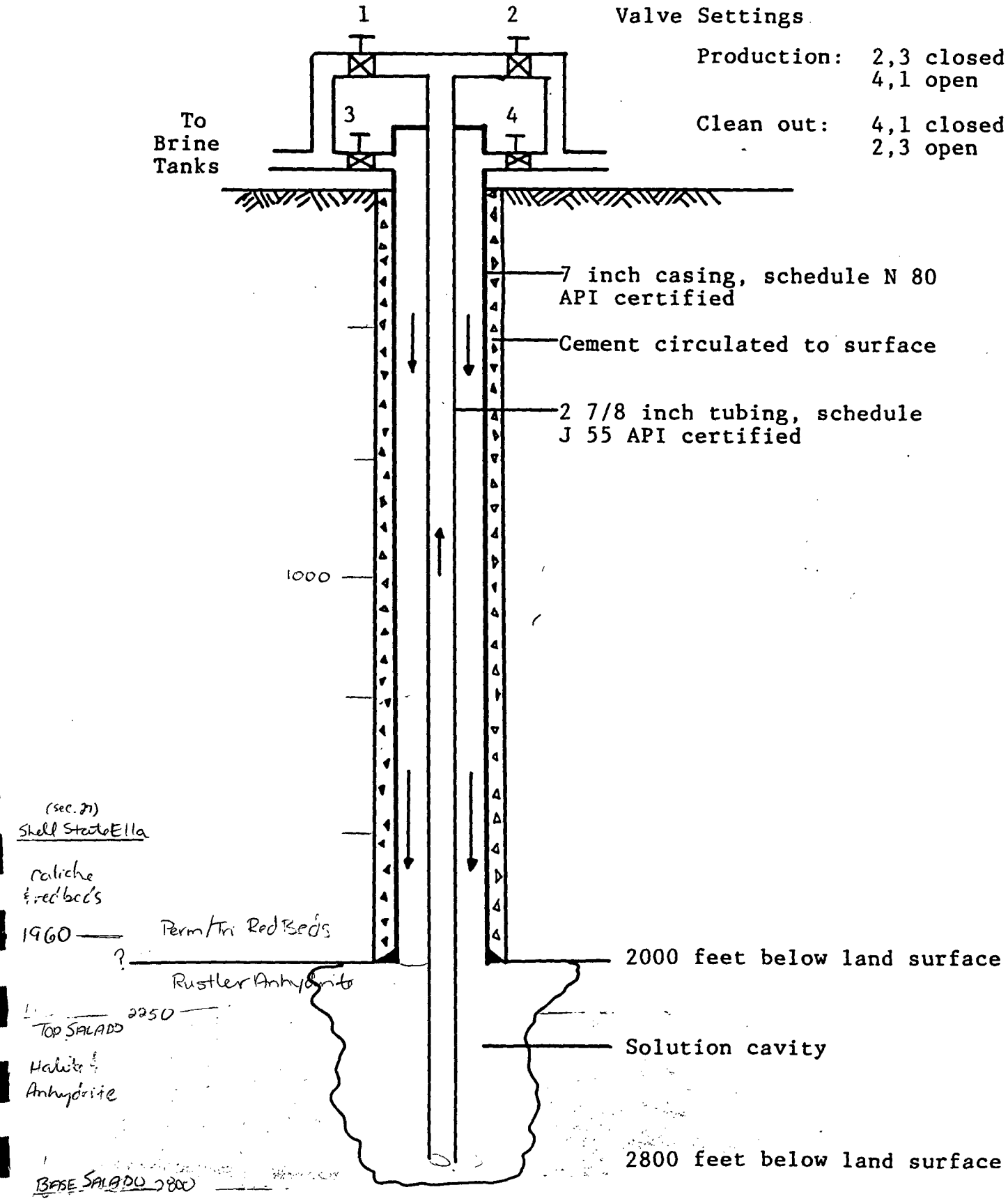
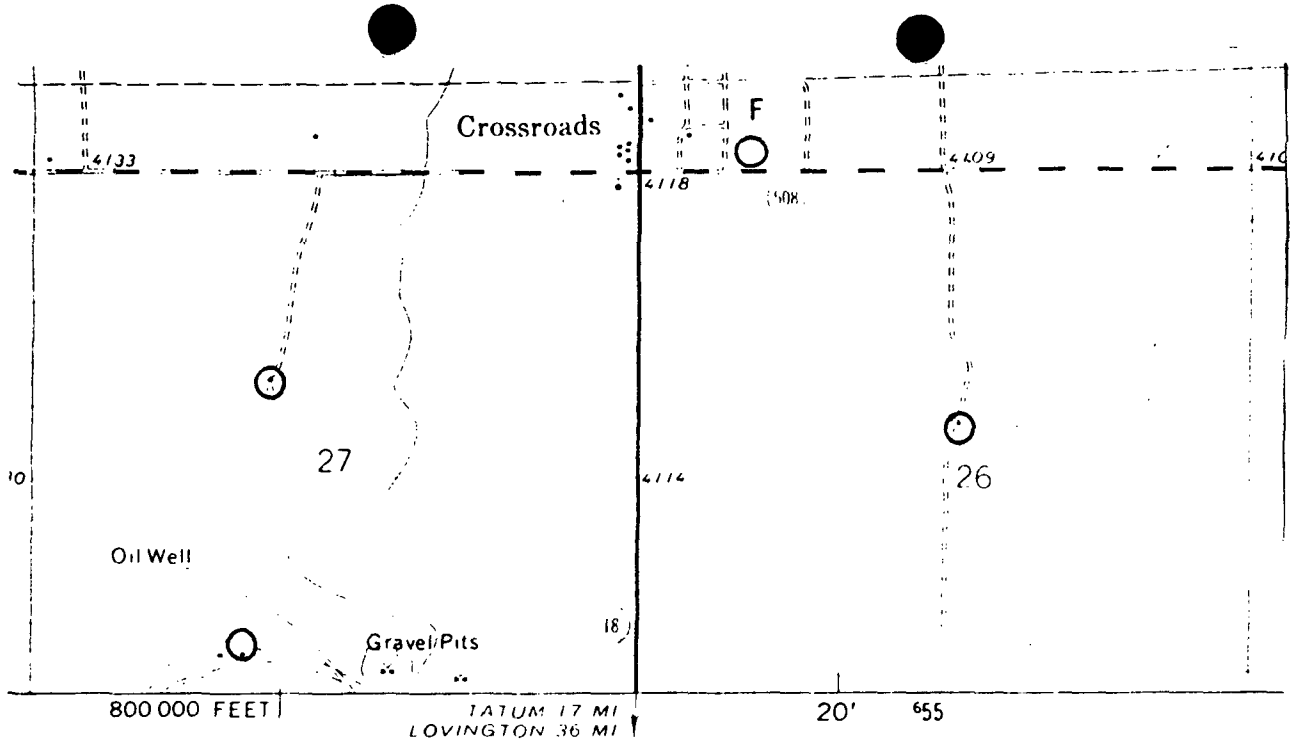


Figure 3-1 Brine facility site plan

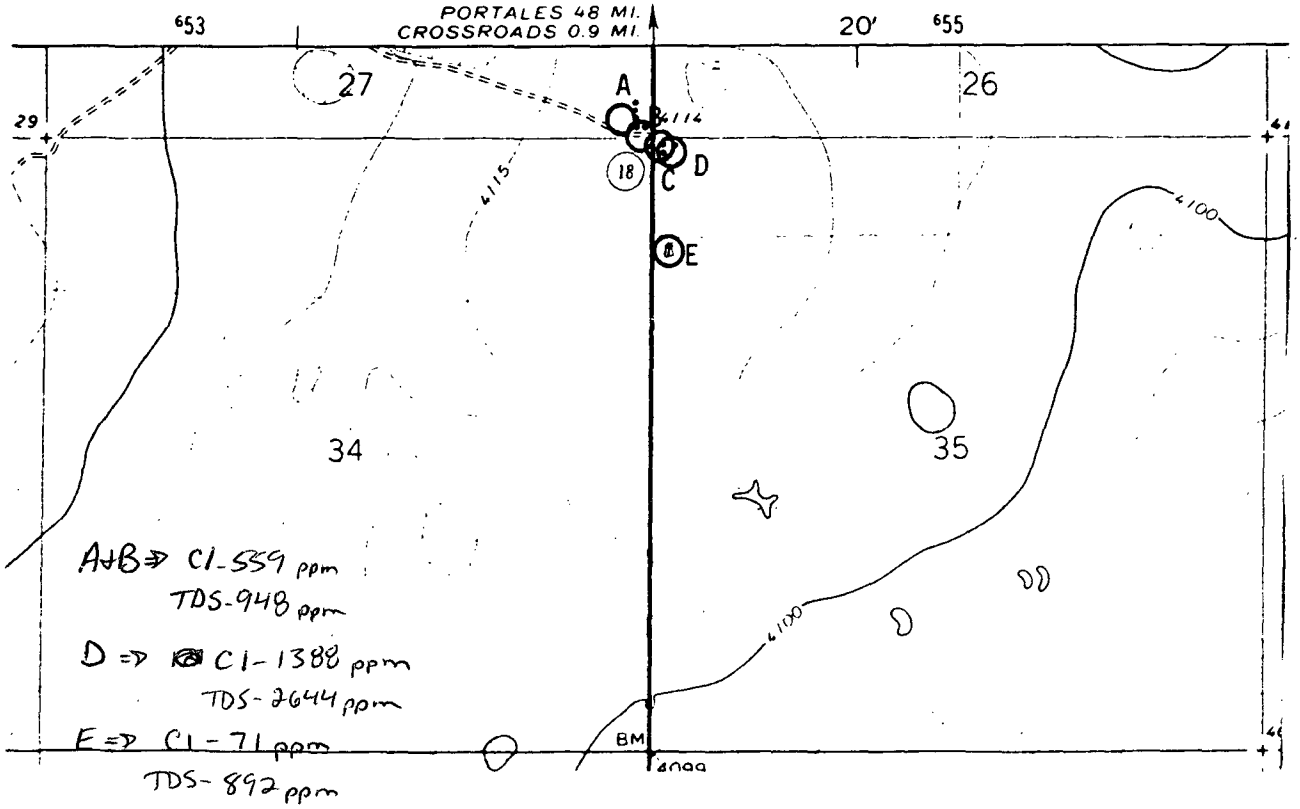


BRINE WELL CONSTRUCTION



ical Survey

OR



A+B ⇒ Cl-559 ppm
TDS-948 ppm

D ⇒ Cl-1388 ppm
TDS-2644 ppm

E ⇒ Cl-71 ppm
TDS-892 ppm

F ⇒ Cl-199 ppm
TDS-948 ppm

WATER WELLS IN VICINITY OF KENNETH TANK
SERVICE PROPERTY
All Sections of 27, 26, 34 and 35

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

May 7, 1990

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

Kenneth Tank Service
Crossroads, New Mexico
88114

Attention: Mr. C. K. Kinsolving

Re: $5,000 One-Well Plugging Bond
C. K. Kinsolving dba Kenneth Tank Service, Principal
200' FSL and 200' FEL of
Sec. 27, T-9-S, R-35-E,
Lea County
Bond No. SLR 638 4300

Dear Mr. Kinsolving:

The Oil Conservation Division hereby approves the above-referenced replacement plugging bond.

Sincerely,

William J. LeMay by David Catanach

WILLIAM J. LEMAY,
Director

dr/

cc: Oil Conservation Division
Hobbs, New Mexico

Fireman' Fund Insurance
7600 E. Eastman
Denver, Co. 80231

OIL CONSERVATION DIVISION
RECEIVED
'90 APR 25 AM 9 01

OIL CONSERVATION DIVISION
RECEIVED
'90 MAY 7 AM 8 43

Form O & G B-1
Adopted 6-17-77
Revised 11-01-89

STATE OF NEW MEXICO

ONE-WELL PLUGGING BOND

FOR CHAVES, EDDY, LEA, McKINLEY, RIO ARRIBA, ROOSEVELT, SANDOVAL, AND SAN JUAN COUNTIES ONLY

BOND NO. SLR 638 4300
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 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 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 5,500 feet, and a well being drilled under a $7,500.00 bond may be permitted to go to 10,500 feet. (See Rule 101)

File with Oil Conservation Division, P. O. Box 2088, Santa Fe 87501

KNOW ALL MEN BY THESE PRESENTS:

That C. K. Kinsolving dba Kenneth Tank Service, (An individual) (a partnership) (a corporation organized in the State of _____, with its principal office in the city of _____, State of _____, and authorized to do business in the State of New Mexico), as PRINCIPAL, and Fireman's Fund Insurance Company, a corporation organized and existing under the laws of the State of California, and authorized to do business in the State of New Mexico, as SURETY, are held firmly bound unto the State of New Mexico, for the use and benefit of the Oil Conservation Division of New Mexico pursuant to Section 70-2-12, New Mexico Statutes Annotated, 1978 Compilation, as amended, in the sum of Five thousand 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 lease, or carbon dioxide (CO_2) gas leases, or helium gas leases, or brine mineral 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 (CO_2) gas leases, or helium gas leases, or brine mineral 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 3,000 feet, to prospect for and produce oil or gas, or carbon dioxide (CO_2) 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 (CO_2) leases, or helium gas leases, or brine minerals, 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 being 200 ft from S. Line/200 ft. from E Line Section 27, Township 9 ~~North~~ (South) Range 35 (East) ~~West~~, N.M.P.M., Lea County, New Mexico.
(Here state exact legal footage description)

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 Division of New Mexico in such way as to confine the oil, gas, brine, 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.

This bond replaces a previous bond with same bond number, adopted dated 6-17-77, dated March 7, 1983.

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

December 6, 1989

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Kenneth Kinsolving
KENNETH TANK SERVICE
P. O. Box 100
Crossroads, New Mexico 88114

RE: Delegation of Responsibilities Brine Manufacturing Operations

Dear Mr. Kinsalving:

On June 13, 1989, the Water Quality Control Commission (WQCC) transferred the responsibility for the administration and enforcement of Commission regulations at brine manufacturing operations, including all brine production wells, holding ponds and tanks, from the Environmental Improvement Division (EID) to the Oil Conservation Division (OCD). The OCD has jurisdiction over all manufactured brine once it is transported, used or disposed of off brine plant premises for use in or directly related to oil and gas operations regulated by OCD. OCD regulates brine injection through its Class II Underground Injection Control (UIC) Program if the brine is used in the drilling for or production of oil and gas. EID shall regulate brine injection through its UIC Program if the brine is used for other purposes.

Brine production facilities that were transferred to OCD's jurisdiction must operate pursuant to an approved and current discharge plan. The discharge plan renewal process will be continued by OCD Environmental Bureau Staff. Approximately eight (8) months before the expiration date of an approved discharge plan, the discharger will be notified of the pending expiration of the plan. The discharge plan review process can, depending on circumstances, take several months. If the holder of an approved discharge plan submits a renewal application at least 180 days before discharge plan expiration, and the discharger is in compliance with his approved plan on the date of expiration, then the existing plan will not expire until the renewal application has been approved or disapproved.

Guidelines to aid you in determining what will be required for the renewal of your discharge plan are bring prepared. When the guidelines are finalized, they will be supplied to each operator of a brine production facility.

The OCD requires that any person, firm corporation or association that is in ownership of an oil, gas, or service well in the State of New Mexico shall furnish the Division with a surety bond in an amount prescribed in the OCD regulations. The current bond for well less than 5000 feet deep in Chaves, Eddy, Lea and Roosevelt Counties is $5000. I am enclosing the OCD bond forms for your use. All surety bonds previously submitted to the OCD did not include brine wells. Those surety bonds submitted to the EID must be changed to the OCD. Once the proper bond form are received and approved, all other sureties and bonds can be cancelled.

If you have any questions, please do not hesitate to contact me at (505) 827-5884.

Sincerely,

Roger C. Anderson
Environmental Engineer

RCA/sl

Enclosures

CC: Artesia District Office
Hobbs District Office

8F

Submit 4 Copies
to Appropriate
District Office

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

RECEIVED

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

AUG 21 1989

OIL CONSERVATION DIV.
SANTA FE

Form C-134
Aug. 1, 1989

Permit No. H-4
(For Division Use Only)

APPLICATION FOR EXCEPTION TO DIVISION ORDER R-8952
FOR PROTECTION OF MIGRATORY BIRDS Rule 8(b), Rule 105(b), Rule 312(h), Rule 313, or Rule711(I)

Operator Name: Kenneth Kinsolving dba Kenneth Tank Service

Operator Address: P.O. Box 100 Crossroads, NM 88114

Lease or Facility Name Kenneth Tank Service/ Brine Station Location SE/4 SE/4 Sec27, T9SR35E
Ut. Ltr. Sec. Twp. Rge

Size of pit or tank: Approx. 30 ft x 70 ft.

Operator requests exception from the requirement to screen, net or cover the pit or tank at the above-described facility.

X The pit or tank is not hazardous to migratory waterfowl. Describe completely the reason pit is non-hazardous.

This lined dirt pit is an emergency pit to catch spills from brine station tanks--emptied by transports if necessary-- (no oil involved around this plant)

1) If any oil or hydrocarbons should reach this facility give method and time required for removal:

2) If any oil or hydrocarbons reach the above-described facility the operator is required to notify the appropriate District Office of the OCD with 24 hours.

_____ Operator proposes the following alternate protective measures:

CERTIFICATION BY OPERATOR: I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature Kenneth Kinsolving Title Owner Date 8/3/89

Printed Name Kenneth Kinsolving Telephone No. 505-675-2356

FOR OIL CONSERVATION DIVISION USE

Date Facility Inspected 8-15-89

Inspected by Eddie W. Seay
Oil & Gas Inspector

Approved by ORIGINAL SIGNED BY JERRY SEXTON
DISTRICT I SUPERVISOR

Title

Date AUG 17 1989

New Mexico Health and Environment Department

MARALYN BUDKE
Acting Secretary

CARLA L. MUTH
Deputy Secretary

MICHAEL J. BURKHART
Deputy Secretary

RICHARD MITZELFELT
Director

July 31, 1989

Kenneth Kinsolving
Kenneth Tank Service
PO Box 100
Crossroads, NM 88114

RE: Discharge Plan DP-355

Dear Mr Kinsolving:

This is in reference to your quarterly report dated July 18, 1989 for the above referenced discharge plan. The New Mexico Water Quality Control Commission recently transferred regulatory authority for brine wells including DP-355 from the Environmental Improvement Division to the Oil Conservation Division.

By copy of this letter, I am forwarding your quarterly report to Dave Boyer of the Oil Conservation Division. You should send future reports directly to :

Dave Boyer
Oil Conservation Division
State Land Office Building
PO Box 2088
Santa Fe, NM 87504

You may call Mr. Boyer at 827-5012.

Sincerely,

Ernest C. Rebuck
Program Manager
Ground Water Section

ECR:eg

cc: Dave Boyer, Oil Conservation Division

Enclosure

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

Kenneth Kinsolving
Kenneth Trucking Service
Box 100
Crossroads, New Mexico 88114

Dear Mr. Kinsolving:

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 Kenneth Trucking Service 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 A Lambert

Kevin Lambert
Hydrologist
Ground Water Section - UIC Program

KL/mw

Enclosure

BRINE STATION INSPECTION FORM

////

DATE 12/8 1988 EID INSPECTOR Lambert
FACILITY KTS Brine LOCATION Crossroads
FACILITY REP ON SITE _____ COUNTY Lea

WELL OPERATION 1 well Valved for Reversal to control salt buildup

WELL IS INJECTING: ✓ THROUGH ANNULUS __ THROUGH TUBING
SOURCE OF FRESH WATER Water Well
TRACE INJECTION/PRODUCTION LINES _____

WELL HEAD PRESSURE _____ PSIG PUMP PRESSURE _____ PSIG
LEAKS AROUND WELL OR PUMP None
well house has blown of wellhead

STORAGE AREA Informed operator of situation

FOR PONDS:
GENERAL LINER APPEARANCE _____

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

FOR TANKS: 7 tanks 4 brine North 3 fresh South
GENERAL APPEARANCE Look Good
LABLED PLAINLY ✓ YES __ NO tell by Piping
BERMED TO PREVENT RUNOFF ✓ YES __ NO
CHECK CONTENTS TO ASSURE PROPER FLUID/LABLE MATCH _____

NUMBER OF TANKS FOR BRINE 4 FRESH WATER 3

Look

LOADING AREA

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

Snow Drift covering AREA UNABLE to determine actual conditions

MONITORING WELLS

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

COMMENTS In good shape No Problems

of mples	Ion
/	Na
/	K
/	Ca
/	Mg
/	Cl
/	HCO3
/	CO3
/	SO4
/	TDS
	NO3+ NO2
	NH3
	kjeld N
	As
	Ba
	Cd
	CN
	Cr
	F
	Pb
	Hg
	Se
	Ag
	U
	V
	Ra 226
	Ra 228
	Cu
	Fe
	Mn
	Phenols
	Zn
	Al
	B
	Co
	Mo
	Ni
	pH
	Conduct.

FIELD TRIP REPORT
GROUND WATER SECTION

SLD USER CODES

County Eddy/Lea

Ground Water: 59300

NO_3, HC, & Toxics: 59600

UIC: 59500

FACILITY VISITED

Name of Facility: 20 Brine Facilities & Climax Chemical

Location: Carlsbad/Hobbs in Southeast NM

Discharge Plan Number: DP- See Below

Type of Operation: Brine Production / Chemical Manufacturing

ENVIRONMENTAL IMPROVEMENT DIVISION FIELD VISIT

EID Inspector(s): Lambert

Date of Inspection or Visit: 12/5-8/88

Discharger's Representative Present During EID Visit:

Name:

Title or Position:

Purpose of Visit:

a. Evaluation of Proposed Discharge Plan

b. Compliance Inspection of Discharge with Approved Plan

c. Other (specify)

Inspection Activities During Field Visit:

a. Inspection of Facilities or Construction (specify)

b. Sampling of Effluents (give sampling locations)

c. Sampling of Ground Water (give names or locations of wells)
Sampled M.W. at Marathon

d. Evaluation of geology, soils, water levels or other physical characteristics of the location (specify)

e. Other (specify)

Observations and Information Obtained during the Visit:
The 20 Brine Facilities & Climax are listed below by DP#. See Individual File for specifics

ACTION REQUIRED

#	#	#	#	#
	323	354	370	298
318	324	355	371	426
319	325	360	372	
320	326	361	394	
321	351	369	401	
322				

BRINE STATION INSPECTION FORM

DATE 12/8 1988 EID INSPECTOR Lambert
FACILITY KTS Brine LOCATION Crossroads
FACILITY REP ON SITE _____ COUNTY Lea

WELL OPERATION 1 well valved for reversal to control salt buildup

WELL IS INJECTING: ✓ THROUGH ANNULUS __ THROUGH TUBING
SOURCE OF FRESH WATER Water Well
TRACE INJECTION/PRODUCTION LINES _____

WELL HEAD PRESSURE _____ PSIG PUMP PRESSURE _____ PSIG
LEAKS AROUND WELL OR PUMP None
well house has blown of wellhead
STORAGE AREA Informed operator of situation

FOR PONDS:
GENERAL LINER APPEARANCE _____
AMOUNT OF FREEBOARD _____
ANY SIGN OF OVERFLOW OR LEAKS _____
LEAK DETECTION SYSTEM __ FLUIDS __ DRY

FOR TANKS: 7 tanks 4 brine North 3 fresh South
GENERAL APPEARANCE Look Good
LABLED PLAINLY ✓ YES __ NO tell by piping
BERMED TO PREVENT RUNOFF ✓ YES __ NO
CHECK CONTENTS TO ASSURE PROPER FLUID/LABLE MATCH _____

NUMBER OF TANKS FOR BRINE 4 FRESH WATER 3
Looks

LOADING AREA

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

Snow Drift covering AREA unable to determine actual conditions
MONITORING WELLS

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

COMMENTS In good shape No Problems

NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

Post Office Box 968
Santa Fe, New Mexico 87504-0968

ENVIRONMENTAL IMPROVEMENT DIVISION

Michael J. Burkhart
Director

GARREY CARRUTHERS
Governor

LARRY GORDON
Secretary

CARLA L. MUTH
Deputy Secretary

December 31, 1987

Kenneth Kinsolving
Kenneth Trucking Service
Box 100
Crossroads, NM 88114

Dear Mr. Kinsolving:

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 Kenneth Trucking Service brine facility. A copy of the inspection form is attached for your reference. Deficiencies noted during the inspection are as follows:

1. Spillage of produced waters noted. Facility should be free of brine or produced waters spillage.

2. Brine tanks have some leakage. Leaks in tanks should be repaired.

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

Sincerely,

John W Parker

for Kevin Lambert
Hydrologist
Ground Water Section

KL:JP:egr

Enclosure

BRINE STATION INSPECTION FORM

DATE 12/3 1987 EID INSPECTOR Lambert/Parker
FACILITY KTS LOCATION Crossroads
FACILITY REP ON SITE None COUNTY LEA

WELL OPERATION

WELL IS INJECTING: ✓ THROUGH ANNULUS ___ THROUGH TUBING
SOURCE OF FRESH WATER Well Water
TRACE INJECTION/PRODUCTION LINES

WELL HEAD PRESSURE ~150 PSIG PUMP PRESSURE ___ PSIG
LEAKS AROUND WELL OR PUMP None looks good

STORAGE AREA

FOR PONDS:
GENERAL LINER APPEARANCE

AMOUNT OF FREEBOARD
ANY SIGN OF OVERFLOW OR LEAKS
LEAK DETECTION SYSTEM __ FLUIDS __ DRY

FOR TANKS:
GENERAL APPEARANCE OK 1 brine tank looks to have a small leak can tell by piping
LABLED PLAINLY ✓ YES __ NO
BERMED TO PREVENT RUNOFF ✓ YES __ NO
CHECK CONTENTS TO ASSURE PROPER FLUID/LABLE MATCH

NUMBER OF TANKS FOR BRINE 4 5 FRESH WATER 3 N fresh is leaking to prevent freezing

LOADING AREA

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

produced water spill on right water looks to have occured recently

MONITORING WELLS

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

COMMENTS Small line leaks in brine tanks
Produced water need to be clean up

of ples	Ion
	Na
	K
	Ca
	Mg
	Cl
	HCO3
	CO3
	SO4
	TDS
	NO3+ NO2
	NH3
	kjeld N
	As
	Ba
	Cd
	CN
	Cr
	F
	Pb
	Hg
	Se
	Ag
	U
	V
	Ra 226
	Ra 228
	Cu
	Fe
	Mn
	Phenols
	Zn
	Al
	B
	Co
	Mo
	Ni
	pH
	Conduct.

FIELD TRIP REPORT
GROUND WATER SECTION

SLD USER CODES
Ground Water: 59300
NO$_3$, HC, & Toxics: 59600
UIC: 59500

County Eddy. Lea

FACILITY VISITED
Name of Facility: Loco Hills Brine Co., Semco-McCasland, Permian Brine; KTS Brin
Location: Loco Hills, Eunice, Jal, Crossroads

Discharge Plan Number: DP- 394, 326, 324, 355
Type of Operation: Brine Production Facilities

ENVIRONMENTAL IMPROVEMENT DIVISION FIELD VISIT
EID Inspector(s): Lambert and Koschal
Date of Inspection or Visit: 1/26/87 - 1/29/87
Discharger's Representative Present During EID Visit:
Name: Maloney, ~~Patterson, Hickerson~~ Price, Stern
Title or Position: Mgrs/Owners
Purpose of Visit:
a. Evaluation of Proposed Discharge Plan
b. Compliance Inspection of Discharge with Approved Plan
c. Other (specify) Pressure Test Brine Wells
Inspection Activities During Field Visit:
a. Inspection of Facilities or Construction (specify)

Ran Pressure Tests. KTS Swabbing was not done due to break in fresh water line Will do next time in area

b. Sampling of Effluents (give sampling locations)

c. Sampling of Ground Water (give names or locations of wells)

d. Evaluation of geology, soils, water levels or other physical characteristics of the location (specify)

e. Other (specify)

Observations and Information Obtained during the Visit:

Ran 3 of 4 pressure tests. Unable to run 4th due to break in fresh water line which prevents us from pressuring up. Well

ACTION REQUIRED

Also was to able to get in touch w/ a contact of Marathon Road Water Station. Will be able to commun deficiency in '86 M&R Requirements

BRINE STATION INSPECTION FORM

DATE 12/9 1986 EID INSPECTOR Lambert, Koschal Baker
FACILITY KTS Brine LOCATION Crossroads
FACILITY REP ON SITE None Available COUNTY LEA
DP-355

WELL OPERATION

WELL IS INJECTING: X THROUGH ANNULUS ___ THROUGH TUBING
SOURCE OF FRESH WATER Water Well piped in
TRACE INJECTION/PRODUCTION LINES buried lines

WELL HEAD PRESSURE [redacted] PSIG PUMP PRESSURE 160 PSIG
LEAKS AROUND WELL OR PUMP None

STORAGE AREA

FOR PONDS:
GENERAL LINER APPEARANCE _____
AMOUNT OF FREEBOARD _____
ANY SIGN OF OVERFLOW OR LEAKS _____
LEAK DETECTION SYSTEM ___ FLUIDS ___ DRY

FOR TANKS:
GENERAL APPEARANCE In Good Shape
LABLED PLAINLY ___ YES X NO but easily discernable because of loading AREA
BERMED TO PREVENT RUNOFF X YES ___ NO
CHECK CONTENTS TO ASSURE PROPER FLUID/LABLE MATCH _____

NUMBER OF TANKS FOR 7 BRINE 4 FRESH WATER 3

LOADING AREA

PROPERLY GRADED AND BERMED TO CONTAIN SPILLAGE	X YES	___ NO
ANY EVIDENCE OF RECENT SPILLAGE	___ YES	X NO
DOES FACILITY HAVE A SPILL COLLECTION SYSTEM	X YES	___ NO
ANY EVIDENCE OF OIL SPILLING/DUMPING	___ YES	X NO

AREA looks to be in good shape

MONITORING WELLS

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

COMMENTS No problems operation looks clean and in good shape

No. of Samples	Ion
	Na
	K
	Ca
	Mg
	Cl
	HCO3
	CO3
	SO4
	TDS
////////	////////////
	NO3+ NO2
	NH3
	kjeld N
////////	////////////
	As
	Ba
	Cd
	CN
	Cr
	F
	Pb
	Hg
	Se
	Ag
	U
	V
	Ra 226
	Ra 228
////////	////////////
	Cu
	Fe
	Mn
	Phenols
	Zn
////////	////////////
	Al
	B
	Co
	Mo
	Ni
////////	////////////
	pH
	Conduct.

FIELD TRIP REPORT
GROUND WATER SECTION

SLD USER CODES

County Lea

Ground Water: 59300
NO_3, HC, & Toxics: 59600
UIC: 59500

FACILITY VISITED

Name of Facility: KTS Brine Station
Location: Crossroads, NM

Discharge Plan Number: DP-
Type of Operation: Brine Station

ENVIRONMENTAL IMPROVEMENT DIVISION FIELD VISIT

EID Inspector(s): Saves/Baker
Date of Inspection or Visit: 6/16/96
Discharger's Representative Present During EID Visit:
Name: None
Title or Position:
Purpose of Visit:
a. Evaluation of Proposed Discharge Plan
b. Compliance Inspection of Discharge with Approved Plan ✓
c. Other (specify)
Inspection Activities During Field Visit:
a. Inspection of Facilities or Construction (specify)

✓

b. Sampling of Effluents (give sampling locations)

✓

c. Sampling of Ground Water (give names or locations of wells)

✓

d. Evaluation of geology, soils, water levels or other physical characteristics of the location (specify)

✓

e. Other (specify)

✓

Observations and Information Obtained during the Visit:
Station looked Very Clean. Loading area has concrete spill pad with drain to steel stock tank. Area around Brine tanks is bermed to catch spillage and go to holding tanks. Holding tank has overflow to large pit.

ACTION REQUIRED

Paige,

Kenneth Well Service

1

11:45 AM

Cond- 1790 umhos @ 17.1°C

2

11:35 AM

Cond. 1730 umhos @ 14.6°C

REPORT TO: P. MORGAN
Ground Water & Hazardous Waste Bureau
Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - Crown Building
Santa Fe, NM 87504-0968

LAB NUMBER WC-225
DATE RECEIVED 1-27-86
DATE REPORTED 2/28/86
Initials
SLD USER CODE NUMBER 59300

Well Location Address Crossroads, NM

Point of Collection Well 1

Well Owner/User Kenneth Tank Service

Number of People Drinking Water from Well

Collected 860123 (Date) 11:45 (Time) By Koschal/Earp (Name) EID (Agency)

Well Depth

Water Level

Taste? Odor? Color? Collectors Remarks

pH

Conductivity (Uncorrected) 1790 umho/cm

Temperature 12.1 °C

Conductivity at 25°C umho/cm

PROJECT:

From ____, A-H_2SO_4 Sample:

			Date Analyzed
☒ Nitrate-N+ Nitrite-N (Yes)	2.26	mg/l	1/29
☒ Ammonia-N	< 0.1	mg/l	3/4
☐ ~~Chemical oxygen demand~~ (Σ PO4)		mg/l	
☒ TKN	<0.1		3/3

From F, NA Sample:

			Date Analyzed
☒ Calcium	140.0	mg/l	1-27
☒ Potassium	6.24	mg/l	"
☒ Magnesium	52.2	mg/l	"
☒ Sodium	233.1	mg/l	"
☒ Bicarbonate	146	mg/l	1/29
☒ Chloride	555	mg/l	2/6
☒ Sulfate	206	mg/l	2/5
☒ Total Solids	1435	mg/l	2/4
☒ SiO_2	14.1		1/30
☒ Fluoride NO (Acid)	0.78		2/28

From ____, A-HNO_3 Sample:

☐ ICAP Scan

☐ Metals by AA (Specify)

RECEIVED
MAR 10 1986
HAZARDOUS WASTE BUREAU

This form accompanies 1 sample(s) marked as follows to indicate field treatment:

NF: Whole sample (no filtration)
(F): Filtered in field with 0.45u membrane filter
A-H_2SO_4: Acidified with 2 ml conc H_2SO_4/l
A-HNO_3: Acidified with 5ml conc HNO_3/l
(NA): No acid added

REPORT TO: P. MORGAN
Ground Water Hazardous Waste Bureau
Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - Crown Building
Santa Fe, NM 87504-0968

LAB NUMBER WC-219
DATE RECEIVED 01-27-86
DATE REPORTED 02/27/86
Initials
SLD USER CODE NUMBER 59300

Well Location Address Crossroads, NM

Point of Collection Well 1

Well Owner/User Kenneth Tank Service

Number of People Drinking Water from Well

Collected 860123 (Date) 11:45 (Time) By Koschal/Earp (Name) EID (Agency)

Well Depth

Water Level

pH

Conductivity (Uncorrected) 1790 umho/cm

Taste? Odor? Color? Collectors Remarks

Temperature 12.1 °C

Conductivity at 25°C umho/cm

LIBRARY SURVEILLANCE WATER
MAR 5 - 1986
RECEIVED

PROJECT:

From F, A-H_2SO_4 Sample:

- ☐ Nitrate-N+ Nitrite-N 2.26 mg/l
- ☐ Ammonia-N mg/l
- ☐ ~~Chemical oxygen demand~~ ΣPO_4 mg/l
- ☐ TKN

From F, NA Sample:

			Date Analyzed
☒ Calcium	140.0	mg/l	1/27
☒ Potassium	6.24	mg/l	"
☒ Magnesium	52.2	mg/l	"
☒ Sodium	233.1	mg/l	"
☒ Bicarbonate	147.2	mg/l	1/29
☒ Chloride	521	mg/l	2/6
☒ Sulfate	206.6	mg/l	2/5
☒ Total Solids	1435	mg/l	2/4
☒ SiO_2	21.7		2/19
☒ Fluoride	0.80		2/28

From ____, A-HNO_3 Sample:

- ☐ ICAP Scan.
- ☐ Metals by AA (Specify)

This form accompanies 1 sample(s) marked as follows to indicate field treatment:

- UF: Whole sample (no filtration)
- (F): Filtered in field with 0.45u membrane filter
- A-H_2SO_4: Acidified with 2 ml conc H_2SO_4/l
- A-HNO_3: Acidified with 5ml conc HNO_3/l
- (NA): No acid added

REPORT TO: P. MORGAN
Ground Water & Hazardous Waste Bureau
Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - Crown Building
Santa Fe, NM 87504-0968

LAB NUMBER WC-236
DATE RECEIVED 1-27-86
DATE REPORTED CJ 2/28/86
Initials
SLD USER CODE NUMBER 59300

Well Location Address Crossroads, NM

Point of Collection Well 2

Well Owner/User Kenneth Tank Service

Number of People Drinking Water from Well

Collected 860123 Date 1135 Time

By Koschal / Earp Name EID Agency

Well Depth

Water Level

Taste? Odor? Color? Collectors Remarks

pH

Conductivity (Uncorrected) 1730 umho/cm

Temperature 14.6 °C

Conductivity at 25°C umho/cm

SURVEILLANCE WATER
MAR 5 - 1986
RECEIVED

PROJECT:

From ____, A-H_2SO_4 Sample:

- ☐ Nitrate-N+ Nitrite-N ____ mg/l ____
- ☐ Ammonia-N ____ mg/l ____
- ☐ ~~Chemical oxygen demand~~ Σ PO4 ____ mg/l ____
- ☐ TKN ____ ____

From ____, A-HNO_3 Sample:

- ☐ ICAP Scan
- ☐ Metals by AA (Specify)

From F, NA Sample:

			Date Analyzed
☒ Calcium	160.0	mg/l	1-27
☒ Potassium	6.74	mg/l	"
☒ Magnesium	52.2	mg/l	"
☒ Sodium	223.1	mg/l	"
☒ Bicarbonate	147.2	mg/l	1/29
☒ Chloride	516	mg/l	2/6
☒ Sulfate	279	mg/l	2/5
☒ Total Solids	1513	mg/l	2/4
☒ SiO_2	9.95	mg/l	1/30
☒ Fluoride	0.80	mg/l	2/28

This form accompanies 1 sample(s) marked as follows to indicate field treatment:

- NF: Whole sample (no filtration)
- (F): Filtered in field with 0.45u membrane filter
- A-H_2SO_4: Acidified with 2 ml conc H_2SO_4/l
- A-HNO_3: Acidified with 5ml conc HNO_3/l
- (NA): No acid added

2/17/86: Joni Bailey called from OCD to report that KTS was planning to open an oil treating unit near Crossroads in NW¼ Sec 35 T9S R35E. Location seems to be east across the highway from the brine station. She wanted to know our regulatory experience w/ KTS and I reported that they had been good, cooperative operators. Hearing to be held 2/19 at 8:15 at OCD conference room, on their permit application.

Patsy Morgan.

85-~~3~~351 -D

REPORT TO: Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - Crown Building
Santa Fe, New Mexico 87504-0968
ATTENTION: P. MORGAN
BUREAU: GW/HW

LABORATORY
LAB NUMBER ORG-51-A,B,C 1-27-86
59300
SLD Users Code No.

ALL CONTAINERS WHICH THIS FORM ACCOMPANIES ARE COLLECTIVELY REFERRED TO AS "SAMPLE".

CERTIFICATE OF FIELD PERSONNEL

Sample Type: Water ☒ Soil ☐ Other

Water Supply and/or Code No. KENNETH TANK SERVICE

City & County CROSSROADS, NM

Collected (date & time) 860123 1145 By (name) KOSCHAL/EARP

pH=____; Conductivity= 1790 umho/cm at 17.1 °C; Chlorine Residual=____

Dissolved Oxygen=____mg/l; Alkalinity=____; Flow Rate=____

Sampling Location, Methods & Remarks (i.e. odors, etc.)

Well 1

RECEIVED
FEB 18 1986
GROUND WATER/HAZARDOUS WASTE BUREAU

I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. Signed Douglas Earp

I certify that I witnessed these field analyses, observations and activities and concur with the statements in this block. Signed ____

Method of Shipment to Laboratory OF6133.

THIS FORM ACCOMPANIES 2 septum vials with teflon-lined discs identified as: specimen____; duplicate ✓; triplicate____; blank(s)____, and 1 amber glass jug(s) with teflon-lined cap(s) identified as Well 1, and____ other container(s) (describe)____ identified as____.

Containers are marked as follows to indicate preservation (circle):

NP: No preservation; sample stored at room temperature (~20°C).

P-ICE: Sample stored in an ice bath.

P-$Na_2O_3S_2$: Sample preserved with 3 mg $Na_2O_3S_2$/40 ml and stored at room temperature.

CERTIFICATE(S) OF SAMPLE RECEIPT

I (we) certify that this sample was transferred from____ to____ at (location)____ on (date & time)____ and that the statements in this block are correct.

Disposition of Sample____. Seal(s) Intact: Yes ☐ No ☐ .

Signature(s)____ ____

I (we) certify that this sample was transferred from____ to____ at (location)____ on (date & time)____ and that the statements in this block are correct.

Disposition of Sample____. Seal(s) Intact: Yes ☐ No ☐ .

Signature(s)____ ____

ANALYSES REQUESTED LAB. NO. 51

PLEASE CHECK THE APPROPRIATE BOXES BELOW TO INDICATE THE TYPE OF ANALYTICAL SCREENS REQUIRED. WHENEVER POSSIBLE LIST SPECIFIC COMPOUNDS SUSPECTED OR REQUIRED.

GW & HW (260-7260) 827-0020

QUALITATIVE	QUANTATIVE	PURGEABLE SCREEN	QUALITATIVE	QUANTATIVE	EXTRACTABLES SCREEN
	✓	ALIPHATIC HYDROCARBON SCREEN			ALIPHATIC HYDROCARBONS
	X	AROMATIC HYDROCARBON SCREEN			CHLORINATED HYDROCARBON PESTICIDES
	X	HALOGENATED HYDROCARBON SCREEN			CHLOROPHENOXY ACID HERBICIDES
		GAS CHROMATOGRAPH/MASS SPECTROMETER		✓	HYDROCARBON FUEL SCREEN
					ORGANOPHOSPHATE PESTICIDES
		not necessary			POLYCHLORINATED BIPHENYLS (PCB's)
		per Phone Conversation with Paige Morgan			POLYNUCLEAR AROMATIC HYDROCARBONS
		SPECIFIC COMPOUNDS			SPECIFIC COMPOUNDS

REMARKS: look for oil-field produced water contamination

ANALYTICAL RESULTS

COMPOUND	CONC-ENTRATION	COMPOUND	CONC-ENTRATION
arom. purg. screen	none detected		
hale. purg. screen	none detected		
		* DETECTION LIMIT	2 ppb

REMARKS: ~~Sample~~ Purgeable sample had slight headspace.

CETRIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes (No) . Seal(s) Broken by _____ date _____ .

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements in this block and the analytical data on this page accurately reflect the analytical results for this sample.

Date(s) of analysis 5 Feb 86 . Analysts signature A. Tarney

Icertify that I have reviewed and concur with the analytical results for this sample and with the statements in this block. Reviewers Signature: L Meyerhen

REPORT TO: Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - Crown Building
Santa Fe, New Mexico 87504-0968
ATTENTION: P. MORGAN
BUREAU: GW/HW

LABORATORY _____

86 1350 -C NUMBER ORB-50-17.3

59300 1-27-86

SLD Users Code No.

ALL CONTAINERS WHICH THIS FORM ACCOMPANIES ARE COLLECTIVELY REFERRED TO AS "SAMPLE".

CERTIFICATE OF FIELD PERSONNEL

Sample Type: Water ☒ Soil ☐ Other _____

Water Supply and/or Code No. KENNETH TANK SERVICE

City & County CROSSROADS NM

Collected (date & time) 860123 1145 By (name) KOSCHAL/EARP

pH=_____; Conductivity= 1730 umho/cm at 14.6 °C; Chlorine Residual=_____

Dissolved Oxygen=_____mg/l; Alkalinity=_____; Flow Rate=_____

Sampling Location, Methods & Remarks (i.e. odors etc.)

Well 2

RECEIVED
FEB 18 1986
GROUND WATER/HAZARDOUS WASTE BUREAU

I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. Signed Douglas Earp

I certify that I witnessed these field analyses, observations and activities and concur with the statements in this block. Signed _____

Method of Shipment to Laboratory OF 6133

THIS FORM ACCOMPANIES 2 septum vials with teflon-lined discs identified as:
specimen_____; duplicate ✓; triplicate_____; blank(s)_____,
and 1 amber glass jug(s) with teflon-lined cap(s) identified as Well 2,
and_____ other container(s) (describe)_____ identified as_____.

Containers are marked as follows to indicate preservation (circle):

NP: No preservation; sample stored at room temperature (~20°C).

(P-ICE): Sample stored in an ice bath.

P-$Na_2O_3S_2$: Sample preserved with 3 mg $Na_2O_3S_2$/40 ml and stored at room temperature.

CERTIFICATE(S) OF SAMPLE RECEIPT

I (we) certify that this sample was transferred from _____ to _____ at (location)_____ on (date & time)_____ and that the statements in this block are correct.

Disposition of Sample_____. Seal(s) Intact: Yes ☐ No ☐ .

Signature(s)_____ _____

I (we) certify that this sample was transferred from _____ to _____ at (location)_____ on (date & time)_____ and that the statements in this block are correct.

Disposition of Sample_____. Seal(s) Intact: Yes ☐ No ☐ .

Signature(s)_____ _____

ANALYSES REQUESTED

LAB. NO. 50

PLEASE CHECK THE APPROPRIATE BOXES BELOW TO INDICATE THE TYPE OF ANALYTICAL SCREENS REQUIR WHENEVER POSSIBLE LIST SPECIFIC COMPOUNDS SUSPECTED OR REQUIRED.

QUALITATIVE	QUANTATIVE	PURGEABLE SCREEN
	▨	ALIPHATIC HYDROCARBON SCREEN
	X	AROMATIC HYDROCARBON SCREEN
	X	HALOGENATED HYDROCARBON SCREEN
		GAS CHROMATOGRAPH/MASS SPECTROMETER
		amber jug sample was broken in sample receiving.
		SPECIFIC COMPOUNDS
		-

QUALITATIVE	QUANTATIVE	EXTRACTABLES SCREEN
		ALIPHATIC HYDROCARBONS
		CHLORINATED HYDROCARBON PESTICIDES
		CHLOROPHENOXY ACID HERBICIDES
	X	HYDROCARBON FUEL SCREEN
		ORGANOPHOSPHATE PESTICIDES
		POLYCHLORINATED BIPHENYLS (PCB's)
		POLYNUCLEAR AROMATIC HYDROCARBONS
		SPECIFIC COMPOUNDS
		-

REMARKS: we look for oil-field produced water contamination

ANALYTICAL RESULTS

COMPOUND	CONC-ENTRATION	COMPOUND	CONC-ENTRATION
arom. purg. screen	none detected		
halo. purg. screen	none detected		
		* DETECTION LIMIT	2 ppb

REMARKS:

CETRIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes (No) . Seal(s) Broken by _____ date _____

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements in this block and the analytical data on this page accurately reflect the analytical results for this sample.

Date(s) of analysis 5 Feb 86. Analysts signature A. Finney

Icertify that I have reviewed and concur with the analytical results for this sample and with the statements in this block. Reviewers Signature: R Meyerhen

REPORT TO: P. MORGAN
Ground Water & Hazardous Waste Bureau
Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - Crown Building
Santa Fe, NM 87504-0968

LAB NUMBER WC-220
DATE RECEIVED 1-27-86
DATE REPORTED CJ 2/3/86
Initials
SLD USER CODE NUMBER 59300

Well Location Address Crossroads NM

Point of Collection Well 2

Well Owner/User Kenneth Tank Service

Number of People Drinking Water from Well

Collected 860123 Date 1135 Time

By Koschal/Earp Name EID Agency

Well Depth

Water Level

Taste? Odor? Color? Collectors Remarks

RECEIVED
FEB 17 1986
GROUND WATER/HAZARDOUS WASTE BUREAU

pH

Conductivity (Uncorrected) 1730 umho/cm

Temperature 14.6 °C

Conductivity at 25°C umho/cm

PROJECT:

From F, A-H_2SO_4 Sample:

			Date Analyzed
☒ Nitrate-N+ Nitrite-N	2.25	mg/l	1/29
☒ Ammonia-N	< 0.1	mg/l	1/30
☐ Chemical oxygen demand		mg/l	
☒ TKN	0.46	mg/l	1/30

From ____, A-HNO_3 Sample:

☐ ICAP Scan

☐ Metals by AA (Specify)

From ____, NA Sample:

			Date Analyzed
☐ Calcium		mg/l	
☐ Potassium		mg/l	
☐ Magnesium		mg/l	
☐ Sodium		mg/l	
☐ Bicarbonate		mg/l	
☐ Chloride		mg/l	
☐ Sulfate		mg/l	
☐ Total Solids		mg/l	
☐			

This form accompanies 1 sample(s) marked as follows to indicate field treatment:

NF: Whole sample (no filtration)
(F): Filtered in field with 0.45u membrane filter
(A-H_2SO_4): Acidified with 2 ml conc H_2SO_4/l
A-HNO_3: Acidified with 5ml conc HNO_3/l
NA: No acid added

REPORT TO: ~~GERARD~~ ~~KOSCHAL~~ P. MORGAN
Ground Water & Hazardous Waste Bureau
Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - Crown Building
Santa Fe, NM 87504-0968

LAB NUMBER HM-109
DATE RECEIVED 1-27-86
DATE REPORTED 2/10/86 JTA
Initials
SLD USER CODE NUMBER 59300

Well Location Address Crossroads, NM

Point of Collection Well 1

Well Owner/User Kenneth Tank Service

Number of People Drinking Water from Well

Collected ____ Date ____ Time By KOSCHAL/EARP Name EID Agency

Well Depth ____ pH ____

Water Level ____ Conductivity (Uncorrected) 1790 umho/cm

RECEIVED
FEB 13 1986
GROUND WATER/HAZARDOUS WASTE BUREAU

Taste? Odor? Color? Collectors Remark

Temperature 17.1 °C

Conductivity at 25°C ____ umho/cm

PROJECT:

From ____, A-H_2SO_4 Sample:

- ☐ Nitrate-N+ Nitrite-N ____ mg/l ____
- ☐ Ammonia-N ____ mg/l ____
- ☐ ~~Chemical oxygen demand~~ TKN ____ mg/l ____
- ☐ ΣPO_4 ____ ____

From F, A-HNO_3 Sample:

- ☒ ICAP Scan
- ☐ Metals by AA (Specify)

From ____, NA Sample:

		Date Analyzed
☐ Calcium	____ mg/l	____
☐ Potassium	____ mg/l	____
☐ Magnesium	____ mg/l	____
☐ Sodium	____ mg/l	____
☐ Bicarbonate	____ mg/l	____
☐ Chloride	____ mg/l	____
☐ Sulfate	____ mg/l	____
☐ Total Solids	____ mg/l	____
☐ FLUORIDE		____
☐ SiO_2		____

This form accompanies 1 sample(s) marked as follows to indicate field treatment:

- NF: Whole sample (no filtration)
- (F): Filtered in field with 0.45u membrane filter
- A-H_2SO_4: Acidified with 2 ml conc H_2SO_4/l
- (A-HNO_3): Acidified with 5ml conc HNO_3/l
- NA: No acid added

Lab Number: H 109

Sample Code: Crossroads N.M. Well 1

Date Submitted: 1/27/86

Date Analyzed: 1/30/86

By: K. Morgan

Reviewed By: Jim Ashley

Date Reported: 2/10/86

Element	ICAP VALUE(MG/L)	AA VALUE(MG/L)
Aluminum	<0.1	
Barium	<0.1	
Berylium	<0.1	
Boron	<0.1	
Cadmium	<0.1	
Calcium	140.	
Chromium	<0.1	
Cobalt	<0.1	
Copper	<0.1	
Iron	<0.1	
Lead	<0.1	
Magnesium	49.	
Manganese	<0.05	
Molybdenum	<0.1	
Nickel	<0.1	
Silicon	16.	
Silver	<0.1	
Strontium	1.8	
Tin	<0.1	
Vanadium	<0.1	
Zinc	<0.1	
Arsenic		
Selenium		
Mercury		

REPORT TO: P. MORGAN
Ground Water & Hazardous Waste Bureau
Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - Crown Building
Santa Fe, NM 87504-0968

LAB NUMBER H.M. 110
DATE RECEIVED 1-27-86
DATE REPORTED 2/10/86 JJA
Initials
SLD USER CODE NUMBER 59300

Well Location Address Crossroads NM

Point of Collection Well 2

Well Owner/User Kenneth Tank Service

Number of People Drinking Water from Well

Collected 860123 Date 1135 Time By Koschal / Earp Name EID Agency

Well Depth

Water Level

RECEIVED
FEB 13 1986
GROUND WATER/HAZARDOUS WASTE BUREAU

pH

Conductivity (Uncorrected) 1730 umho/cm

Temperature 14.6 °C

Conductivity at 25°C umho/cm

Taste? Odor? Color? Collectors Remarks

PROJECT:

From ____, A-H_2SO_4 Sample:

			Date Analyzed
☐ Nitrate-N+ Nitrite-N		mg/l	
☐ Ammonia-N		mg/l	
☐ ~~Chemical~~ oxygen demand Σ PO_4		mg/l	
☐ TKN			

From F, A-HNO_3 Sample:

☒ ICAP Scan

☐ Metals by AA (Specify)

From ____, NA Sample:

			Date Analyzed
☐ Calcium		mg/l	
☐ Potassium		mg/l	
☐ Magnesium		mg/l	
☐ Sodium		mg/l	
☐ Bicarbonate		mg/l	
☐ Chloride		mg/l	
☐ Sulfate		mg/l	
☐ Total Solids		mg/l	
☐ SiO_2			
Fluoride			

This form accompanies 1 sample(s) marked as follows to indicate field treatment:

NF: Whole sample (no filtration)
(F): Filtered in field with 0.45u membrane filter
~~A-H_2SO_4~~: Acidified with 2 ml conc H_2SO_4/l
(A-HNO_3): Acidified with 5ml conc HNO_3/l
NA: No acid added

Lab Number: H 110

Sample Code: Crossroads UM Well 2

Date Submitted: 1/27/86

Date Analyzed: 1/30/86

By: Morgan

Reviewed By: Jim Kelley

Date Reported: 2/10/86

Element	ICAP VALUE(MG/L)	AA VALUE(MG/L)
Aluminum	<0.1	
Barium	<0.1	
Berylium	<0.1	
Boron	<0.1	
Cadmium	<0.1	
Calcium	160.	
Chromium	<0.1	
Cobalt	<0.1	
Copper	<0.1	
Iron	<0.1	
Lead	<0.1	
Magnesium	50.	
Manganese	<0.05	
Molybdenum	<0.1	
Nickel	<0.1	
Silicon	16.	
Silver	<0.1	
Strontium	1.9	
Tin	<0.1	
Vanadium	<0.1	
Zinc	<0.1	
Arsenic		
Selenium		
Mercury		

1/22/86: John (?) Sterns called in response to letter: said he had contacted their lab and they said they had used the wrong analytical technique, were planning to resample and re-analyze. I said EIS people would be out to do same, probably either today or Friday: we agreed to look at analyses before requiring any further action.

Patsy Morgan.

1/29/86: Henry Koschal and Doug Earp had gone by KTS to collect samples as I requested; they said the conductivity of the well water was quite low, they were sure Sterns was right, that it was just lab error.

Patsy Morgan

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

January 20, 1986

C.K. Kinsolving
Kenneth Tank Service
Box 100
Crossroads, New Mexico 88114

Dear Mr. Kinsolving:

Thank you for the timely submittal of your monitoring requirements under the terms of your discharge plan DP-355. However, I am sorry to have to point out to you that the analyses you have submitted for both wells for the September and January sampling periods show a very large increase in chloride, dissolved solids, and other parameters associated with brine contamination (see attached table).

As I informed you through your consultant, Randall Hicks, in my letter to Mr. Hicks of February 20, 1985:

> "If a rise in chloride is detected in these wells, the brine facility shall be thoroughly investigated as to the source and the problem corrected. Chloride and Dissolved Solids are already in excess of the ground water standards in one if not both of the supply wells (see New Mexico Water Quality Control Commission regulations, Section 3-103...). Therefore, no elevation of the existing concentrations (beyond slight fluctuations attributable to differences in sampling or analysis) will be tolerated. ...If chloride contamination shows up in adjacent wells, the source will be assumed to be the brine station, unless your client can demonstrate otherwise."

Therefore, by March 31, 1986, please provide me with the results of an investigation to determine the source of brine contamination in the two monitor wells and a scientific estimate of the vertical and horizontal extent of the brine contamination that is affecting those wells. I have asked EID Water Resource Specialist Gerard Koshal to collect samples from both monitor wells in order to check the accuracy of the analyses you have reported. He will be in touch with you during the week of January 20th to 24th to arrange a time to collect these samples.

I hope to obtain your voluntary compliance with the Water Quality Control Commission regulations in this matter.

Sincerely,

Steven Baer

FOR Paige Grant Morgan
Water Resource Specialist
Ground Water Section

PGM/mp

cc: Garrison McCaslin, Acting District IV Manager

Well #1	9-30-85	
TDS	1985	mg/l
HCO_3	122	mg/l
Cl	1062	mg/l
SO_4	75	mg/l
Ca	380	mg/l
Mg	24	mg/l

WSW #1 (South)	1-6-86	
TDS	7826	mg/l
HCO_3	183	mg/l
Cl	4718	mg/l
SO_4	125	mg/l
Ca	600	mg/l
Mg	365	mg/l

Well #2	9-30-85	
TDS	1611	mg/l
HCO_3	183	mg/l
Cl	708	mg/l
SO_4	175	mg/l
Ca	340	mg/l
Mg	49	mg/l

WSW #2 (West)	1-6-86	
TDS	9830	mg/l
HCO_3	183	mg/l
Cl	5898	mg/l
SO_4	50	mg/l
Ca	600	mg/l
Mg	122	mg/l

ANALYSIS PERFORMED BY:

ION	MG/L	MEQ/L
K	0	0
Ca	600	29.94
Mg	122	10.03572
Mn	0	0
Na	1977	85.99949
SO4	50	1.0415
Cl	5898	166.3826
NO3	0	0
HCO3	183	2.99937
CO3	0	0
TDS	8830	296.3987

SUM OF ANIONS (MEQ/L): 170.4235
SUM OF CATIONS (MEQ/L): 125.9752
PERCENT DIFF:-14.9961
IF PERCENT DIFF >5 OR<-5 THEN CHECK DATA
(SO4+CL)/(SO4+CL+HCO3+CO3)= .9824005
(CA+MG)/(CA+MG+NA+K)= .31733
SO4/(SO4+CL+HCO3+CO3)= 6.111248E-03
CL/(SO4+CL+HCO3+C03)= .9762891
(NA+K)/(CA+MG+NA+K)= .68267
CA/(CA+MG+NA+K)= .2376658
DO YOU WISH TO RUN ANOTHER SAMPLE (Y/N)?
1LIST 2RUN 3LOAD" 4SAVE" 5CONT 6,"LPT1 7TRON 8TROFF 9KEY 0SCREEN

already used their reported TDS figure and the sum of ions to get a figure for No - what other cations are unaccounted for?

Charge balance for "WSW #2" 1-7-86

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

November 20, 1985

C.K. Kinsolving
Kenneth Tank Service
Box 100
Crossroads, NM 88114

Dear Mr. Kinsolving:

Thank you for completing the surface facilities called for in your discharge plan DP-355, right on schedule, and for sending me the photographs to document the construction. I look forward to seeing the new facilities in person on our next inspection trip to your part of the country.

Sincerely,

Paige Grant Morgan
Water Resource Specialist

PGM:pgm

cc: John Guinn, EID District IV Manager

MAILING ADDRESS
BOX 100
CROSSROADS, N.M.
88114

KENNETH TANK SERVICE

Crude and Water Transports

CROSSROADS, NEW MEXICO 88114

PHONE: 505-675-2356
505-675-2357

November 15, 1985

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

Attention: Paige Morgan

Dear Ms. Morgan:

Please find enclosed photos of newly constructed surface facilities at the preexisting site of Kenneth Tank Service's brine station. This construction was done in compliance of our recently approved discharge plan #355.

Sincerely yours,

C.K. Kinsolving
Owner & Operator

CKK/las

DISCHARGE PLAN NUMBER: 355 Original DP: [illegible]

SIC NUMBER: _____ Renewal: _____

Modification: _____

Date Received: 8/6/84

NAME OF FACILITY: Kenneth Tank Service brine station

ADDRESS OF FACILITY: Drawer 1599 - Lovington, NM 88260

ALTERNATE OR PAST NAME OF FACILITY: _____

CITY OR CLOSEST TOWN: Crossroads

COUNTY: Lea TWP: 9S RGE: 35E SEC: 27

CONTACT PERSON: Hicks (last), Randall (first)

ADDRESS OF CONTACT PERSON: Geoscience Consultants
500 Copper Ave., NW suite 220
~~Albuquerque, NM 87102~~

TELEPHONE NUMBER: 842-0001

TYPE OF FACILITY: brine extraction well and ~~associated surface facilities~~

MEANS OF DISCHARGE (lagoon, leach field, other -specify): ~~injection well, surface~~ tanks for storage, emergency pond.

REVIEWER: Morgan (last), Paige (first)

DATE APPROVED: 7/15/85 DATE OF EXPIRATION: 7/15/90

MONITORING REQ: (Comment, if necessary, on back)

SAMPLING SITE & ID	STORET CODE	PARAMETER(S)	DATE DUE
--		construction of surface facilities and report same to EID	120 days after DP approval = November 15, 1985
injection well		record annular pressure during production and ~~tubing blowdown~~	during production and blowdown
each of two water supply wells		TDS, chloride	quarterly: 10/15, 1/15, 4/15, 7/15
injection well		formation density log; cement bond log; compensated neutron log or equivalent	on application for renewed approval

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

EID BUCKSLIP

CHECK ONE:

/xx/ LETTER TO Kenneth Kinsolving

for Richard Perkins' signature for Dennis Ford

/ / MEMO TO _____

/ / PRESS RELEASE

/ / OTHER

SUBJECT: DP approval

DRAFTED BY: Paige Morgan 7/12/85 (Date)

CONCURRENCES:

NAME:		INITIAL	DATE REC'D	DATE APPROVED
Maxine Goad	Sect. Mgr.	MSG	7/12/85	7/12/85
~~Richard Perkins,~~	Bur. Chief	RP	7/15/85	7/15/85
~~Richard Holland~~	~~Dep. Dir.~~			
~~Dennis Ford~~	~~Director~~			

FINAL DECISION NEEDED BY July 15, 1985 (date) BECAUSE to avoid redrafting letter. Assural of Discontinuance stipulated final decision by July 1st, but Geoscience Consultants didn't get in their final materials until a few days ago.

COMMENTS BY DRAFTER OR REVIEWER(S):

A brine station. Some hard negotiating with Geoscience on the terms of this discharge plan, but otherwise not much of note.

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

July 15, 1985

Kenneth Kinsolving
Kenneth Tank Service
Drawer 1599
Lovington, NM 88260

Re: Approval of Discharge Plan DP-355.

Dear Mr. Kinsolving:

The **discharge plan DP-355 for the Kenneth Tank Service brine station,** located in the SE/4 SE/4 SE/4 Section 27, T9S R35E, approximately one mile south of Crossroads, Lea County, New Mexico, **is hereby approved.** The approved discharge plan consists of the plan dated August 6, 1984, the chart from a pressure test conducted on the brine well on November 25 and 26, 1984, and letters from your consultant, Randall Hicks of Geoscience Consultants, Ltd., dated January 8, April 2, May 9 and June 20, 1985, together with the corresponding letters from the EID to which they refer.

The discharge plan was submitted pursuant to Section 5-101.B.3. of the New Mexico Water Quality Control Commission regulations. It is approved pursuant to Section 3-109. Please note subsections 3-109.E. and 3-109.F. which provide for possible future amendment of the plan. Please be advised that the approval of this plan does not relieve you of liability should your operation result in actual pollution of surface or ground waters which may be actionable under other laws and/or regulations.

The monitoring and reporting shall be as specified in the discharge plan and supplements thereto. These requirements are summarized on the attached sheet. Any inadvertent omissions from this summary of a discharge plan monitoring or reporting requirement shall not relieve you of responsibility for compliance with that requirement.

Please note that Section 3-104 of the regulations requires that "**When a plan has been approved, discharges must be consistent with the terms and conditions of the plan.**"

Pursuant to subsection 3-109.G.4., this plan approval is for a period of five years. This **approval will expire on July 15, 1990,** and you should submit an application for renewed approval in ample time before that date.

Thank you for your cooperation during this discharge plan review.

Sincerely,

Maynie S. Good

for Richard Perkins
Acting Bureau Chief
Ground Water/Hazardous Waste Bureau

RP:PGM:pgm

cc: Randall Hicks, Geoscience Consultants, Ltd.
R.W. Gallini; Heidel, Samberson, Gallini, Williams & Harrington
John Guinn, EID District IV Manager

P 612 426 502

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to	Kenneth Kinsolving	
Street and No.	Drawer 1599	
P.O., State and ZIP Code	Lovington, NM 88260	
Postage		$
Certified Fee		
Special Delivery Fee		
Restricted Delivery Fee		
Return Receipt Showing to whom and Date Delivered		
Return receipt showing to whom, Date, and Address of Delivery		
TOTAL Postage and Fees		$
Postmark or Date		

* U.S.G.P.O. 1983-403-517

PS Form 3800, Feb. 1982

June 20, 1985

Paige Morgan
New Mexico Environmental Improvement Division
Ground Water Section
P.O. Box 968
Santa Fe, NM 87501

RE: KTS Brine Station Discharge Plan

Dear Ms. Morgan:

Kenneth Tank Service commits to performing the following bore hole logs prior to renewal of DP-355:

Cement bond log

Compensated neutron log or equivalent

Formation density log

We believe this will complete our discharge plan application and we look forward to final approval by the Environmental Improvement Division. Upon receipt of discharge plan approval we will begin construction of the surface facilities as per our discharge application.

Sincerely,

Kenneth Kinsolving

Kenneth Kinsolving

cc: Geoscience Consultants, Ltd.
Mr. Gallini

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

May 23, 1985

Randall T. Hicks, Vice-president
Geoscience Consultants, Ltd.
500 Copper Ave. N.W. suite 220
Albuquerque, NM 87102

Dear Mr. Hicks:

With regard to your letters of April 2 and May 9, 1985, concerning some final points of the Kenneth Tank Service (KTS) discharge plan DP-355: we appear to be in agreement regarding the contents of this discharge plan, except for points 2 and 3 under Well Design and Operation.

I have arrived at the following conclusions on the basis of what I have been able to ascertain from drilling logs and gamma and neutron logs of oil wells in the vicinity of the KTS well (incidentally, the logs submitted in the discharge plan were poorly reproduced and poorly organized to the point of being minimally useful), from the published literature and from Oil Conservation Division and State Engineer's Office staff who are well acquainted with the area:

The redbeds which are encountered at the foot of your casing can not be identified as the Chinle Formation. The Santa Rosa Formation underlies the Chinle in this area, with its best exposure noted at T6 and 7S, R27E (Kelley, 1971). The lower sequence of redbeds which are referred to in drilling logs in the area are described by Nicholson and Clebsch (1961) as "undifferentiated Permian or Triassic redbeds", and by Kelley (1971) as the Dewey Lake Formation.

Some geologists consider the Chinle and Santa Rosa to be difficult to differentiate in this area, and refer to the two collectively as the Dockum Group. The aforementioned "undifferentiated Permian or Triassic redbeds" separate the Dockum from the Rustler, which in turn overlies the Salado Formation. The units of the Dockum Group are tapped by wells throughout Lea County. In fact, Nicholson and Clebsch (1961) wrote that the town of Oil Center obtained its community water supply from the Chinle Fm. Admittedly, Oil Center is a considerable distance from Crossroads - but not as far away as Gallup. It is unreasonable to extrapolate conductivity values from the Chinle near Gallup to characterize the Chinle in northern Lea County, some 325 miles away.

It is not known whether the undifferentiated Permian or Triassic redbeds contain water and, if so, whether the water contains less than 10,000 mg/l of TDS. In the absence of information, we prefer to err conservatively. In addition, even if the undifferentiated redbeds do not require protection as a USDW, the washing and consequent enlarging of the open hole in this section will create that much larger an area to fill with brine when the system is under pressure, setting up the situation for corrosion of cement and potentially casing. This could result eventually in the leakage of brine in the nearer-surface formations.

The lower 300 feet of the casing is a "critical area", as I wrote you in my letter of February 20, 1985, by reason of its being the area most likely to be attacked by migrating brine. However, I welcome your commitment to run a cement bond log in the entire well when the well is next serviced or when applying for renewed approval for this discharge plan, whichever comes first. When that log is run you will also be required to run a log to determine lithology and porosity for the interval between the bottom of the casing and the top of the cavity, to clear up the question of what formation the casing is bottomed in. Logs to be run should include a formation density log and compensated neutron log, or some other combination as approved by EID to determine these properties. Remedial work may be required at that time.

The reason that this additional exploratory work and possible remedial action is not being required now is that the pressure test which was conducted on the KTS well in November 1984 indicated that there were no leaks in the system. Although, as I said in my 2/20/85 letter, this does not prove a sound cement job, it does demonstrate that the casing is not leaking at present, so there is no immediate concern regarding contamination of nearer-surface aquifers. However, the information I have requested here is the minimum required under Part 5 of the Water Quality Control Commission regulations.

I look forward to your response and the conclusion of the discharge plan application process for Kenneth Tank Service.

Sincerely,

Paige Grant Morgan
Water Resource Specialist

cc: Kenneth Kinsolving

References: Kelley, V.C., 1971. Geology of the PecosCountry, southeastern New Mexico. Memoir 24, NM Bur. of Mines & Min. Res., Socorro, NM

Nicholson, A. Jr., and A. Clebsch, Jr., 1961. Geology and Ground-Water Conditions in Southern Lea County, New Mexico. Ground-Water Report 6, NM Bur. of Mines & Min. Res., Socorro NM

Geoscience
Consultants, Ltd.

May 9, 1985

Paige Morgan
New Mexico Environmental Improvement Division
Ground Water Section
P.O. Box 968
Santa Fe, New Mexico 87501

RE: KTS Brine Station Discharge Plan

Dear Ms. Morgan:

Enclosed please find the map which shows the location of adjacent water wells near the Kenneth Tank Service facility. The wells marked A, B, C, D and E are on Kinsolving property. Wells A and B are the supply wells for the brine facility. Well C is abandoned at the abandoned tank battery southeast of the brine facility. Well D is an operating well (east pasture well) used by Kinsolving for stock watering. Well E is the east pasture windmill that is referenced in the discharge plan. The original discharge plan has samples analyzed from co-mingled A and B, Well D, Well E and a domestic well located in the Crossroads area and marked F.

This completes the Kenneth Tank Service discharge plan application. We look forward to a speedy review of the discharge plan and approval so that we may commence construction of the surface facilities.

If you have any questions, please don't hesitate to call me at 842-0001.

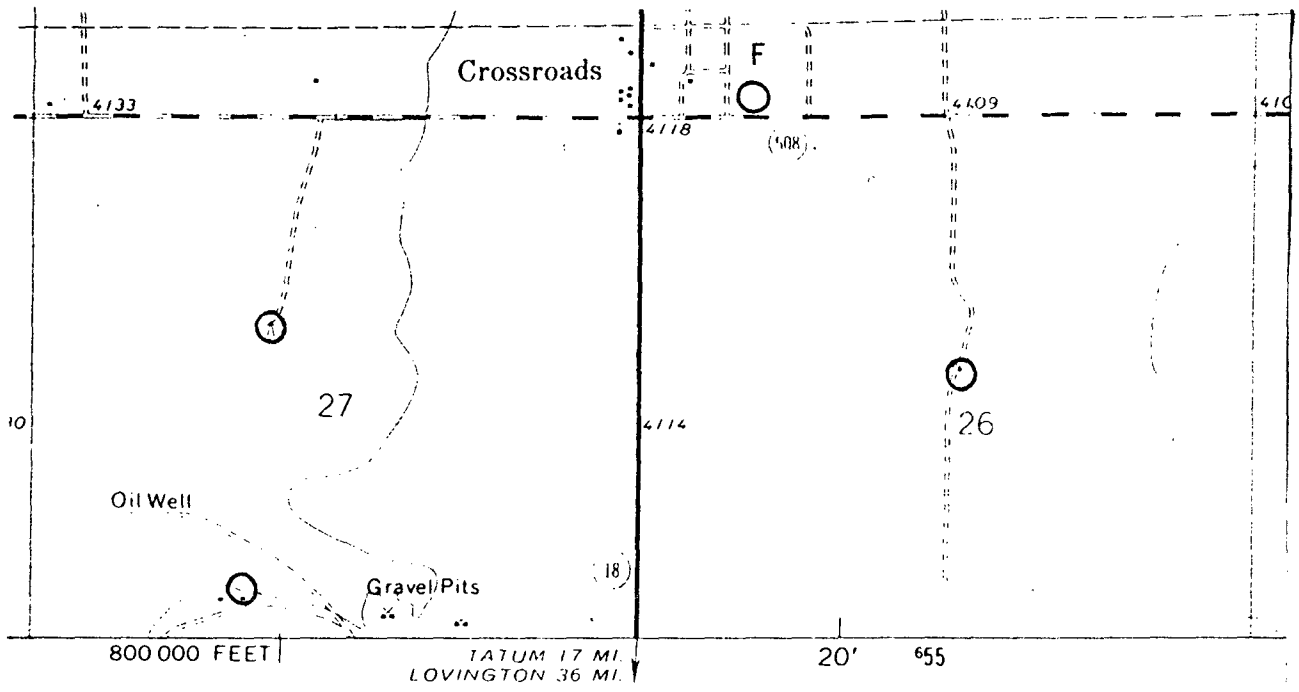
Sincerely,
GEOSCIENCE CONSULTANTS, LTD.

Randall Hicks

Randall T. Hicks
Vice President

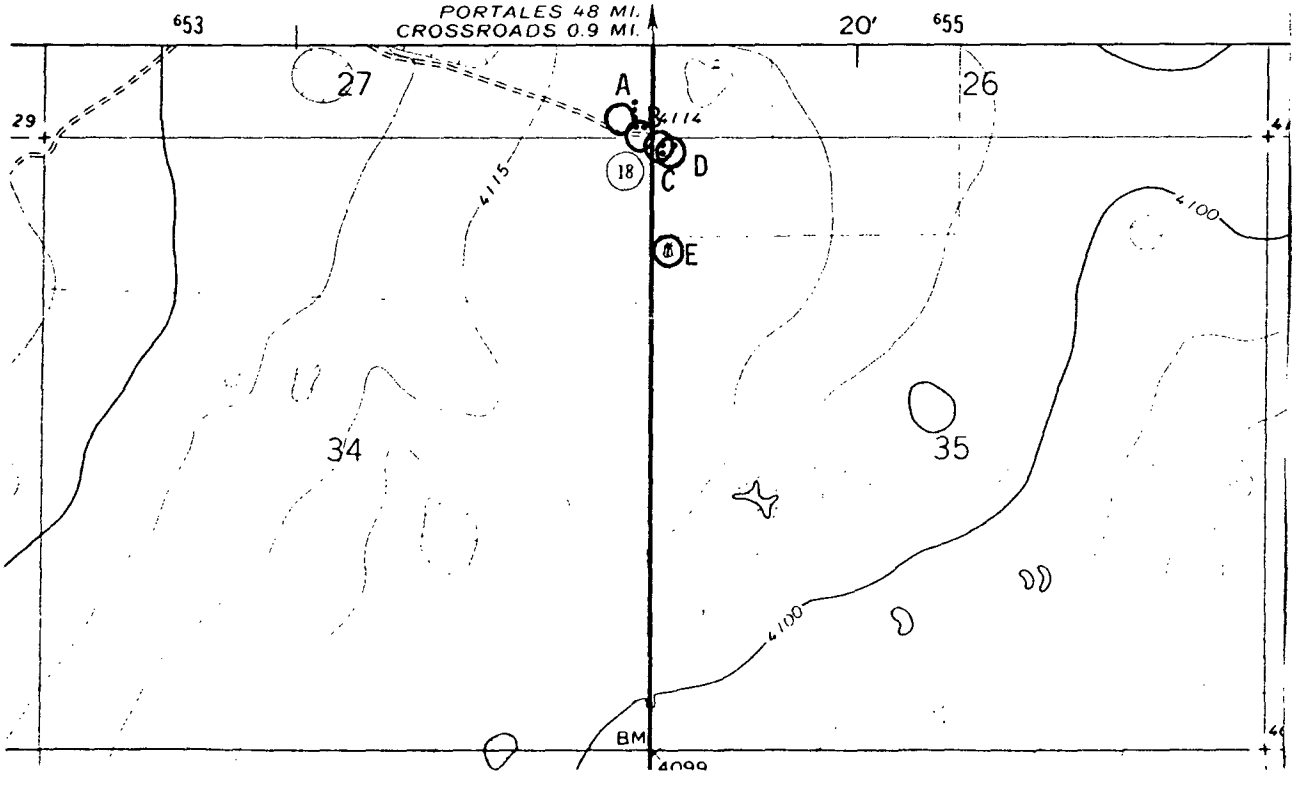
RTH/jh

cc: Kenneth Kinsolving, KTS



ical Survey

OR



WATER WELLS IN VICINITY OF KENNETH TANK
SERVICE PROPERTY
All Sections of 27, 26, 34 and 35

MAILING ADDRESS
BOX 100
CROSSROADS, N.M.
88114

KENNETH TANK SERVICE

Crude and Water Transports

CROSSROADS, NEW MEXICO 88114

PHONE: 505-675-2356
505-675-2357

April 2, 1985

Ms. Paige Morgan
Ground Water Section
NMEID
P.O. Box 968
Santa Fe, New Mexico 87503

RE: Response to Comments

Dear Ms. Morgan:

Enclosed are the responses to EID comments concerning the KTS Brine Well. We look forward to a speedy review and approval of our plan.

Sincerely,

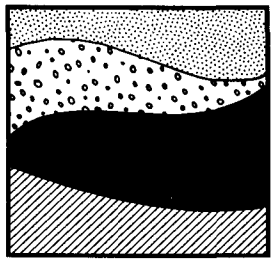
Kenneth Kinsolving

Kenneth Kinsolving

Enclosures

cc: Geoscience Consultants, Ltd.
Mr. Gallini

Geoscience Consultants, Ltd.



April 2, 1985

Ms. Paige Grant Morgan
Ground Water Section
NMEID
P.O. Box 968
Santa Fe, New Mexico 87503

RE: Response to NMEID Comments of February 20, 1985

Dear Ms. Morgan:

I trust that the enclosed information will lead toward a speedy approval of this discharge plan. If you have further comments, please contact me by phone and I will provide you with the necessary information. Our reply is in the same format as your letter.

1. Answered in previous submission.

2. The intention of the discharge plan is to insure that underground sources of drinking water are not degraded by the injection process. We have never considered the lower Chinle a USDW because of its depth, poor permeability and, its anticipated poor quality. The vertical hydraulic conductivity of the lower Chinle redbeds may be as high as $1x10^{-7}$ cm/sec. A pump test of Chinle shales near Gallup, New Mexico shows that the vertical horizontal hydraulic conductivity is as low as $1x10^{-10}$ cm/sec. The vertical permeability of this shale (in Gallup) is estimated to be $1x10^{-11}$ cm/sec. The shales of the Chinle in the Crossroads area is not dissimilar to the shales near Gallup. We anticipated permeabilities to be similar. Therefore, if migration into the Chinle does occur, it will only affect the lowermost Chinle, a unit which should not be considered a USDW.

vert horiz?

3. The argument above leads us to disagree that the lower 300 feet of Chinle shales is a "critical area". A cement bond log will be obtained for all of the casing when the well is serviced. To date the well has been serviced 3 times in the 14 years of KTS ownership years. NMEID will be notified when the cement bond log is to be run.

Get commitment on CBL

GEOLOGY AND HYDROLOGY

1. Answered in previous submission.

2. Enclosed.

PLUGGING AND ABANDONMENT

1. Answered in previous submission.

MONITORING AND REPORTING

1. Answered in previous submission.

2. Noted.

If you should have any further questions, please feel free to contact our office.

Sincerely,
GEOSCIENCE CONSULTANTS, LTD.

Randall Hicks

Randall T. Hicks
Vice President

RTH/jh

Enclosures
cc: Kenneth Kinsolving

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

February 20, 1985

Randall T. Hicks, Vice President
GEOSCIENCE CONSULTANTS, INC.
500 Copper Avenue, NW - Suite 220
Albuquerque, NM 87102

RE: January 8, 1985 letter regarding EID comments on Kenneth Tank Service DP-355.

Dear Mr. Hicks:

The following remarks are in the same format as our previous correspondence on the KTS discharge plan. I hope that this letter and your reply will conclude negotiation on the content of the discharge plan, and that I can recommend approval of the plan before the July 1 deadline specified in the Assurance of Discontinuance.

Well Design and Operation

1. Noted.

2. If the casing is bottomed in the redbeds, then water injected into the Salado to form brine presumably flows through a short section of the redbeds and the anhydrite section before it reaches the salt section. What is to prevent dissolution of anhydrite above the salt, and potential movement of brine into the redbeds and other parts of the Chinle?

3. Your client has not been able to produce evidence of a sound cementing job at the time the brine well was constructed. After some 19 years of operation, the condition of the cement is even more uncertain. Since you assume salt dissolution is taking place though the entire salt section and there is therefore apparently nothing to prevent its continuing through the anhydrite section into the Chinle, the integrity of the cement near the base of the casing is critical. I have proposed that the required cement bond log be run while the well is being serviced, at any time between now and the date on which this discharge plan will require renewal,

so as to cause the least possible expense and disruption to your client. The type of pressure test which will be required periodically in the well (and which also has been devised so as to cause the least possible disruption to brine well operators) would indicate that the well and cavity were sound even while brine was being forced into a channelled cement job. Monitoring of annular pressure is certainly good housekeeping practice at a brine facility, but it would not give any indication of the cement condition. In short, the only means I know of assessing the integrity of the cement bond in the lower 300 feet of the casing (the critical area) is by use of a cement bond log. The results of such a log showing a good cement bond in the critical area will be a condition of renewal of this discharge plan.

Geology and Hydrology

1. Noted.

2. The map to which you refer was missing from your letter.

Procedures to Protect Ground Water Quality

2. Noted.

3. Noted.

Plugging and Abandonment

Noted.

Monitoring and Reporting

1. Noted.

2. Agreed that quarterly monitoring of TDS and chloride shall be carried out for the two supply wells. If a rise in chloride is detected in these wells, the brine facility shall be thoroughly investigated as to the source and the problem corrected. Chloride and Dissolved Solids are already in excess of the ground water standards in one if not both of the supply wells (see New Mexico Water Quality Control Commission regulations, Section 3-103; see also the analysis of a blend of the water in the supply wells, submitted in Appendix E of the discharge plan, and the water analysis from one of the supply wells, attached to this letter). Therefore, no elevation of the existing concentrations (beyond slight fluctuations attributable to differences in sampling or analysis) will be tolerated. Quarterly analysis

of the produced brine for TDS and chloride will not be required. If chloride contamination shows up in adjacent wells, the source will be assumed to be the brine station, unless your client can demonstrate otherwise.

Please contact me if you wish to discuss the points raised above.

Sincerely,

Paige Grant Morgan
Water Resource Specialist
Ground Water Section

PGM:jba

cc: John Guinn, EID District IV, Roswell

Encl: Chemical Analysis

P 612 423 816

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Randall T. Hicks	
Street and No. 500 Copper Ave., NW - 220	
P.O., State and ZIP Code Albuquerque, NM 87102	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date	

PS Form 3800, Feb. 1982 ★ U.S.G.P.O. 1983-403-517

ANALYSIS PERFORMED BY:

ION	MG/L	MEQ/L
K	58.1	1.485617
Ca	150	7.485
Mg	2.32	.1908432
Mn	0	0
Na	922	40.107
SO4	231.6	4.824229
Cl	643.3	18.14749
NO3	0	0
HCO3	150.3	2.463417
CO3	0	0
TDS	2157.62	74.7036

SUM OF ANIONS (MEQ/L): 25.43514
SUM OF CATIONS (MEQ/L): 49.26846
PERCENT DIFF: 31.90385
IF PERCENT DIFF >5 OR<-5 THEN CHECK DATA
(SO4+CL)/(SO4+CL+HCO3+CO3)= .9031491
(CA+MG)/(CA+MG+NA+K)= .1557963
SO4/(SO4+CL+HCO3+CO3)= .1896679
CL/(SO4+CL+HCO3+C03)= .7134812
(NA+K)/(CA+MG+NA+K)= .8442037
CA/(CA+MG+NA+K)= .1519228
DO YOU WISH TO RUN ANOTHER SAMPLE (Y/N)?
1LIST 2RUN 3LOAD" 4SAVE" 5CONT 6,"LPT1 7TRON 8TROFF 9KEY 0SCREEN

REPORT TO: Morgan/Saves
Ground Water & Hazardous Waste Bureau
Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - Crown Building
Santa Fe, NM 87504-0968

LAB NUMBER WC 5648
DATE RECEIVED 11/30/84
DATE REPORTED CD 1/22/85
Initials
SLD USER CODE NUMBER 59500

Well Location Address KTS Brine well, 1 mi South of Crossroads NM

Point of Collection Water well ~ 20' South of Brine tanks

Well Owner/User KTS Brine

Number of People Drinking Water from Well 0

Collected 11/26/84 (Date) 1504 (Time)

By Paige Morgan (Name) EID (Agency)

Well Depth 160'

Water Level ?

pH

Conductivity (Uncorrected) 1400 umho/cm

Taste? Odor? Color? Collectors Remarks

Temperature °C

Conductivity at 25°C umho/cm

PROJECT: Ca 7.50

From ____, A-H_2SO_4 Sample:

☐ Nitrate-N+ Nitrite-N	____ mg/l	____	
☐ Ammonia-N	____ mg/l	____	
☐ Chemical oxygen demand	____ mg/l	____	
☐ ____	____	____	

From F, NA Sample:

			Date Analyzed
☑ Calcium	150.0	mg/l	1/16
☑ Potassium	58.1	mg/l	12/17
☑ Magnesium	232	mg/l	1/21
☑ Sodium	922	mg/l	12/17
☑ Bicarbonate	150.3	mg/l	1/14
☑ Chloride	643.3	mg/l	1/17
☑ Sulfate	231.6	mg/l	1/4
☑ Total Solids	1512	mg/l	1/2
☐ ____	____	____	____

From ____, A-HNO_3 Sample:

☐ ICAP Scan

☐ Metals by AA (Specify) ____

RECEIVED
JAN 24 1985
GROUND WATER/HAZARDOUS WASTE BUREAU

sum of ions = TDS 2387.3

This form accompanies 1 sample(s) marked as follows to indicate field treatment:

NF: Whole sample (no filtration).
F: Filtered in field with 0.45u membrane filter 8411261504
A-H_2SO_4: Acidified with 2 ml conc H_2SO_4/l
A-HNO_3: Acidified with 5ml conc HNO_3/l
NA: No acid added

REPORT TO: Morgan/Saves
Ground Water & Hazardous Waste Bureau
Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - Crown Building
Santa Fe, NM 87504-0968

LAB NUMBER WC 5652
DATE RECEIVED 11/30/84
DATE REPORTED 12/28/84
Initials
SLD USER CODE NUMBER 59500

Well Location Address KTS Brinewell, 1mi South of Crossroads, NM

Point of Collection Brine Storage tank.

Well Owner/User KTS Brine - Sterns

Number of People Drinking Water from Well 0

Collected 11/26/84 (Date) 1518 (Time)

By Paige Morgan (Name) EID (Agency)

Well Depth —

Water Level —

pH

Conductivity (Uncorrected) umho/cm

Taste? Odor? Color? Collectors Remarks

Brine Sample, Rost color when collected, clear after filtering, Smells of Gasoline

Temperature °C

Conductivity at 25°C umho/cm

PROJECT:

Ca 40.1

From ____, A-H_2SO_4 Sample:

- ☐ Nitrate-N^+ Nitrite-N ____ mg/l ____
- ☐ Ammonia-N ____ mg/l ____
- ☐ Chemical oxygen demand ____ mg/l ____
- ☐ ____ ____ ____

From ____, A-HNO_3 Sample:

- ☐ ICAP Scan
- ☐ Metals by AA (Specify)

From F, NA Sample:

			Date Analyzed
☑ Calcium	802	mg/l	1/16
☑ Potassium	663	mg/l	12/17
☑ Magnesium	1671	mg/l	1/21
☑ Sodium	114080	mg/l	12/17
☑ Bicarbonate	123.5	mg/l	1/28
☑ Chloride	243404	mg/l	1/17
☑ Sulfate	9092	mg/l	1/4
☑ Total Solids	318,808	mg/l	1/2
☐ ____	____	____	____

RECEIVED
FEB 06 1985
GROUND WATER/HAZARDOUS WASTE BUREAU

This form accompanies 1 sample(s) marked as follows to indicate field treatment:

841126 1518

NF: Whole sample (no filtration).
F: Filtered in field with 0.45u membrane filter
A-H_2SO_4: Acidified with 2 ml conc H_2SO_4/l
A-HNO_3: Acidified with 5ml conc HNO_3/l
NA: No acid added

2. Enclosed is a map of the well locations of all adjacent water wells. We assume that the samples taken by NMEID during the site visit will provide you with the necessary water quality data.

PROCEDURES TO PROTECT GROUND WATER QUALITY

1. noted

2. If a spill does occur, the NMEID will be notified pursuant to Sections 1-203. A and 5-208,B.1. of the WQCC Regulations. Additionally, repairs will be completed within 60 days of failure or the brine station will be shut down during the period of repair.

3. The ponds may have fresh water (rainfall etc.) in them for a period of time. Brine will remain in the ponds for only 100 hours per year or 500 hours for 5 years.

PLUGGING AND ABANDONMENT

Plugging costs in Southwestern New Mexico are generally $1.75/ft. Therefore, the $5000.00 plugging bond is adequate to meet the financial requirements for closure. The method for plugging will be as you advised.

MONITORING AND REPORTING

1. On your site visit you probably noted that a gauge port is present on the surface pipe between valves 2 and 4 (see Appendix A of Discharge Plan). During production this gauge measures the annular pressure of injection. Periodically during production a KTS employee will record the pressure readings.

2. We propose quarterly monitoring of the fresh water that is produced from both wells and is representative of the water in the Ogallala near the site. If an increasing trend in TDS or chloride is detected by quarterly monitoring of these two sampling points, then all 4 wells will be sampled at the next quarter. After analysis of the results, the monitoring program will be altered if necessary.

If you have any questions regarding this submission please contact me or Mr. James Hunter at our Albuquerque office.

Randall Hicks

Sincerely,
GEOSCIENCE CONSULTANTS, LTD.

Randall T. Hicks
Vice President

cc. Kenneth Kinsolving

84-1072 -C

REPORT TO: Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - Crown Building
Santa Fe, New Mexico 87504-0968
ATTENTION: PAIGE MORGAN
BUREAU: Ground Water / Haz Waste

LABORATORY 11/30/84

LAB NUMBER OR 1072 A, B.

SLD Users Code No. 59500

ALL CONTAINERS WHICH THIS FORM ACCOMPANIES ARE COLLECTIVELY REFERRED TO AS "SAMPLE".

CERTIFICATE OF FIELD PERSONNEL

Sample Type: Water ☐ Soil ☐ Other Brine

Water Supply and/or Code No. _____

City & County Crossroads, Lea County

Collected (date & time) 11/27/84 3:10 By (name) Paige Grant Morgan

pH= 6.8 ; Conductivity= 1400 umho/cm at _____ °C; Chlorine Residual= _____

Dissolved Oxygen= _____ mg/l; Alkalinity= _____; Flow Rate= _____

Sampling Location, Methods & Remarks (i.e. odors etc.)

collected from hookup on brine tank from which trucks fill up w/ brine. Strong gas and oil odors from sample collected previous day — none noticed in this sample.

I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. Signed Paige Grant Morgan

I certify that I witnessed these field analyses, observations and activities and concur with the statements in this block. Signed _____

Method of Shipment to Laboratory hand-carried.

THIS FORM ACCOMPANIES 2 septum vials with teflon-lined discs identified as:
specimen 84112710; duplicate _____; triplicate _____; blank(s) _____,
and _____ amber glass jug(s) with teflon-lined cap(s) identified as _____,
and _____ other container(s) (describe) _____ identified as _____.
Containers are marked as follows to indicate preservation (circle):

(NP): No preservation; sample stored at ~~room~~ air temperature ~~(~20°C)~~ ~50°F.
P-ICE: Sample stored in an ice bath.
P-$Na_2O_3S_2$: Sample preserved with 3 mg $Na_2O_3S_2$/40 ml and stored at room temperature.

CERTIFICATE(S) OF SAMPLE RECEIPT

I (we) certify that this sample was transferred from _____ to _____ at (location) _____ on (date & time) _____ and that the statements in this block are correct.

Disposition of Sample _____. Seal(s) Intact: Yes ☐ No ☐ .

Signature(s) _____ _____

I (we) certify that this sample was transferred from _____ to _____ at (location) _____ on (date & time) _____ and that the statements in this block are correct.

Disposition of Sample _____. Seal(s) Intact: Yes ☐ No ☐ .

Signature(s) _____

RECEIVED
JAN 02 1985
GROUND WATER/HAZARDOUS WASTE BUREAU

ANALYSES REQUESTED

LAB. NO. 1072

PLEASE CHECK THE APPROPRIATE BOXES BELOW TO INDICATE THE TYPE OF ANALYTICAL SCREENS REQUIRED. WHENEVER POSSIBLE LIST SPECIFIC COMPOUNDS SUSPECTED OR REQUIRED.

QUALITATIVE	QUANTATIVE	PURGEABLE SCREEN
X		ALIPHATIC HYDROCARBON SCREEN *
	X	AROMATIC HYDROCARBON SCREEN
		HALOGENATED HYDROCARBON SCREEN
		GAS CHROMATOGRAPH/MASS SPECTROMETER
		SPECIFIC COMPOUNDS
		search for contamination by oil/natural gas

QUALITATIVE	QUANTATIVE	EXTRACTABLES SCREEN
		ALIPHATIC HYDROCARBONS
		CHLORINATED HYDROCARBON PESTICIDES
		CHLOROPHENOXY ACID HERBICIDES
		HYDROCARBON FUEL SCREEN
		ORGANOPHOSPHATE PESTICIDES
		POLYCHLORINATED BIPHENYLS (PCB's)
		POLYNUCLEAR AROMATIC HYDROCARBONS
		SPECIFIC COMPOUNDS

REMARKS:

ANALYTICAL RESULTS

COMPOUND	CONC-ENTRATION	COMPOUND	CONC-ENTRATION
Benzene	8 µg/l		
Toluene	5 µg/l		
Ethylbenzene	4 µg/l		
p-xylene	<1 µg/l		
m-xylene	2 µg/l		
o-xylene	1 µg/l		
		* DETECTION LIMIT	1 µg/l

REMARKS: Some aliphatics detected.

CETRIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes No . Seal(s) Broken by — date — .

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements in this block and the analytical data on this page accurately reflect the analytical results for this sample.

Date(s) of analysis 12/3/84. Analysts signature J. Bailey

Icertify that I have reviewed and concur with the analytical results for this sample and with the statements in this block. Reviewers Signature: K Meyerhen

Inconclusive as to whether this stuff represents oil/natural gas/fuel. Could request halogenated screen, which would indicate fuel, but negative results would not mean the stuff was definitely crude.

Condensation by Dean
1/3/85

HEALTH ENVIRONMENT department

TONEY ANAYA
GOVERNOR

STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020
Denise Fort, Director

December 14, 1984

Randall T. Hicks, Vice President
Geoscience Consultants, Ltd.
500 Copper Avenue, NW - Suite 220
Albuquerque, NM 87102

RE: EID sampling and pressure test at Kenneth Tank Service brine extraction facility.

Dear Mr. Hicks:

On November 26, 1984, Steven Sares and I from the UIC program in EID and Michael Hannigan, our EPA state program manager, visited the KTS facility near Crossroads in Lea County, for which you have prepared discharge plan DP-355. Mr. Sterns showed us around and helped us unbury the wellhead for the water supply well to the south of the tanks in order for us to obtain a sample. There was no access to obtain a sample from the other water supply well to the west of the tanks. Mr. Sterns told us that this would be corrected.

We also collected a brine sample from the third tank from the north end of the row of tanks. While filtering the brine sample at the end of the day, we noted that it had a strong gas smell, and left an oily residue on the filter. We returned to KTS the following day to recollect a sample from the same tank to be analyzed for organic coontaminants. We spoke to Mrs. Sterns about the gas smell of the brine: she said that the tank had never been used to store gasoline (our first guess as to the cause of contamination), and she suggested that the coupling on a tank truck previously used to haul oil may have left oil and gas on the valve where we collected a brine sample. The valve from which we collected the sample is not one that is primarily used in loading trucks, but to eliminate this potential source of contamination, we let the brine flow for a minute before collecting our sample for organics. The results of the analyses for the samples collected at KTS are not yet available.

In response to my request to conduct a pressure test on the brine well which we could witness, Mr. Sterns had pressured up the well to 200 psi, shut it in and attached a pressure recorder more than 25 hours before we

arrived. Copies of the charts are attached to this letter: they show that the well held the test pressure for 25 hours, and when we requested that the pressure to increased be ascertain whether the recorder was sensitive to pressure variations, the well held the higher pressure for about half an hour. This pressure test indicates that the casing and salt cavity are sound. We intend to conduct this type of pressure test periodically to check for mechanical integrity of all of the brine wells in the state.

Please extend our thanks to Mr. & Mrs. Sterns for their help during our visit to the KTS facility.

Sincerely,

Paige Grant Morgan

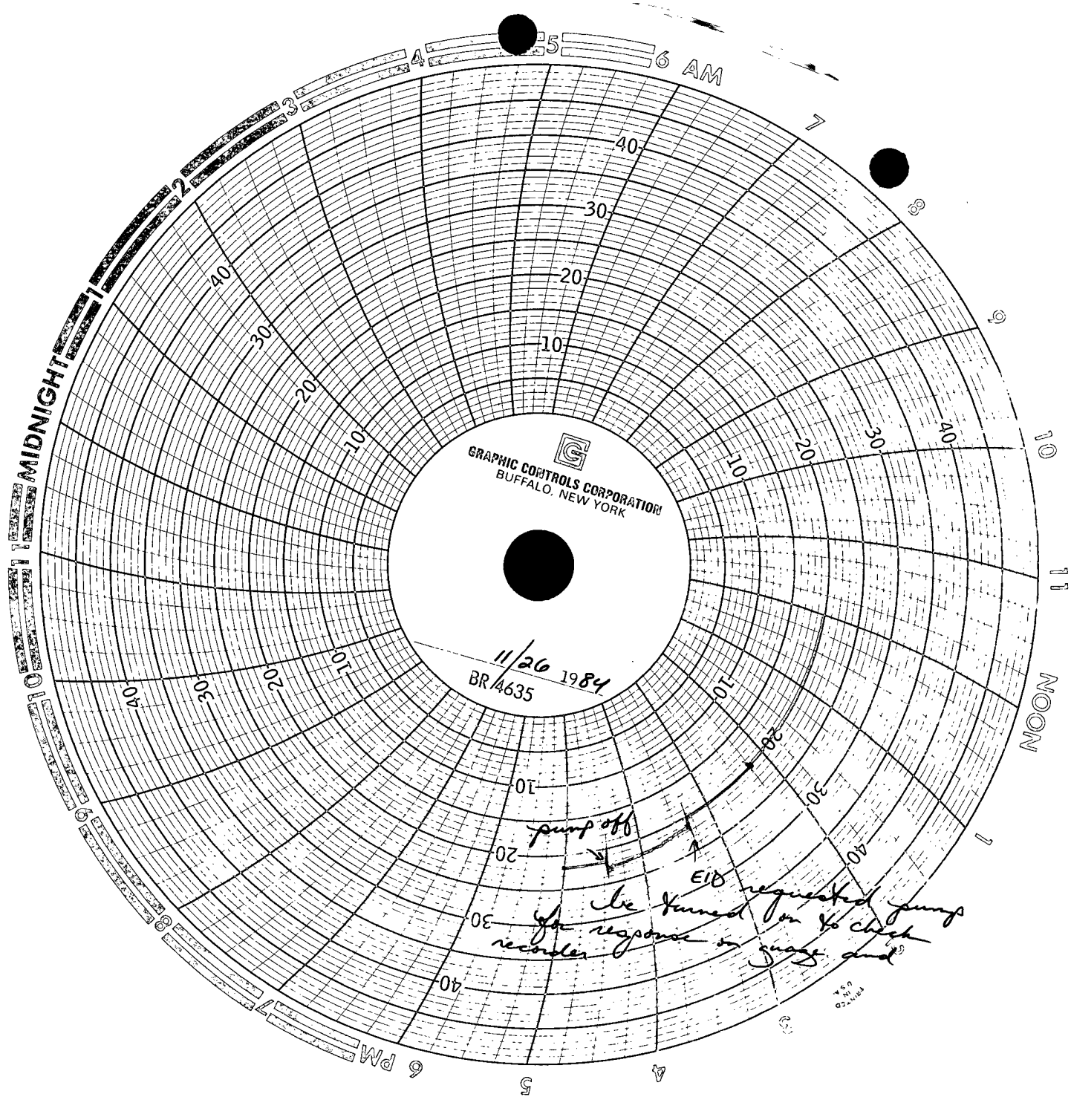
Paige Grant Morgan
Water Resource Specialist
Ground Water Section

PGM:jba

cc: John Guinn, EID District IV, Roswell
Kenneth Kinsolving

MSB

GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK
Kennett Tank
K.T.S. Brine
11-25 to 11-26 19 84
BR 4635
MIDNIGHT
6 AM
NOON
6 PM
10
20
30
40
PRINTED IN U.S.A.


GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK
11/26 1984
BR 4635
pump off
EID
MIDNIGHT
6 AM
NOON
6 PM

moles	Ion
2	Na
2	K
2	Ca
2	Mg
2	Cl
2	HCO3
2	CO3
2	SO4
2	TDS
	NO3+ NO2
	NH3
	kield N
	As
(2)	Ba
	Cd
	CN
	Cr
	F
	Pb
	Hg
	Se
	Ag
TCLP pest	U
	V
	Ra 226
	Ra 228
	Cu
	Fe
	Mn
	Phenols
	Zn
	Al
	B
	Co
	Mo
	Ni
2	pH
2	Conduct.

organics (1)

FIELD TRIP REPORT
GROUND WATER SECTION

SLD USER CODES

County LEA

Ground Water: 59300

NO_3, HC, & Toxics: 59600

UIC: (59500)

FACILITY VISITED

Name of Facility: Kenneth Trucking Service (KTS)

Location: Crossroads, NM

Discharge Plan Number: DP-355

Type of Operation: Brine well

ENVIRONMENTAL IMPROVEMENT DIVISION FIELD VISIT

EID Inspector(s): Paige Morgan / Steve Sares

Date of Inspection or Visit: 11/26/84

Discharger's Representative Present During EID Visit:

Name: Sterns

Title or Position: operator

Purpose of Visit: Inspection / Pressure test

a. Evaluation of Proposed Discharge Plan ✓

b. Compliance Inspection of Discharge with Approved Plan _____

c. Other (specify) _____

Inspection Activities During Field Visit:

a. Inspection of Facilities or Construction (specify)
Inspected brine well, storage tanks, General area

b. Sampling of Effluents (give sampling locations)
Sampled brine (841126/518) and freshwater from well (841126/504) brine was from one of 4 steel tanks,

c. Sampling of Ground Water (give names or locations of wells)
Sample from 160' deep well just South of Freshwater tanks (841126/504) (reported)

d. Evaluation of geology, soils, water levels or other physical characteristics of the location (specify)
area underlain by alluvium, several large bodies of standing water, area muddy in general, Heavy recent rains

e. Other (specify) Ran Pressure test. He had held 200 psi in well & County for 24 hrs, we ran pressure to 230 psi and shut in well, Pressure stabilized for ~½ hr, END of test. Paige has Pressure-time charts

Observations and Information Obtained during the Visit:
While filtering sample we noticed gasoline smell from brine sample, Returned 11/27/84 to collect sample in septum vials for analysis for gasoline / natural gas contamination.

ACTION REQUIRED

TONEY ANAYA
GOVERNOR

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020
Denise Fort, Director

November 7, 1984

Randall T. Hicks, Vice President
Geoscience Consultants, Ltd.
500 Copper Avenue, NM - Suite 220
Albuquerque, NM 87102

RE: Discharge Plan DP-355 for Kenneth Tank Service brine extraction facility near Crossroads, Lea County, New Mexico.

Dear Mr. Hicks:

Thank you for your submittal of a complete discharge plan for your client, Mr. Kenneth Kinsolving (Kenneth Tank Service), rather than sending in chapters of a discharge plan as specified in your client's Assurance of Discontinuance. We appreciate the fact that this facility may be in full compliance with the NM Water Quality Control Commission regulations in advance of the date agreed upon in the Assurance.

The following questions about this discharge plan need to be resolved before I can recommend to the Director that it be approved.

Well Design and Operation

1. I note that there is no surface casing in the brine well. This inclines me to scrutinize the operation more carefully than would be the case if there were that added protection for the Ogallala and other aquifers adjacent to the brine well that contain water with less than 10,000 mg/l TDS.

2. In what formation is the casing bottomed? What formation is encountered at 2800 feet, the total depth of the well? How thick do you estimate the "ceiling" of the salt cavity to be?

3. Due to the shortage of information available on construction details of this well, a cement bond log will be required to be run at your client's convenience within five years after the discharge plan is approved. Recognizing the considerable cost of shutting down operations and pulling the tubing in order to run a log, we will not require that this log be run in order to obtain initial discharge plan approval. Instead, Mr. Kinsolving can arrange for the log to be run while the well is shut down for maintenance or other purposes at a later date. However, a cement bond log will be a condition of renewal of this discharge plan.

The delay in this requirement in no way relieves Mr. Kinsolving of the responsibility to operate his brine well in such a way that formations adjacent to the brine well are protected from leakage or excursions of brine from this well.

Geology and Hydrology

1. Please present a computation of the fracture pressure of the salt beds.

2. A quick check of the chemical analyses submitted in Appendix E indicates a number of problems with the data: the reported concentrations of anions and cations do not sum to the reported TDS values, and the cation-anion balance in terms of milliquivalents is far from equal. Please resubmit analyses for each of your source wells for injection water (not a mixture of the two), for each of the East Pasture wells (please also submit a location description for these latter wells), and for the produced brine. Please specify in future analyses whether NO_3 is reported as NO_3 or as N.

Procedures to Protect Ground Water Quality

1. Your plans for monitoring annular pressure may indeed be a good way to check mechanical integrity of this brine well (see further remarks under "Monitoring and Reporting"). However, since such records do not exist to date and since the EID will require an additional method of verifying mechanical integrity, please prepare to conduct a pressure test on this well as a condition of discharge plan approval.

   A suitable method for pressure-testing a brine well is to pressure up against casing, tubing and the salt cavity simultaneously by filling all three with brine or water, raising the pressure to apprxoimately 1½ times normal operating pressure (so long as such a pressure would not threaten to fracture the salt formation), and shutting in the well. A graphical record attached to a pressure gage can then record any pressure drop-off that may occur. Some pressure loss will be expected, as water and air enter into solution; however, a steady, continuous decline will be interpreted as casing failure, and the well will be shut down until the casing is demonstrated to be sound.

   Feel free to propose a different but comparable pressure test procedure. I request that whatever pressure test procedure we agree upon be carried out on the KTS well during the week of November 26 to 30, since my co-worker in the UIC program and I will be in the southeast of the state at that time and would like to be present to witness the test in this well.

2. Your spill prevention design for the loading area looks very adequate. However, please submit a statement in which your client commits to notifying EID immediately after a significant spill or leak occurs (this applies to a leak in the well casing, as well as a surface leak or spill), as required under Sections 1-203.A.1 and 5-208.B.1 of the WQCC regulations.

Please also commit to completing repairs on the brine delivery system in less than sixty days, unless the brine station is shut down during the period that repairs are being conducted.

3. The emergency pit plan appears adequate so long as it is used in fact only for emergencies, and will be "empty 99% of the time" (page 3-6). I will interpret that statement to mean that the pit will contain fluids for no more than 100 hours per year.

Plugging and Abandonment (P&A)

The OCD regulations covering P&A say the well "shall be plugged in a manner which will permanently confine all oil, gas and water in the separate strata originally containing them". We concur with this standard, but require that details be provided as to how this standard will be achieved. From the best information available to us, we believe that the safest way to leave a brine well when it is no longer used is to leave the cavity full of brine and to plug the casing from bottom to top with cement. Please incorporate these elements into your plugging plan for this well; and then please demonstrate that $5000 - the amount of your bond - is a sufficient amount to carry out an approvable plugging plan. If it is not, please submit a bond for an adequate amount.

Monitoring and Reporting

1. Please discuss how annular pressure will be monitored and recorded.

2. Please submit on a schedule convenient to your client, quarterly analyses of TDS and chloride of the produced brine, both water supply wells, and both East Pasture wells. In addition, please submit the results of your cement bond log whenever that is carried out, but no later than when a renewal report is submitted for this discharge plan. request.

   If monitoring results or a pressure test or surface facility inspection carried out by EID indicate that there may be leaks or spills at the KTS facility, additional monitoring may be required.

I hope to meet with you and/or Mr. Kinsolving the week after Thanksgiving to observe a pressure test at the KTS brine well and to discuss the contents of this letter, to the extent that may be necessary.

Sincerely,

Paige Grant Morgan

Paige Grant Morgan
Water Resource Specialist
Ground Water Section

PGM:jba

cc: Kenneth Kinsolving, Kenneth Tank Service, Crossroads
John Guinn, EID District IV, Roswell

m sll

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time	Date
	11:00 AM	11/16/84

Originating Party	Other Parties
Steve Sares	LuAnn Sterns Kenneth Tank Service
	675 2356

Subject: Scheduling Pressure test

Discussion: I confirmed with her a date of 11/26/84 at 2:30 PM for a Pressure test of their well. I also told her that they need to make the arrangements for the test, That a Pressure truck and recording gage will be needed. She asked where she could get a Pressure truck. I didn't know but People at OCD May have some suggestions She asked if we were testing anyone else that day. I told her Broom was scheduled for 8:00 AM that day. She may contact Broom to see if they can make common arrangements. She will call me or Paige back with details when she ~~makes~~ finalizes the test. I asked location of their facility. She said 18 miles North of Tatum NM on highway 18

Conclusions or Agreements:

Distribution: File

Signed: Steve Sares

HEALTH ENVIRONMENT department

TONEY ANAYA
GOVERNOR

STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020
Denise Fort, Director

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

September 24, 1984

Kenneth Tank Service
Drawer 1599
Lovington, NM 88260

Dear Sir(s):

Enclosed is a copy of the public notice pertaining to your proposed discharge which was issued by this division pursuant to New Mexico Water Quality Control Commission Regulations, Section 3-108.

If you have any questions, please do not hesitate to contact me at the above address and telephone number (ext. 279).

Sincerely,

Maxine S. Goad

Maxine S. Goad
Program Manager
Ground Water Section

MSG:jba

Enclosure

Lea County letter is in the
THE PERMIAN COPY COPIES FILE

P 612 423 361

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Kenneth Tank Service	
Street and No. Drawer 1599	
P.O. State and ZIP Code Lovington, NM 88260	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date	

PS Form 3800, Feb. 1982 ★ U.S.G.P.O. 1983-403-517

EMPLOYER

September 21, 1984

TO BE PUBLISHED ON OR BEFORE OCTOBER 1, 1984

PUBLIC NOTICE
NEW MEXICO ENVIRONMENTAL IMPROVEMENT DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following proposed discharge plan(s) have been submitted for approval to the Director of the New Mexico Environmental Improvement Division, P.O. Box 968, Crown Bldg., Santa Fe, New Mexico 87504-0968; telephone (505) 984-0020.

(DP-156) ANGEL FIRE SERVICE CORPORATION, Highway 38, Angel Fire, New Mexico 87710 proposes to amend its existing approved discharge plan, DP-156. The discharger proposes land application of up to 200,000 gallons per day of reclaimed domestic wastewater at a new 135-acre site several thousand feet north of the existing disposal site. Discharge to the proposed site would begin in spring 1985; the existing site would be retired in 1986. Additionally, the discharger proposes land spreading of stabilized sludge on 18 acres, and also proposes new effluent ponds for additional winter storage. The discharges will take place at T25N, R16E, Section 7 and 18, Colfax County, about one mile north of Angel Fire Village. The discharge is designed to contain less than 20 mg/l BOD and suspended solids, less than 10 mg/l total nitrogen, and about 600 mg/l total dissolved solids. The most vulnerable ground water at the site is at a depth of 15-35 feet and has 200-400 mg/l total dissolved solids.

(DP-214) CHINO MINES COMPANY, A Kennecott-Mitsubishi Partnership, Hurley, New Mexico 88043 has submitted a proposed modification to its approved ground water discharge plan, DP-214, for discharges from its copper and molybdenum ore processing, and copper reduction facilities in the Whitewater Creek drainage basin, covering Chino discharges from the new concentrator facility, acid plants and INCO furnace into the proposed new tailings area, Bolton Pond and the existing tailings area. Proposed modifications include increasing tailings disposed from 37,500 T/day to 42,500 T/day, with associated tailing fluids increased from 6,000 gpm to 10,300 gpm Chino also proposes to eliminate a separate facility to neutralize with lime, acid plant blowdown and INCO sludge, and substitute a neutralizing process which produces neutralization in the pipelines and in the tailings themselves. The location of the discharge is in Grant County, T19S, R12W, Sections, 4, 5, 8, 9, 10, 15, and 16 (Bolton Pond) and T19S, R12W, Sections 5, 6, 7, 8, 16, 17, 18, 19, 20, 21 (existing tailings). The ground water most likely to be affected is at depths ranging from approximately 19 feet to approximately 3,000 feet with total dissolved solids concentration ranging from 190 to 3,361 mg/l.

(DP-355) KENNETH TANK SERVICE (KTS), Drawer 1599, Lovington, New Mexico 88260, has submitted a discharge plan for an existing brine extraction well and associated surface facilities located in the SE¼ SE¼ SE¼ Section 27, T9S, R35E in Lea County, approximately one mile south of Crossroads, New Mexico. Brine is produced by injecting fresh water with a total dissolved solids (TDS) concentration of 1450 mg/l into dry salt beds of the Salado Formation at a depth of about 2,000 feet. The

resulting brine, with a TDS concentration of abour 230,000 mg/l, is stored at the surface in four above-ground steel tanks with a combined capacity of about 133,000 gallons. From July 1983 through March 1984, over 66,000 barrels of brine were produced at this facility. Ground water most likely to be affected by this operation is at a depth of approximately 140 feet and has a TDS concentration of roughly 500 mg/l.

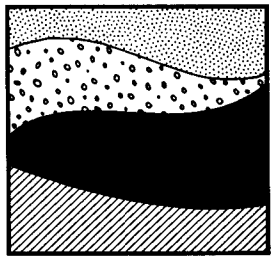
(DP-357) PECOS RIVER RANCH, Dave Youngren, Ranch Manager, RR Station, Ilfeld, New Mexico 87538 proposes to discharge up to 9,500 gallons per day of domestic wastewater from their seasonal resort, to a lagoon followed by sand filters, then into an arroyo for 1,000 feet until it joins the Pecos River. They also propose to use some of the effluent for landscape irrigation during summer months. The lagoon and site of landscape irrigation is located in the SE¼ of Section 9 of T14N, R13E in San Miguel County. The arroyo which will be used to transport effluent is located in the SE¼ of Section 9 of T14N, R13E and the NE¼ of Section 16 of T14N, R13E. The ground water most likely to be affected is at a depth of 160 feet at the lagoon site and is estimated to decrease to approximately 40 feet near the Pecos River. The TDS of this ground water is 800 mg/l.

(DP-354) THE PERMIAN CORPORATION, P.O. Box 1183, Houston, Texas 77001 has submitted a discharge plan for its existing brine extraction well and associated surface facilities, "Saline No. 1", located in the SE¼ SW¼ SW¼ of Section 36, T18S, R37E in Lea County, New Mexico, north of the airport west of Hobbs. Brine is produced by injecting fresh water with a total dissolved solids (TDS) content of 430 mg/l into a dry salt formation at a depth of about 2,500 feet. Production averages less than 250 barrels per day of 14,500 mg/l TDS brine, which is stored in two 1000-barrel above-ground steel tanks and pumped to tank trucks for sale on demand. Ground water most likely to be affected by this operation is at a depth of roughly 50 feet and has a TDS content of about 500 mg/l.

(DP-356) RIO GRANDE UTILITIES COMPANY, P.O. Box 1179, Belen, New Mexico 87002 proposes to discharge treated wastewater from the Community College Area of Rio Communities. Based on projection of the township-range grid, the discharge will occur in NW¼, Section 26, T6N, R2E, about 1.7 miles southeast of Tome, in Valencia County. The discharge will consist of up to 100,000 gallons per day of domestic type wastewater that will undergo settling, aeration, and chlorination prior to discharge. Sludge will be discharged to lined drying beds. Treated wastewater will be discharged either to an on-site landscape irrigation system or to 1.1 acres of infiltration beds at the site. The proposed discharge is expected to contain less than 20 mg/l of BOD and suspended solids, less than 10 mg/l of total nitrogen, and about 700 mg/l of total dissolved solids. The ground water most likely to be affected by the discharge is at a depth of 45 feet or less in Rio Grande alluvium and has a total dissolved solids content of about 300 mg/l.

Any interested person may obtain further information from the Ground Water Section, Ground Water/Hazardous Waste Bureau, EID, and may submit written comments to the Director of the EID at the address given above. Prior to ruling on any proposed discharge plan or its modification, the Director of EID will allow thirty (30) days after the date of publication of this Notice during which comments may be submitted to her and a public hearing shall set forth the reasons why the hearing should be held. A hearing will be held if the Director determines that there is significant public interest.

Geoscience
Consultants, Ltd.



August, 30, 1984

Ms. Paige Grant
NM Environmental Improvement Division
P.O. Box 968
Santa Fe, New Mexico 87503

Dear Ms. Grant:

We are pleased to submit the final discharge plan for the Kenneth Tank Service Brine Facility in Crossroads New Mexico. We feel that the enclosed discharge plan meets all the technical requirements of the WQCC Regulations. The monitoring and reporting schedule (annual reporting and semi annual analysis) is adequate for this type of facility.

If you have any questions or desire more information please contact me at our Albuquerque office.

Sincerely,

Randall Hicks

Randall T. Hicks
Vice President

cc. R.W. Gallini
C.W. Kinsolving

Enclosure
RTH/pg

500 Copper Avenue N.W. Suite 220, Albuquerque, New Mexico 87102 (505) 842-0001

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020
STEVEN ASHER, Director

TONEY ANAYA
GOVERNOR

Joseph Goldberg
SECRETARY

Ted Guambana
DEPUTY SECRETARY

JOSEPH F. JOHNSON
DEPUTY SECRETARY

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

May 7, 1984

Mr. Randall T. Hicks
Vice-President
Geoscience Consultants, Ltd.
500 Copper Ave. NW, Suite 220
Albuquerque, NM 87102

Dear Mr. Hicks:

Thank you for your submittal on behalf of your client, Kenneth Tank Service (KTS), which we received on March 16. The submittal, entitled "Proposal to Modify Surface Facilities Kenneth Tank Service Crossroads, New Mexico," fulfills the terms of the first phase of your client's Assurance of Discontinuance which stipulates that by March 15th, "KTS shall submit plans and specifications of the in situ extraction well" and "a proposal outlining measures to be taken to correct any possible violation of the Water Quality Control Commission Regulations resulting from surface activities." We have the following comments on your letter and submittal:

1. It is unnecessary to submit records of wells in a 2½ mile area surrounding the KTS facility. Since withdrawal equals injection in a brine extraction well, the area of review is only a quarter mile (see Section 5-202.B.2 of the Water Quality Control Commission Regulations).

2. Page 3-5 of the "Proposal," final paragraph: How will you detect an increase in injection pressure? Do you plan to have a gauge on the casing-tubing annulus to detect such a pressure change? What is the maximum pressure at which you plan to allow injection prior to clean-out of the production tubing? When the production tubing is flushed out, salt water could be allowed to flow onto the surface. To avoid this, back-flush water should be diverted to either the small spill catchment or the emergency pond. This is stated in your executive summary but is not dealt with in the body of the proposal.

3. Page 3-6: N80 high-tensile steel casing is not particularly resistant to corrosion. Please propose a means to check for casing corrosion and to assure the integrity of the cementing at the base of the well bore.

4. Page 6-1: Option #1 is preferable, unless you can submit supplementary material to indicate that the PVC drain pipe and bentonite or "synthetic" liner can tolerate being driven over by tank trucks. Please be specific as to what synthetic liner you have in mind, and provide us with the manufacturer's specifications.

5. Page 6-2, 6-3: Do you plan to anchor the plastic liner in the berm, in the asphalt base? As drawn, there is a gap shown between liner and asphalt which could allow seepage. Please specify the material you choose to line the berm, and provide manufacturer's specifications for the material.

6. Page 6-4: Proposed testing procedures should be described, including what criteria will be used for passing or failure.

You may respond to these points at the same time that you submit the next portion of your client's discharge plan; that is, by August 31, 1984. An outline for a brine well discharge plan is enclosed to help guide the preparation of the rest of the discharge plan. The format of this outline is strictly optional. We would be interested in your comments on this outline.

Again, thank you for being so prompt in submittal of the appropriate portions of your client's discharge plan at the specified time. If you have any questions regarding this letter or in the process of preparing subsequent sections of this discharge plan, please do not hesitate to call.

Sincerely,

Paige Grant

Paige Grant
Water Resource Specialist
Ground Water Section

Sincerely,

David Boyer

David Boyer
Water Resource Specialist
Ground Water Section

PG:DB:egr

cc: Kenneth Kinsolving, KTS
John Guinn, EID District IV, Manager
EID Field Office, Hobbs

m 522

PS Form 3800, Feb. 1982

Postmark or Date	
TOTAL Postage and Fees	$
Date, and Address of Delivery	
Return Receipt Showing to whom,	
Return Receipt Showing to whom and Date Delivered	
Restricted Delivery Fee	
Special Delivery Fee	
Certified Fee	
Postage	$
P.O., State and ZIP Code	Albuq. NM Suite 220
Street and No.	500 Copper Ave. NW
Sent to	Randy Hicks

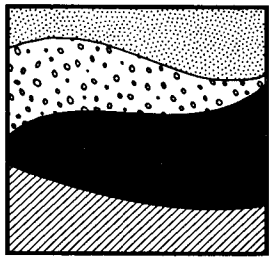
(See Reverse)

P 456 372 412

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—NOT FOR INTERNATIONAL MAIL

Geoscience
Consultants, Ltd.



March 14, 1984

Mr. David Boyer
Environmental Improvement Division
Ground Water Section
Santa Fe, New Mexico 87504

Dear Mr. Boyer:

Enclosed are the well specifications and the proposal for surface facility design pursuant to the Assurance of Discontinuance. I would also like to update you on the progress we have made toward compliance with the WQCC Regulations.

Presently soil samples from the KTS facility have been sent to American Colloid Co. and Albuquerque Testing Lab for permeability and density tests. These tests will determine the amount of bentonite which would be required to adequately seal the emergency holding ponds.

Available records of all water wells in the 2 1/2 mile area of review are being collected from the Roswell State Engineer's office. Plugging and abandonment records of pumping and abandoned oil wells and dry holes wells are also being collected from OCD.

There are no published site-specific hydrogeologic data on the Crossroads area. Thus, much of these data must be collected from local drillers, well logs and our own investigations. At the present time it appears that the quality and quantity of data on aquifers below the Ogallala is poor. We hope that you will contact us if you are aware of any site-specific information on these aquifers.

500 Copper Avenue N.W. Suite 220, Albuquerque, New Mexico 87102 (505) 842-0001

If you have any questions or comments on this submittal I hope you will contact us by phone so that we may speed the permitting process.

Sincerely,

Randall T. Hicks
Vice-President

cc: R. Gallini
K. Kinsolving

ASSURANCE OF DISCONTINUANCE

WHEREAS, on July 28, 1983, the Director of the New Mexico Oil Conservation Division ("OCD") requested Kenneth Tank Service ("KTS") to submit a Discharge Plan pursuant to §§ 3-104 and 5-101.B.3 of the New Mexico Water Quality Control Commission ("Commission") regulation for its discharges from its brine facility and brine well located in Section 27, Township 9 South, Range 35 East, N.M.P.M., Lea County, New Mexico; and

WHEREAS, neither the regulations nor an extension to discharge without an approved Discharge Plan issued by the Director, nor any Court Order, allows KTS to operate an injection well and associated surface facilities beyond November 10, 1983, and

WHEREAS, recent water quality analysis of nearby and adjacent wells did not indicate any present contamination of drinking water sources due to operations at the site; and

WHEREAS, KTS has committed to the Commission to proceed with all diligence to prepare and secure an approved Discharge Plan; and

WHEREAS, the Commission and KTS deem it appropriate to enter into this Assurance of Discontinuance.

KTS assures the Commission as follows:

1. ASSURANCE: All unapproved discharges at the KTS Brine Facility shall be discontinued as set forth in Paragraph 2 of the Assurance of Discontinuance.

2. SCHEDULE OF COMPLIANCE: It is agreed that the Discharge Plan shall comply with the following schedule:

A. KTS shall submit plans and specifications of the in situ extraction well to the EID	on or before March 15, 1984.
B. KTS shall submit a proposal outlining measures to be taken to correct any possible violation of the Water Quality Control Commission Regulations resulting from surface activities	on or before March 15, 1984.
C. EID shall complete review of KTS materials submitted by March 15, 1984, and EID shall provide comments to KTS	on or before May 15, 1984.
D. KTS shall submit the information listed in §5-102.B.1d and the information listed in §5-203.A of the Water Quality Control Commission Regulations to the EID	on or before August 31, 1984.
E. EID shall complete review of KTS materials submitted under Paragraph 2.D herein and EID shall provide comments to KTS	on or before October 31, 1984.
F. KTS shall submit a complete Discharge Plan which shall address all applicable requirements of the Water Quality Control Commission Regulations, Parts 3 and 5	on or before December 31, 1984.
G. EID shall complete review of Discharge Plan Application and EID shall provide comments to KTS	on or before March 4, 1985.
H. KTS shall submit responses to the EID comments	on or before May 1, 1985
I. EID Director's approval or disapproval of Discharge Plan Application shall be promulgated	on or before July 1, 1985.

If a public hearing is scheduled by the EID Director pursuant to §3-108 of the Commission's Regulations, all deadlines in Paragraphs 2.G through 2.I shall be 45 days later.

3. MUTUAL COOPERATION: KTS and the EID shall mutually cooperate in accomplishing on a timely basis the matters contemplated by this Assurance. In this respect, direct communication among KTS representatives and EID personnel is encouraged.

4. MEETINGS: It is understood that KTS and the EID shall meet on at least two occasions to discuss the progress during the initial 240 days of the Compliance Schedule. The first meeting shall take place on approximately the 90th day, and the second meeting on approximately the 150th day, as the parties may mutually and reasonably agree. EID shall endeavor to communicate any concerns which might necessitate additional information so as to allow KTS sufficient time to respond.

5. GOOD CAUSE: It is expressly understood that in the event additional time is requested by KTS for any of the compliance dates enumerated in Paragraph 2 for purpose of any request made to the Commission "good cause" shall include, but not be limited to situations where:

(a) there is a required response to issues that KTS did not anticipate or address in a timely manner and should not have reasonably anticipated or addressed in a timely manner; or

(b) there are delays in procurement, fabrication, installation, vender selection and testing caused by parties other than KTS entirely beyond the control of KTS.

6. ENFORCEMENT: The Commission shall not undertake enforcement against KTS for the continuation of current discharges occurring during the pendency of this Assurance without first

giving KTS 15 days prior written notice by the Director that KTS is in violation of the terms of this Assurance. This Paragraph shall not preclude appropriate action by the Director or the Commission under §74-6-11 N.M.S.A. 1978.

Failure by KTS to comply with any condition of this Assurance of Discontinuance shall be actionable as a violation of the Water Quality Act and of this Assurance under §§74-6-5 and 10 N.M.S.A. 1978, as applicable.

Nothing in this Assurance of Discontinuance shall relieve KTS from the responsibility for complying with all the provisions of the Water Quality Act, the regulations promulgated thereunder or any other provision of law except as otherwise specifically provided herein.

7. NO ADMISSION: The terms, execution and any conduct in accordance herewith shall not constitute an admission of any kind by KTS relating to matters under the Water Quality Act, Commission regulations, or any other matters relating to health or environment.

Signed and acknowledged this 18th day of January, 1984.

C. K. Kinsolving d/b/a Kenneth Tank Service

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

The foregoing instrument was acknowledged before me this 16th day of January, 1984, by C. K. Kinsolving, d/b/a Kenneth Tank Service.

My Commission Expires:

10-25-86

Notary Public

APPROVED:

WATER QUALITY CONTROL COMMISSION

By
Steven Asher, Chairman
Water Quality Control Commission

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

The foregoing instrument was acknowledged before me this 17th day of January, 1984, by Steven Asher, Chairman of the Water Quality Control Commission, on behalf of the Water Quality Control Commission.

My Commission Expires:

10-25-86

Notary Public

LAW OFFICES
HEIDEL, SAMBERSON, GALLINI, WILLIAMS & HARRINGTON
311 NORTH FIRST STREET
POST OFFICE DRAWER 1599
LOVINGTON, NEW MEXICO 88260
(505) 396-5303

C. GENE SAMBERSON
R. W. GALLINI
JERRY L. WILLIAMS
DAVID L. HARRINGTON

F. L. HEIDEL
OF COUNSEL

January 11, 1984

RECEIVED

JAN 16 1984

GROUND WATER/HAZARDOUS WASTE BUREAU

Mr. Dave Boyer
Environmental Improvement Division
P.O. Box 968
Santa Fe, New Mexico 87504-0968

Re: Kenneth Tank Service ("KTS")
Assurance of Discontinuance

Dear Dave:

Enclosed please find Page 2 of the Assurance of Discontinuance for Kenneth Tank Service. All of the corrections have been made as requested by the Water Quality Control Board.

Thank you for your assistance in this matter.

Very truly yours,

HEIDEL, SAMBERSON, GALLINI & WILLIAMS

R. W. Gallini

R. W. Gallini

RWG:ds

Enclosure

cc Randy Hicks

1/11/84 AR CKA RWA

A. KTS shall submit plans and specifications of the in situ extraction well to the EID on or before March 15, 1984.

B. KTS shall submit a proposal outlining measures to be taken to correct any possible violation of the Water Quality Control Commission Regulations resulting from surface activities on or before March 15, 1984.

C. EID shall complete review of KTS materials submitted by March 15, 1984, and EID comments ~~provided~~ shall provide to KTS on or before May 15, 1984.

D. KTS shall submit the information listed in §5-102.B.1d and the information listed in §5-203.A of the Water Quality Control Commission Regulations to the EID on or before August 31, 1984.

E. EID shall complete review of KTS materials submitted under Paragraph 2.D herein and EID comments provided to KTS on or before October 31, 1984.

F. KTS shall submit a complete Discharge Plan which shall address all applicable requirements of the Water Quality Control Commission Regulations, Parts 3 and 5 on or before December 31, 1984.

G. EID shall complete review of Discharge Plan Application and EID comments ~~provided~~ shall provide to KTS on or before March 4, 1985.

H. KTS shall submit responses to the EID comments on or before May 1, 1985.

I. EID Director's approval or disapproval of Discharge Plan Application ~~shall be promulgated~~ on or before July 1, 1985.

If a public hearing is scheduled by the EID Director pursuant to §3-108 of the Commission's Regulations, all deadlines in Paragraphs 2.G through 2.I shall be 45 days later.

Replaced by 1/11/84 Submittal AR

STATE OF NEW MEXICO

WATER QUALITY CONTROL COMMISSION

Dave Boyer

CONSTITUENT AGENCIES:

Environmental Improvement Division
State Engineer & Interstate Stream Commission
Game and Fish Department
Oil Conservation Division
Department of Agriculture
State Park & Recreation Division
Soil and Water Conservation Division
Bureau of Mines and Mineral Resources
Member-at-Large

RECEIVED

DEC 29 1983

GROUND WATER/HAZARDOUS WASTE BUREAU

MEMORANDUM

December 27, 1983

TO: NM Water Quality Control Commission

FROM: Steven Asher, Chairman, Water Quality Control Commission

SUBJ: Proposed Agenda for **January 10, 1984** Water Quality Control Commission Meeting, **HED Conference Room, Crown Building, 725 St. Michael's Dr.** Santa Fe, NM at 9 a.m.

---

1. Approval of Agenda.

2. Review and approval of minutes of September 13, 1983 and November 8, 1983 meetings.

3. Report on litigation.

4. Discussion and possible action on Assurance of Discontinuance for off-site discharges at Phillips Uranium Corporation's Nose Rock Mine northeast of Crownpoint, McKinley County.

   The draft copy of the assurance approved November 8, 1983 was provided in your packet for the November Commission meeting.

5. Discussion and action on assurance of Discontinuance for Kenneth Tank Service (a brine production facility) located at Crossroads, Lea County.

   Enclosed in your packet is a draft copy of the assurance negotiated between KTS and EID technical and legal staff. The assurance provides a schedule for complying with the WQCC Part 5 UIC regulations.

6. Other

fmg

REMINDER: Board and Commission Members Meeting on this date at Sweeney Convention Center, 2:30 p.m.

P.O. Box 968
Santa Fe, New Mexico 87504-0968

A. KTS shall submit plans and specifications of the in situ extraction well to the EID — On or before March 15, 1984.

B. KTS shall submit a proposal outlining measures to be taken to correct any possible violation of the Water Quality Control Commission Regulations resulting from surface activities — On or before March 15, 1984.

C. EID shall complete review of KTS materials submitted by March 15, 1984, and EID comments ~~provided~~ to KTS — On or before May 15, 1984.

D. KTS shall submit the information listed in §5-102.B.1d and the information listed in §5-203.A of the Water Quality Control Commission Regulations to the EID — On or before August 31, 1984.

E. EID shall complete review of KTS materials submitted under Paragraph 2.D herein and EID comments provided to KTS — On or before October 31, 1984.

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I. EID Director's approval or disapproval of Discharge Plan Application ~~shall be promulgated~~ — On or before July 1, 1985.

If a public hearing is scheduled by the EID Director pursuant to §3-108 of the Commission's Regulations, all deadlines in Paragraphs 2.G through 2.I shall be 45 days later.

ASSURANCE OF DISCONTINUANCE

WHEREAS, on July 28, 1983, the Director of the New Mexico Oil Conservation Division ("OCD") requested Kenneth Tank Service ("KTS") to submit a Discharge Plan pursuant to §§ 3-104 and 5-101.B.3 of the New Mexico Water Quality Control Commission ("Commission") regulation for its discharges from its brine facility and brine well located in Section 27, Township 9 South, Range 35 East, N.M.P.M., Lea County, New Mexico; and

WHEREAS, neither the regulations nor an extension to discharge without an approved Discharge Plan issued by the Director, nor any Court Order, allows KTS to operate an injection well and associated surface facilities beyond November 10, ~~1984~~ 1983 mcr; and

WHEREAS, recent water quality analysis of nearby and adjacent wells did not indicate any present contamination of drinking water sources due to operations at the site; and

WHEREAS, KTS has committed to the Commission to proceed with all diligence to prepare and secure an approved Discharge Plan; and

WHEREAS, the Commission and KTS deem it appropriate to enter into this Assurance of Discontinuance.

KTS assures the Commission as follows:

1. ASSURANCE: All unapproved discharges at the KTS Brine Facility shall be discontinued as set forth in Paragraph 2 of the Assurance of Discontinuance.

2. SCHEDULE OF COMPLIANCE: It is agreed that the Discharge Plan shall comply with the following schedule:

A. KTS shall submit plans and specifications of the in situ extraction well to the EID — On or before March 15, 1984.

B. KTS shall submit a proposal outlining measures to be taken to correct any possible violation of water Regulations resulting from surface activities ~~that are not related to the injection of fresh water and the production of brine~~. — On or before March 15, 1984.

C. EID shall complete review of KTS materials submitted by March 15, 1984, and EID comments ~~provided~~ to KTS shall provide — On or before May 15, 1984.

D. KTS shall submit the information listed in §5-102.B.1d and the information listed in §5-203.A of the Water Quality Control Commission Regulations to the EID — On or before August 31, 1984.

E. EID shall complete review of KTS materials submitted under Paragraph 2.D herein and EID comments provided to KTS — On or before October 31, 1984.

F. KTS shall submit a complete Discharge Plan which shall address all applicable requirements of the Water Quality Control Commission Regulations, Parts 3 and 5 — On or before December 31, 1984.

G. EID shall complete review of Discharge Plan Application and EID comments ~~provided~~ to KTS shall provide — On or before March 4, 1985.

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If a public hearing is scheduled by the EID Director pursuant to §3-108 of the Commission's Regulations, all deadlines in Paragraphs 2.G through 2.I shall be 45 days later.

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(a) there is a required response to issues that KTS did not anticipate or address in a timely manner and should not have reasonably anticipated or addressed in a timely manner; or

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giving KTS 15 days prior written notice by the Director that KTS is in violation of the terms of this Assurance. This Paragraph shall not preclude appropriate action by the Director or the Commission under §74-6-11 N.M.S.A. 1978.

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7. NO ADMISSION: The terms, execution and any conduct in accordance herewith shall not constitute an admission of any kind by KTS relating to matters under the Water Quality Act, Commission regulations, or any other matters relating to health or environment.

Signed and acknowledged this____day of_____, 1984.

_____
C. K. Kinsolving d/b/a Kenneth Tank Service

STATE OF NEW MEXICO)
: SS
COUNTY OF LEA)

The foregoing instrument was acknowledged before me this _____day of _____, 19___, by C. K. Kinsolving, d/b/a Kenneth Tank Service.

My Commission Expires:

_____ _____
Notary Public

APPROVED:

WATER QUALITY CONTROL COMMISSION

By_____
Steven Asher, Chairman
Water Quality Control Commission

STATE OF NEW MEXICO)
: SS
COUNTY OF LEA)

The foregoing instrument was acknowledged before me this _____ day of _____, 19___, by Steven Asher, Chairman of the Water Quality Control Commission, on behalf of the Water Quality Control Commission.

My Commission Expires:

_____ _____
Notary Public

LAW OFFICES
HEIDEL, SAMBERSON, GALLINI, WILLIAMS & HARRINGTON
311 NORTH FIRST STREET
POST OFFICE DRAWER 1599
LOVINGTON, NEW MEXICO 88260
(505) 396-5303

C. GENE SAMBERSON
R. W. GALLINI
JERRY L. WILLIAMS
DAVID L. HARRINGTON

F. L. HEIDEL
OF COUNSEL

December 27, 1983

RECEIVED

DEC 29 1983

GROUND WATER/HAZARDOUS WASTE BUREAU

Ms. Maxine Goad
Environmental Improvement Division
P.O. Box 968
Santa Fe, New Mexico 87504-0968

Re: Kenneth Tank Service;
Application for Approval
of Discharge Plan

Dear Ms. Goad:

Enclosed is a corrected copy of Page 1 to the Assurance of Discontinuance for the above referenced matter. Please insert this page into the document you have and tear up the old copy. I apologize for the inconvenience this has caused.

Thank you for your assistance.

Very truly yours,

HEIDEL, SAMBERSON, GALLINI, WILLIAMS & HARRINGTON

Debbie Shahan

Debbie Shahan, Secretary

ASSURANCE OF DISCONTINUANCE

WHEREAS, on July 28, 1983, the Director of the New Mexico Oil Conservation Division ("OCD") requested Kenneth Tank Service ("KTS") to submit a Discharge Plan pursuant to §§ 3-104 and 5-101.B.3 of the New Mexico Water Quality Control Commission ("Commission") regulation for its discharges from its brine facility and brine well located in Section 27, Township 9 South, Range 35 East, N.M.P.M., Lea County, New Mexico; and

WHEREAS, neither the regulations nor an extension to discharge without an approved Discharge Plan issued by the Director, nor any Court Order, allows KTS to operate an injection well and associated surface facilities beyond November 10, 1984; and

WHEREAS, recent water quality analysis of nearby and adjacent wells did not indicate any present contamination of drinking water sources due to operations at the site; and

WHEREAS, KTS has committed to the Commission to proceed with all diligence to prepare and secure an approved Discharge Plan; and

WHEREAS, the Commission and KTS deem it appropriate to enter into this Assurance of Discontinuance.

KTS assures the Commission as follows:

1. ASSURANCE: All unapproved discharges at the KTS Brine Facility shall be discontinued as set forth in Paragraph 2 of the Assurance of Discontinuance.

2. SCHEDULE OF COMPLIANCE: It is agreed that the Discharge Plan shall comply with the following schedule:

LAW OFFICES
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C. GENE SAMBERSON
R. W. GALLINI
JERRY L. WILLIAMS
DAVID L. HARRINGTON

F. L. HEIDEL
OF COUNSEL

December 23, 1983

RECEIVED

DEC 27 1983

GROUND WATER/HAZARDOUS WASTE BUREAU

Ms. Maxine Goad
Environmental Improvement Division
P.O. Box 968
Santa Fe, New Mexico 87504-0968

Re: Kenneth Tank Service;
Application for Approval
of Discharge Plan

Dear Ms. Goad:

On behalf of Mr. C. K. Kinsolving d/b/a Kenneth Tank Service, we hereby request that we be permitted to appear before the Water Quality Control Board in the early afternoon on Tuesday, January 10, 1984, in connection with the Board's consideration of the Assurance of Discontinuance.

This will permit us to drive to Santa Fe on the morning of January 10, 1984, in the event the weather does not permit our flying.

Your cooperation and assistance in this matter will be greatly appreciated. We look forward to hearing from you.

Very truly yours,

HEIDEL, SAMBERSON, GALLINI, WILLIAMS & HARRINGTON

R. W. Gallini

R. W. Gallini

RWG:ds

12/23/83

Tony -

The Assurance is just what was agreed upon except that there is one typographical error. On the first page the date in the last line of the second "Whereas" should be November 10, 1983.

I phoned Randy Hicks of Geoscience Consultants (who worked on the Assurance for Kenneth Tonks Service and he confirmed it was a typo. We agreed that I should change it and initial the change on the copy to be sent out to the Commission and then KTS will bring corrected clean copies to the WRCC meeting January 10, 1984 for signature. Weldon Merritt happened to be here and he said that was fine. So that is what I did and the Assurance is all ready to go out in the Commissioners' packages.

Would you have a copy of this draft made for me too when you have copies made for the Commissioners?

Thanks,

Melissa

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C. GENE SAMBERSON
R. W. GALLINI
JERRY L. WILLIAMS
DAVID L. HARRINGTON

F. L. HEIDEL
OF COUNSEL

December 21, 1983

Ms. Maxine Goad
Environmental Improvement Division
Crown Building
725 St. Michaels Dr.
Santa Fe, New Mexico 87504-0968

Re: Assurance of Discontinuance

Dear Ms. Goad:

Enclosed herewith please find a copy of the Assurance of Discontinuance we prepared in connection with the above-referenced matter.

Very truly yours,

HEIDEL, SAMBERSON, GALLINI, WILLIAMS & HARRINGTON

R. W. Gallini

R. W. Gallini

RWG:ds

Enclosure

ASSURANCE OF DISCONTINUANCE

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C. EID completes review of KTS materials submitted by March 15, 1984, and EID comments provided to KTS.	On or before May 15, 1984
D. KTS shall submit the information listed in §5-102.B.1d and the information listed in §5-203.A of the Water Quality Control Commission Regulations to the EID.	On or before August 31, 1984
E. EID completes review of KTS materials submitted under Paragraph 2.D herein and EID comments provided to KTS.	On or before October 31, 1984
F. KTS shall submit a complete Discharge Plan which shall address all applicable requirements of the Water Quality Control Commission Regulations, Parts 3 and 5.	On or before December 31, 1984
G. EID completes review of Discharge Plan Application and EID comments provided to KTS.	On or before March 4, 1985
H. KTS shall submit responses to the EID comments.	On or before May 1, 1985
I. EID Director's approval or disapproval of Discharge Plan Application	On or before July 1, 1985

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Signed and acknowledged this____day of_____, 1984.

_____
C. K. Kinsolving d/b/a Kenneth Tank Service

STATE OF NEW MEXICO)
: SS
COUNTY OF LEA)

The foregoing instrument was acknowledged before me this _____day of _____, 19___, by C. K. Kinsolving, d/b/a Kenneth Tank Service.

My Commission Expires:

_____ _____
Notary Public

APPROVED:

WATER QUALITY CONTROL COMMISSION

By_____
Steven Asher, Chairman
Water Quality Control Commission

STATE OF NEW MEXICO)
: SS
COUNTY OF LEA)

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My Commission Expires:

_____ _____
Notary Public

REQUEST FOR LEGAL SERVICES

Request made by: MAXINE GOAD (Name) PROGRAM MANAGER (Title)

Date of Request: 12/19/83

Person Attorney should contact: DAVID BOYER or M. Goad Telephone No. X303 (Boyer) or 279 (Goad)

Priority: X Emergency (explain) Negotiations on this injection well assurance of discontinuance must be completed by Dec. 21, 1983 because David Boyer, who is in charge of UIC, will be on leave Dec. 22-30. The assurance needs to be on the Jan. 19 1984 WQCC agenda, and completing work on it after Jan 2nd would be too late.
____ Normal
____ Low

Nature of Request:

____ Referral of matter to legal bureau for enforcement
____ Assign attorney to advise in licensing matter
____ Assign attorney to represent Division in a matter before the EIB, WQCC, or OHSRC
____ Legal opinion
____ Review enforcement letter for legal adequacy
____ Review submittal to federal or state government agency for legal adequacy
X Review draft contract or agreement for legal adequacy (draft assurance of discontinuance)
____ Obtain inspection order in District Court
____ Status report
____ Other (please specify) _____

Please fill in as applicable:

Name of case Kenneth Tank Service - Injection Well under Part 5 of the WQCC regulations; currently out of compliance

Attorney assigned to case _____

To Be Completed by Chief Attorney

This matter has been referred to _____ on _____

with the following instructions _____

_____

Internal # .

_____

_____
Chief Attorney

Date Completed _____

LAW OFFICES
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C. GENE SAMBERSON
R. W. GALLINI
JERRY L. WILLIAMS
DAVID L. HARRINGTON

F. L. HEIDEL
OF COUNSEL

December 16, 1983

Mr. Randy Hicks
Geo-Science Consultants
500 Copper N.W., Suite 222
Albuquerque, New Mexico 87102

Re: Kenneth Tank Service; Application For Approval of Discharge Plan

Dear Randy:

Enclosed herewith, please find a copy of the first draft of the Assurance of Discontinuance we prepared in connection with the above-referenced matter.

A copy was sent by Purolator Courier Service to Mr. Dave Boyer of the EID.

In the Draft, you will note I changed the name from KTL to KTS. Mr. Kinsolving does business as Kenneth Tank Service and not as Kenneth Tank Lines. You will also note on Page 1 and Paragraph 2.B , I underlined the words "prepare and secure" and "that are not".

These were words I could not decipher on the tape recording of our telephone conference. If these are not correct, let me know; and I will make the appropriate change.

The draft is on our word processor. Therefore, it will be fairly simple to make any required changes.

Please let me know if I can do anything further to assist you in this matter.

Very truly yours,

HEIDEL, SAMBERSON, GALLINI, WILLIAMS & HARRINGTON

R. W. Gallini

R. W. Gallini

RWG:ds

cc David Boyer
C. K. Kinsolving

ASSURANCE OF DISCONTINUANCE

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WHEREAS, neither the regulations nor an extension to discharge without an approved Discharge Plan issued by the Director, nor any Court Order, allows KTS to operate an injection well and associated surface facilities beyond November 10, 1983; and

? (by who?)

WHEREAS, as recommended to the Environmental Improvement Division ("EID") that it was appropriate to stay enforcement against KTS until the January 10, 1984, Commission meeting in order to allow time for KTS and the EID to discuss a proposed Assurance of Discontinuance; and

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C. K. Kinsolving d/b/a Kenneth Tank Service

STATE OF NEW MEXICO)
: SS
COUNTY OF LEA)

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My Commission Expires:

_____ _____
Notary Public

APPROVED:

WATER QUALITY CONTROL COMMISSION

By:_____
Steven Asher, Chairman
Water Quality Control Commission

STATE OF NEW MEXICO)
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F. L. HEIDEL
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December 16, 1983

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500 Copper N.W., Suite 222
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R. W. Gallini

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RWG:ds

cc David Boyer
C. K. Kinsolving

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C. K. Kinsolving d/b/a Kenneth Tank Service

STATE OF NEW MEXICO)
: SS
COUNTY OF LEA)

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My Commission Expires:

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Notary Public

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By:_____
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Water Quality Control Commission

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HEALTH ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

Steven Asher, Director

TONEY ANAYA
GOVERNOR

ROBERT McNEILL
SECRETARY

ROBERT L. LOVATO, M.A.P.A.
DEPUTY SECRETARY

JOSEPH F. JOHNSON
DEPUTY SECRETARY

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

December 7, 1983

R.W. Gallini, Esq.
Heidel Law Firm
P.O. Drawer 1599
Lovington, NM 88260

RE: Non-compliance by Kenneth Tank Service

Dear Mr. Gallini:

Thank you for your prompt response to our November 10, 1983, letter concerning the brine production well operated by Mr. C.K. Kinsolving of Crossroads, New Mexico. The New Mexico Water Quality Control Commission (WQCC) meeting scheduled for December 13, 1983, has been canceled. The next scheduled meeting is Tuesday, January 10, 1984, in Santa Fe and your client should be prepared to have a completed draft "Assurance of Discontinuance" ready to be mailed out to the Commission at least ten (10) days prior to the Commission meeting. I am available to work with Mr. Hicks on the preparation of the assurance; however, I will not be available in this office from December 22 through January 2. Therefore, the draft assurance should be in final form by December 21, 1983. I have notified Mr. Hicks by telephone today of these dates.

If you or Mr. Hicks have any questions, please contact me at the above address and telephone number (ext. 303).

Sincerely,

David G. Boyer

David G. Boyer
Ground Water Hydrologist
Ground Water Section

DGB:egr

cc: Richard Young, EID Chief Attorney
John Guinn, EID District IV, Manager
Joe Ramey, Oil Conservation Division
Randy Hicks, Geoscience Consultants
Kenneth Tank Service

rc

P 506 254 538

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to R. W. Gallini, Esq	
Street and No. P.O. Drawer 1599	
P.O., State and ZIP Code Lovington, NM	
Postage	$
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Return Receipt Showing to whom and Date Delivered	
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date	

PS Form 3800, Feb. 1982

LAW OFFICES
HEIDEL, SAMBERSON, GALLINI, WILLIAMS & HARRINGTON
311 NORTH FIRST STREET
POST OFFICE DRAWER 1599
LOVINGTON, NEW MEXICO 88260
(505) 396-5303

C. GENE SAMBERSON
R. W. GALLINI
JERRY L. WILLIAMS
DAVID L. HARRINGTON

F. L. HEIDEL
OF COUNSEL

November 22, 1983

Ms. Maxine S. Goad
Program Manager
Ground Water Section
Environmental Improvement Division
P.O. Box 968
Santa Fe, New Mexico 87504-0968

Re: Noncompliance by Kenneth
Tank Service

Dear Ms. Goad:

We acknowledge receipt of your letter dated November 10, 1983, in connection with the above-referenced matter.

Our client, Mr. C. K. Kinsolving d/b/a Kenneth Tank Service, has authorized us to inform you that he is interested in pursuing the course of action you recommended in your letter pertaining to the "Assurance of Discontinuance".

Mr. Kinsolving has made arrangements with Mr. Randy Hicks of Geo-Science in Albuquerque, New Mexico, to assist us in the formulation and preparation of the Discharge Plan. I will be contacting Mr. Hicks to make arrangements for him to assist in the preparation of the "Assurance of Discontinuance".

We appreciate your interest and willingness to assist us in this matter.

Very truly yours,

HEIDEL, SAMBERSON, GALLINI, WILLIAMS
& HARRINGTON

By R. W. Gallini

RWG:ds

cc C. K. Kinsolving, Kenneth Tank Service

HEALTH ENVIRONMENT department

STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

Steven Asher, Director

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DEPUTY SECRETARY

JOSEPH F. JOHNSON
DEPUTY SECRETARY

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

November 10, 1983

R.W. Gallini, Esq.
Heidel Law Firm
P.O. Drawer 1599
Lovington, NM 88260

RE: Noncompliance by Kenneth Tank Service

Dear Mr. Gallini:

The purpose of this letter is to give notice that your client, Kenneth Tank Service, is not in compliance with pertinent New Mexico laws and regulations governing brine supply facilities, and to suggest a course of action through which your client can come into compliance without incurring legal penalties and litigation expenses.

As of September 13, 1983, the New Mexico Water Quality Control Commission transferred the responsibility for regulating brine supply facilities from the Oil Conservation Division (OCD) of the Energy and Minerals Department, to the Environmental Improvement Division (EID) of the Health and Environment Department.

Under the New Mexico Water Quality Act, the Commission is empowered to enact regulations to prevent or abate water pollution, and a copy of the Commission regulations is enclosed for your information. Since September of 1982, Part 5 of these duly promulgated Commission regulations has been effect. Part 5 governs your client's brine facilities and requires a permit (known as an approved discharge plan) for the kind of discharge that we understand your client has been and is conducting. We are informed that your client has no permit and that your client has been notified of the illegal status of its unpermitted brine facilities by an OCD letter dated July 28, 1983. Subsequently by a letter dated August 10, 1983, OCD told your client that it would have to cease its brine operations on November 1, 1983, if a discharge plan had not been approved by that date. There has been no such approval with respect to your client.

As you may know, the consequences of violating the New Mexico Water Quality Act are serious. NMSA 74-6-5 imposes criminal penalties, including a fine of

up to $10,000 per day, or imprisonment up to one year, or both. In addition, the statute provides for civil penalties of up to $5,000 per day. While we have no desire to take punitive action against your client, under the Commission's September 13 directive EID is obligated to enforce the Act and the Commission's regulations.

As a practical matter, we recognize that even if your client were to initiate action on the permit immediately, there would be a substantial period of time required for processing the permit application to final approval, during which time your client would continue to be violating the law unless it shut down its brine operations. Provided that EID could be assured that your client is taking all reasonable steps to come into compliance as rapidly as possible and provided further that the discharges to ground water do not pose an imminent threat to public health and safety, EID has no desire to require an existing facility to cease operations. As to the latter proviso, we have not as yet been informed of any such threat to health and safety with respect to your client's operation.

A methodology exists in the New Mexico Water Quality Act for this type of situation. The approval of an "Assurance of Discontinuance" by the Water Quality Control Commission under Section 74-6-10.D. NMSA 1978, can allow continued facility operation while progress towards compliance proceeds. The course of action which we suggest is that your client voluntarily work with EID to draft and enter into an Assurance of Discontinuance, to be submitted jointly by both parties for approval by the Commission at its December 13, 1983, meeting. While we cannot speak for the Commission, based upon prior experience in similar situations, we expect that the Commission would act favorably on a properly drafted Assurance.

Assuming that you are interested in pursuing the course of action we recommend, we enclose a copy of an Assurance which was approved by the Commission in another case. This will serve as a basis for a draft tailored to your client's particular situation. We would note that your draft should contain a time-table specifying dates by which your client has selected a geotechnical consultant and begun work on the permit application, as well as target dates for major application accomplishments (e.g., short progress report, permit to EID for review, response to EID comments, etc.). EID staff will be happy to work with you and/or your client in developing the details of a mutually satisfactory Assurance of Discontinuance.

If the foregoing proposed course of action is acceptable, please confirm that in writing immediately. If we do not receive your response within ten days after the date of this letter, we will assume your client is not interested in voluntary compliance, and we will proceed with appropriate legal action. We hope sincerely that will not be necessary. We would much prefer to work with your client to obtain voluntary compliance.

If you or your client have any technical questions, please contact David Boyer (ext. 303) or me (ext. 279) at the above address and telephone number. For legal questions, please contact Richard L. Young, EID Chief Attorney.

Sincerely,

Maxine S. Goad

Maxine S. Goad
Program Manager
Ground Water Section

MSG:egr

Enclosure

cc: Kenneth Tank Service
Richard L. Young, EID Chief Attorney
John Guinn, EID District IV, Manager
Joe Ramey, Oil Conservation Division

P 331 628 083

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO
R.W. Gallini
STREET AND NO.
P.O. Drawer 1599
P.O. STATE AND ZIP CODE
Lovington NM

POSTAGE		$
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	¢
OPTIONAL SERVICES	SPECIAL DELIVERY	¢
	RESTRICTED DELIVERY	¢
	RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED	¢
	RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
	RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
	RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES		$
POSTMARK OR DATE		

PS Form 3800, Apr. 1976

FIRST AMENDED
ASSURANCE OF DISCONTINUANCE

WHEREAS on November 1, 1979, the Director of the New Mexico Environmental Improvement Division ("EID") requested Climax Chemical Company ("Climax") to submit a discharge plan pursuant to §§ 3-104 and 3-106.A of the New Mexico Water Quality Control Commission ("Commission") regulations for its discharges from its Monument, New Mexico facility ("Discharge") and;

WHEREAS neither the regulations nor an extension to discharge without an approved discharge plan issued by the Director nor any court order allows Climax to discharge from that facility beyond March 23, 1983 and;

WHEREAS the Commission has recommended to the EID that it was appropriate to stay enforcement against Climax until the April 12, 1983 Commission meeting in order to allow time for Climax and the EID to discuss a proposed Assurance of Discontinuance and;

WHEREAS the Commission deems that any discharge from Climax's facility without an approved discharge plan after March 23, 1983 constitutes a violation of the Commission's regulations and;

WHEREAS Climax has committed to the Commission to proceed with all diligence to establish an approved deep injection well for the disposal of its waste material and upon commencement of injection to discontinue all unpermitted discharges to unlined evaporation ponds and;

WHEREAS the Commission and Climax deem it appropriate to enter into this First Amended Assurance of Discontinuance.

Climax assures the Commission as follows:

1. ASSURANCE: All unapproved illegal discharges at Climax's Monument facility shall be discontinued and a deep injection well system ("well"), which fully complies with all applicable statutory and regulatory requirements shall be established as set forth in Paragraph 2 this Assurance of Discontinuance.

2. SCHEDULE OF COMPLIANCE: It is agreed that the design, installation and approval of the well shall comply with the following schedule:

A. Climax shall file any necessary request for aquifer designation under Section 5-103 of the Commission's Regulations. (If such a request is filed, the EID shall act under Section 5-103 of the Commission's Regulations expeditiously and the Commission shall schedule any required public hearing expeditiously to allow maintenance of the Schedule set forth below.)	On or before June 11, 1983
B. Climax shall prepare its Discharge Plan Application, and Submit to EID	On or before August 24, 1983
C. EID shall publish Notice under 3-100.A and B.	On or before September 13, 1983
D. EID Review of Discharge Plan Application and EID comments shall be provided to Climax.	On or before October 24, 1983
E. Climax shall submit responses to EID comments	On or before December 5, 1983
F. EID Director's approval or disapproval of discharge plan application	January 5, 1984
G. Material Procurement, Fabrication, Delivery, Vendor Selection completed by Climax	On or before April 6, 1984
H. If the discharge plan is approved, Climax shall drill and complete well	On or before May 5, 1984
I. Climax shall prepare completion report and submit to EID	On or before July 5, 1984
J. EID approval or disapproval for well operation under Commission Regulations 5-102.A and 5-210.C.	On or before September 4, 1984
K. If approved, Climax shall complete surface facilities and begin injection and discontinue all unpermitted discharges	On or before November 3, 1984

If a public hearing is scheduled by the EID Director pursuant to Section 3-108 of the Commission's Regulations all deadlines in paragraphs 2.F through 2.K shall be 45 days later.

3. MUTUAL COOPERATION: Climax and the EID shall mutually cooperate in accomplishing on a timely basis the matters contemplated by this Assurance. In this respect, direct communication among Climax representatives and EID personnel is encouraged.

4. MEETINGS: It is understood that Climax and the EID shall meet on at least 2 occasions to discuss the progress during the initial 120 days of the Compliance Schedule. The first meeting shall take place on approximately the 60th day and the second meeting on approximately the 90th day, as the parties may mutually and reasonably agree. EID shall endeavor to communicate any concerns which might necessitate additional information so as to allow Climax sufficient time to respond.

5. GOOD CAUSE: It is expressly understood that in the event additional time is requested by Climax for any of compliance dates enumerated in Pargraph 2 for purpose of any request made to the Commission "good cause" shall include, but not be limited to situations where:

(a) there is a required response to issues that Climax did not anticipate or address in a timely manner and should not have reasonably anticipated or addressed in a timely manner or;

(b) there are delays in procurement, fabrication, installation, vender selection, drilling, completion, and testing caused by parties other than Climax and enitrely beyond the control of Climax.

6. APPEALS: There are presently pending (1) an appeal of the Director's denial of Climax' present Discharge Plan Application, (2) Petition for Variances: (3) Motion for Stay; (4) "Alternative Application for Approval Without Compliance" pursuant to Regulation 3-110. Upon approval of this Assurance, Climax shall:

(a) Reserve all appeal rights for its Discharge Plan Application presently preserved but shall waive any time requirements imposed upon the Commission until decision by the Director or Commission, as the case may be, on the Discharge Plan contemplated by this Assurance.

(b) Withdraw without prejudice the Petition for Variance.

(c) Withdraw without prejudice the Motion for Stay; and

(d) Request the Director and the Commission to suspend consideration of the Alternative Application pending decision on the Discharge Plan contemplated by this Assurance.

In the event the well is approved for operation the appeal and Alternative Application shall be withdrawn by Climax.

7. ENFORCEMENT: The Commission shall not undertake enforcement against Climax for the continuation of current discharges occurring during the pendency of this Assurance without first giving Climax 15 days prior written notice by the Director that Climax is in violation of the terms of this Assurance. This paragraph shall not preclude appropriate action by the Director or the Commission under Section 74-6-11 NMSA 1978.

Failure by Climax to comply with any condition of this Assurance of Discontinuance shall be actionable as a violation of the Water Quality Act and of this Assurance under §§ 74-6-5 and 10 NMSA 1978, as applicable.

Nothing in this Assurance of Discontinuance shall relieve Climax from the responsibility for complying with all the provisions of the Water Quality Act, the regulations promulgated thereunder or any other provision of law except as otherwise specifically provided herein.

8. NO ADMISSION: The terms, execution and any conduct in accordance herewith shall not constitute an admission of any kind by Climax relating to matters under the Water Quality Act, Commission regulations, or any other matters relating to health or environment.

Signed and acknowledged this _____ day of August, 1983.

CLIMAX CHEMICAL COMPANY

By: _____
Jim E. Nelson, President
Climax Chemical Company

State of New Mexico)
) ss
County of _____)

The foregoing instrument was acknowledged before me this _____ day of August 1983 by Jim E. Nelson, President of Climax Chemical Company, a _____ company, on behalf of the company.

_____
Notary Public

My Commission Expires:

_____

APPROVED:

WATER QUALITY CONTROL COMMISSION

By: _____
Thomas S. Udall, Chairman
Water Quality Control Commission

State of New Mexico)
) ss
County of Santa Fe)

The foregoing instrument was acknowledged before me this _____ day of August 1983 by Thomas S. Udall, Chairman of the Water Quality Control Commission, on behalf of the Water Quality Control Commission.

_____
Notary Public

My Commission Expires:

_____

DRAFT

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

November , 1983

R.W. Gallini, Esq.

######

Re: Noncompliance by Kenneth Tank Service

Dear Mr. Gallini:

The purpose of this letter is to give notice that your client, Kenneth Tank Service, is not in compliance with pertinent New Mexico law governing brine supply facilities, and to suggest a course of action through which your client can come into compliance without incurring legal penalties and litigation expenses.

As of September 13, 1983, the New Mexico Water Quality Control Commission transferred the responsibility for regulating brine supply facilities from the Oil Conservation Division (OCD) of the Energy and Minerals Department, to the Environmental Improvement Division (EID) of the Health and Environment Department.

Under NMSA 74-6-5, the Commission is empowered to enact regulations requiring that any person discharging any water contaminant either directly or indirectly into water must first obtain a permit to do so. Since December of 1982, there have been in effect duly promulgated Commission regulations, Part 5 of which govern your client's brine facilities and require a permit for the kind of discharge that we understand your client has been and is conducting. We are informed that your client has ############## no permit and

that your client has been notified of the illegal status of its unpermitted brine facilities on at least two ######### occasions: first, by an OCD letter dated July 28, 1983, and again by an OCD letter dated August 10, 1983. In the latter communication, OCD told your client that it would have to cease its brine operations on November 1, 1983, if a discharge plan had not been approved by that date. Of course there has been no such approval with respect to your client.

As you may know, the consequences of violating the New Mexico Water Quality Act are serious. NMSA 74-6-5 imposes criminal penalties, including a fine of up to $10,000 per day, or imprisonment up to one year, or both. In addition, the statute provides for civil penalties of up to $5,000 per day. While we have no desire to take punitive action against your client, under the Commission's September 13 directive EID is obligated to enforce the Act and the Commission's regulations.

As a practical matter, we recognize that even if your client were to initiate action on the permit immediately, there would be a substantial period of time required for processing the permit application to final approval, during which time your client would continue to be violating the law unless it shut down its brine operations. If we ~~can~~ could be assured that your client is taking all reasonable steps to come into compliance as rapidly as possible, EID has no desire to require an existing facility to cease operations --provided that discharges to ground water do not pose an imminent threat to public health and safety. As to the latter proviso, we have ~~not~~ as yet been informed of any such threat to health and safety with respect to your client's operation.

The course of action which we suggest is that your client voluntarily work with EID to draft and enter into an Assurance of Discontinuance, to be submitted jointly by both parties for approval by the Commission at its December 13, 1983, meeting. While we cannot speak for the Commission, based upon prior experience in similar situations, we expect that the Commission would act favorably on a properly drafted Assurance.

Assuming that you are interested in pursuing the course of action we recommend, we enclose a copy of an Assurance which was approved by the Commission in another case. This will serve as a basis for a draft tailored to your client's particular situation. We would note that your draft should contain a time-table specifying dates by which your client has selected a geotechnical consultant and begun work on the permit application, as well as target dates for major application accomplishments (e.g., short progress report, permit to EID for review, response to EID comments, etc.) EID staff will be happy to work with you and/or your client in developing the details of a mutually satisfactory Assurance of Discontinuance.

If the foregoing proposed course of action is acceptable, please confirm that in writing immediately. If we do not receive your response within ten days after the date of this letter, we will assume your client has no interest in voluntary compliance and we will take appropriate legal action promptly thereafter. We hope that will not be necessary.

Very truly yours,

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

October 28, 1983

Mr. R.W. Gallini, Esq.
Heidel, Samberson, and Gallini

Lovington, NM

RE: Discharge Plan for Kenneth Tank Service

Dear Mr. Gallini:

On September 13, 1983, the New Mexico Environmental Improvement Division (EID) assumed responsibility for permitting brine supply facilities from the Oil Conservation Division (OCD). The facility your represent, along with those of several other operators, was required by OCD ~~letter dated July 28, 1983,~~ to obtain an approved discharge plan (permit) under Part 5 of the Water Quality Control Commission (WQCC) Regulations ~~and~~ to cease injection well operation ~~by~~ August 7, 1983, until a discharge plan was approved. Additionally, the facility was notified by letter from OCD, dated August 10, 1983, that operations must cease on November 1, 1983, if a discharge plan has not been approved by that date.

The NMWQCC Regulations regulating underground well injection, based on the technical and procedural aspects of EPA's Underground Injection Control (UIC) Regulations, were adopted in July, 1982, and became effective September 20, 1982. The adoption of the regulations, together with satisfying other EPA

requirements, allows New Mexico to administer the federal UIC program in the state beginning July 11, 1983, without having EPA involvement in permit issuance. A condition of program approval was that effluent disposal wells or in situ extraction wells at facilities have either an approved WQCC Part 3 discharge plan ("Permit by Rule") or a Part 5 discharge plan (UIC permit) on the effective date of the state program, and that all facilities have an approved Part 5 discharge plan within five years of program approval. After 90 days from the effective date of the regulations (~~e.g.~~ December 19, 1982) permits for effluent disposal wells and in situ extraction wells at UIC facilities not yet having an approved discharge plan were required by regulation to be issued only under Part 5 of the regulations. Since UIC Part 5 permitting requirements are more specific than Part 3, operator preparation of a Part 5 permit will likely require additional time beyond that required for Part 3 preparation. Total time for permit preparation, submittal to EID, agency review, and requests for clarifying information can extend permit processing time up to a year or longer for complex facilities. If permitting procedures are moving towards resolution, the EID has no desire to require existing facilities to cease operations if their discharges to ground water do not pose an imminent(sp) danger to public health and safety.

A methodology exists in the New Mexico Water Quality Act to obtain voluntary compliance by an operator of the regulations. The approval of a signed "Assurance of Discontinuance" by the WQCC under Section 74-6-10.D NMSA 1978, allows continued facility operation while permit processing to obtain compliance continues. The EID requests that Kenneth Tank Service work with EID to prepare an "Assurance of Discontinuance" for presentation to the Commission at their December 13, 1983, meeting. A copy of a previously

approved "Assurance" is enclosed as a guide to asist you in preparing a draft for submittal and discussion. The assurance should specify a time table by which your client has selected a geotechnical consultant and begun work on the permit application as well as expected dates of major application accomplishments (e.g. short progress report, permit to EID for review, response to EID comments, etc.).

If your client is working between November 1, 1983, and December 13, 1983, to prepare and submit an assurance, the EID does not expect it will be necessary to initiate enforcement action, including well "shut-in," unless information indicates an imminent risk to health and safety from your operation.

If you have any questions please, contact me at the above address and telephone number (ext. 303).

Sincerely,

David G. Boyer
Ground Water Hydrologist
Ground Water Section

DGB:egr

Enclosure

MSB 10/19/83
HD 10/20/83

REQUEST FOR LEGAL SERVICES

Request made by: DAVID Boyer (Name) WRS 3 (Title)

Date of Request: 10/19/83

Person Attorney should contact: David Boyer Telephone No. 303

Priority: X Emergency (explain) See Below
____ Normal
____ Low

Nature of Request:

____ Referral of matter to legal bureau for enforcement
____ Assign attorney to advise in licensing matter
____ Assign attorney to represent Division in a matter before the EIB, WQCC, or OHSRC
____ Legal opinion
____ Review enforcement letter for legal adequacy
____ Review submittal to federal or state government agency for legal adequacy
____ Review draft contract or agreement for legal adequacy
____ Obtain inspection order in District Court
____ Status report
X Other (please specify) Assign Attorney for Assurance of discontinuance on brine wells. These wells were transferred from OCD to EIB on 9/13. OCD extensions of time (illegal) are running out and their lawyers are calling asking what to do. We need to work to come before the WQCC on this matter on 11/8/83.

Please fill in as applicable:

Name of case _____

Attorney assigned to case _____

To Be Completed by Chief Attorney

This matter has been referred to Richard Young on 10/21/83

with the following instructions _____

Internal #.

491

Richard L. Young
Chief Attorney

Date Completed _____

HEALTH & ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020
Steven Asher, Director

TONEY ANAYA
GOVERNOR

ROBERT McNEILL
SECRETARY

ROBERT L. LOVATO, M.A.P.A.
DEPUTY SECRETARY

JOSEPH F. JOHNSON
DEPUTY SECRETARY

September 2, 1983

Mr. Kenneth Kinsolving
Kenneth Trucking Service
Drawer 1599
Lovington, NM 88260

Dear Mr. Kinsolving:

Enclosed is a copy of the New Mexico Water Quality Control Commission Regulations, as you requested.

The regulations contain the following 5 parts:

Part 1 - General Provisions and Procedures;

Part 2 - Water Quality Control (regarding discharges to surface watercourses);

Part 3 - Water Quality Control (regarding discharges to ground water);

Part 4 - Utility Operators Certification; and

Part 5 - Water Quality Control - Underground Injection Control.

The Part 5 regulations concerning underground injection control apply to brine wells. These regulations require considerable amounts of technical information concerning the hydrology of the site and the construction details of your wells. We will be happy to work closely with you in assembling this information.

If you have any questions or require further information regarding these regulations, please contact David Boyer at the above address and telephone number (ext. 303).

Sincerely,

Karl Souder
Water Resource Specialist
Ground Water Section

KS:egr

cc: Joe Ramey, NM OCD

Enclosure

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal | Time 9:15 AM | Date 8/11/83

Originating Party	Other Parties
David Boyer - NMEID	Lou Ann Stearns (675-2356) Kenneth Tank Service Crossroads NM

Subject

Bravo Production Well - Permitting under Part 5

Discussion

I called Ms. Stearns to tell her that I had contacted OCD about the problem and that they would call her. She said that Romey had called and that OCD would send a letter, letting her operate until Nov. 1, 1983. I told her part 5 permitting is more difficult than the existing OCD permitting and that she would likely need more time than November 1. I explained briefly the Part 5 regulations. She explained that her father owns the company, has one well and is a marginal operation. She said there is no one available with the proper expertise to prepare a permit. I told her I would be available to answer specific questions but that EID or OCD could not do the work. I told her that I would be glad to speak to her lawyer to explain the requirements of the regulations.

Distribution

OCD Discharge Plan file

Signed

David J. Boyer

STATE OF NEW MEXICO
ENVIRONMENT

MEMORANDUM OF MEETING OR CONVERSATION

[X] Telephone [ ] Personal	Time	Date
	10:00 am	8/10/83

Originating Party	Other Parties
Ms. Lou Ann Stearns - Office Manager	David Boyer - NMEID
Kenneth Tank Service, P.O. Box 100, Crossroads, NM 88114 - Phone number 675-2356	

Subject

Part 5 UIC permit for brine production well (Kenneth Kinsolving, owner)

Discussion

Ms. Stearns called to say she had received OCD letter signed by Ramey saying they were to shut in their well by 10 days from July 28 (Aug. 8) for non-compliance with the Part 5 UIC Regulations. She said this was first notification she had received, and that when she talked to Oscar, he said that the 1st letter to them might not have been sent. She mailed Ramey's letter back to Ramey after talking to Joe by phone (she reported that he had indicated that things could be resolved). Yesterday she received the same letter back from Ramey with a note that the letter still stands in effect and for her to contact Dave Boyer for further communication. I briefly explained the bureaucratic changes occurring in in Santa Fe and felt some other action to obtain voluntary compliance could be taken instead of immediately shutting-in the well. I told her someone would call her back tomorrow with additional information (I called Ramey and said he still had responsibility but EID would work to provide OCD with examples of assurance of discontinuance as this was likely the most reasonable way to go).

Postscript 8/11: Oscar says that notification letter was not sent last fall because these people had never registered with OCD until this year even though the well had been existing since the 1960's

Distribution

~~OCD Discharge Plan file~~
KK 5 Brine file

Signed David F Boyer

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

August 10, 1983

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Kenneth Tank Service
Crossroads, New Mexico 88114

Attention: Mr. Kenneth Kensolvin

Re: Discharge Plan
Brine Supply Facility
Section 27, T9S, R35E

Gentlemen:

After further investigation, this office feels that the 10 days to cease operations is too restrictive. Other brine operators were given around 90 days.

You are therefore requested to submit a discharge plan as soon as possible. You are further requested to cease operations on November 1, 1983, if you do not have an approved discharge plan on that date.

Discharge plans must be advertised and cannot be approved until 30 days after advertisement. So it is certainly to your advantage to submit the plan as soon as possible.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

July 28, 1983

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Kenneth Tank Service
Crossroads, NM 88114

Attention: Kenneth Kensolvin

Re: Request a Discharge Plan for Your Brine Facility and Brine Supply Well in Sec. 27, T-9S, R-35E, Lea County, NM

Dear Sir:

Under the provisions of the Water Quality Control Commission (WQCC) regulations, you are hereby notified that the filing of a discharge plan for your brine well and brine facilities is required.

On September 20, 1982, Part 5, Water Quality Control -- Underground Injection, pages 41-70, a new section to the WQCC regulations became effective.

The Oil Conservation Division classifies your type of operation as an in situ extraction process whereby injection well(s) are used for mineral (salt) extraction. Please refer to the definition of "in situ extraction well" in Section 1-101. cc. page 4 of the regulations.

It was brought to my attention that you have recently filed with the OCD all necessary forms and reports concerning your brine well. Pursuant to the requirements of Part 5, Water Quality Control -- Underground Injection Control of the WQCC regulations - Section 5-101 (B-3), you are requested to shut-in your brine well (in situ extraction well) and brine facility within 10 days from the date of this letter and cease operations until you receive an approved discharge plan meeting the requirements of Parts 3 and 5 of the Water Quality Control Commission regulations (WQCC). Adequate public notice was given concerning these regulations in all public newspapers. A copy of the WQCC regulations is enclosed for your convenience.

As a further reminder, you cannot legally operate your brine well or facility until you have an approved discharge plan. The Water Quality Control Commission regulations, Part 5, supersedes all other permits and authority that was previously promulgated by other state or federal agencies.

If you have any questions on this matter, please do not hesitate to contact Oscar Simpson at (505) 827-5822.

Sincerely,

JOE D. RAMEY
Director

JDR/OS/dp

Enc.

cc: Hobbs District Office

DISCHARGE PLAN FOR
KENNETH TANK SERVICE
BRINE PRODUCTION FACILITY
CROSSROADS, NEW MEXICO

August 6, 1984

Prepared for:

C.K. Kinsolving
Kenneth Tank Service
Crossroads, New Mexico
88114

Prepared by:

Geoscience Consultants, Ltd.
500 Copper Ave NW
Suite 220
Albuquerque, New Mexico
87102

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1.0 EXECUTIVE SUMMARY

Geoscience Consultants, Ltd. submits this complete discharge plan which will bring the facilities at Kenneth Tank Service into compliance with the WQCC regulations.

Kenneth Tank Service (KTS) proposes to construct a berm around its brine storage facility and a polyethylene lined emergency holding pond to contain any brine flows which would result from a storage tank or pipeline failure. Also proposed is a lined catchment for the brine loading area which would divert any spills from trucks or brine delivery ports to the lined holding pond. The holding pond will be used only for containment of major spills and for retention of fluid used in periodic clean out of the brine well production tubing. The pond will contain liquid only for the time required to repair the storage and delivery system in the event of a leak. After repair or clean out, any fluid that has not evaporated will be pumped from the pond to the storage tanks or into transport trucks for use as drilling fluid.

Plans and specifications for the brine well were developed from reports sent to the New Mexico Oil Conservation Division, a field inspection by Geoscience Consultants, Ltd. and information provided by John Sterns of KTS.

The brine well and loading facility are typical of other operations in New Mexico. Fresh water is pumped under pressure into the annulus between the casing and tubing. Open hole completion in the Salado Formation permits contact with salt, and saturated brine is produced at the surface through the

production tubing.

Usable ground water is present only in the Tucumcari Shale which lies at a depth of about 130-150 feet below land surface. Ground water in this unit has a total dissolved solids content of approximately 500 mg/l TDS and is at a depth of about 140 feet below land surface.

2.0 LOCATION AND PHYSIOGRAPHIC FEATURES

The Kenneth Tank Service (KTS) brine facility is located approximately one mile south of Crossroads, New Mexico in Section 27, T9S, R35E (SE1/4, SE1/4, SE1/4). The injection well, fresh water production wells and product loading terminal are on the west side of State Route 18 and are shown in figure 2-1. Examination of figure 2-1 shows the flat High Plains surface of the area. Drainages are poorly defined and surface water from precipitation events flows into the small playa lakes which are characteristic of the New Mexico High Plains. Permanent saline lakes (eg. Ranger Lake) are also present in northern Lea County. The topographic location of the site minimizes the flooding potential as can be seen on figure 2-1.

caliche & redbeds 0 - 1960
salt & anhydrite 1960 - 2809
anhy. & dolomite 2809 - 4047

well in same section
Shell Oil State Ella

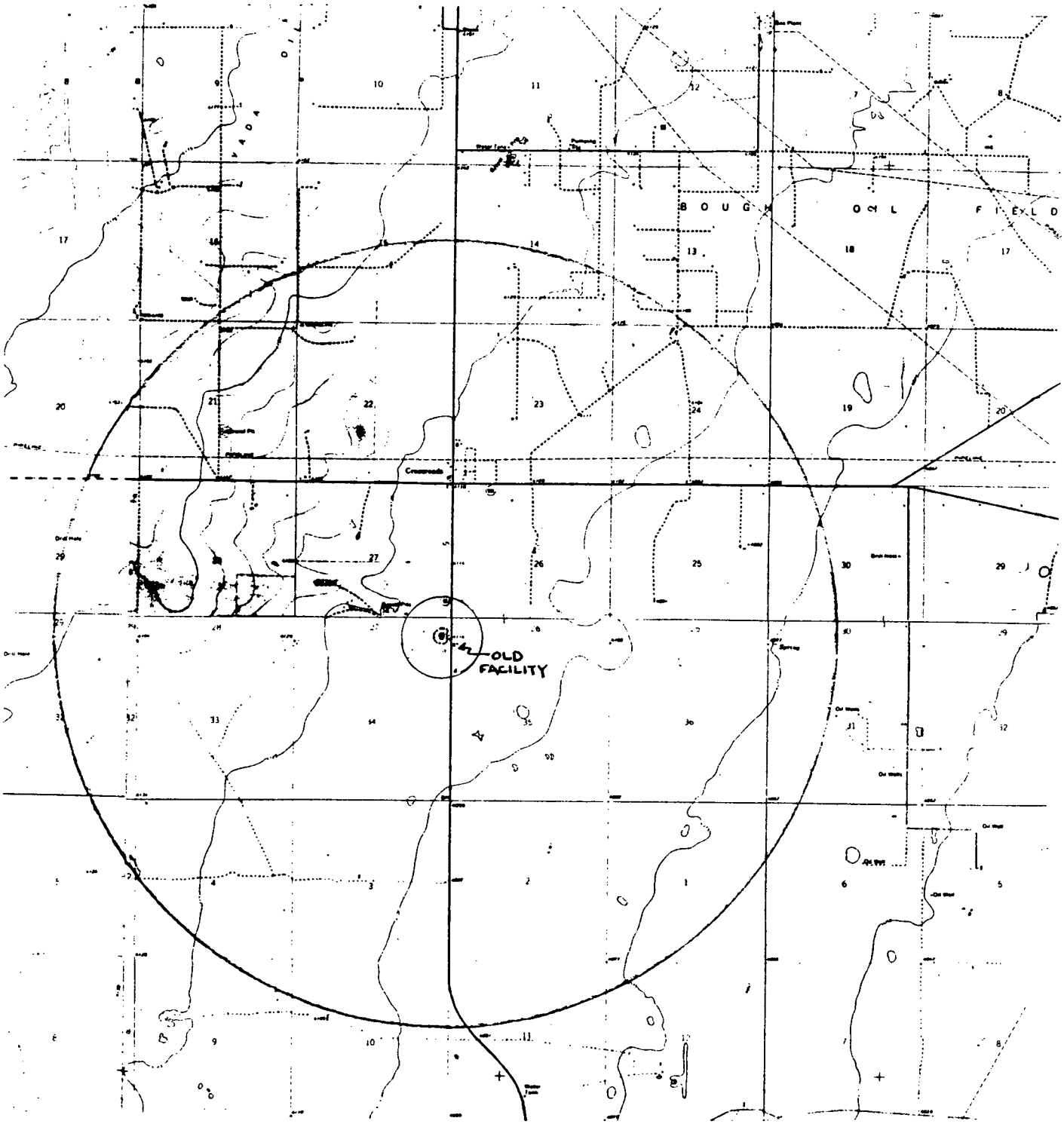


Figure 2-1 Location of the Kenneth Tank Service brine facility and the 2½ mile area around the facility.

Also shown is the 1/4 mile area of review and the location of the old fresh water facility operated by KTS in the 1960's. Three fresh water wells are present at the old facility, two are bridged above the water table, one is used as a stock well. No records are avilable for these wells.

3.0 FACILITY AND PROCESS DESCRIPTION

The brine and fresh water facility consists of:

1. 4 brine storage tanks
2. 3 fresh water storage tanks
3. Product delivery pipelines for truck loading
4. 2 fresh water supply wells
5. 1 brine injection/production well
6. 1 topside fresh water booster pump for injection
7. Ticket office

Figure 3-1 is the site plan of the facility which shows all of the above structures.

3.1 STORAGE TANKS AND PIPELINES

The 4 northernmost storage tanks are used for brine storage. Tanks #1 and #2 have a measured circumference of 48.75 feet and a measured height of 16 feet. The maximum calculated capacity of each tank is 22650 gallons (3025 cubic feet). Tanks #3 and #4 have a measured circumference of 68 feet, a measured height of 16 feet and a maximum calculated capacity of 44,000 gallons (5887 cubic feet). All three fresh water tanks (5,6,7) have a measured circumference of 68 feet and a measured height of 16 feet. The fresh water tanks are located south of the brine tanks (Figure 3-1).

All tanks are constructed of 10 gauge, bolted, galvanized steel; and are API certified. The small amount of leakage around bolted joints evaporates prior to reaching ground surface. Pipelines connect the brine tanks to 2 delivery ports for truck loading (Figure 3-1). All four brine tanks are interconnected by these pipelines. Valves are present at the delivery

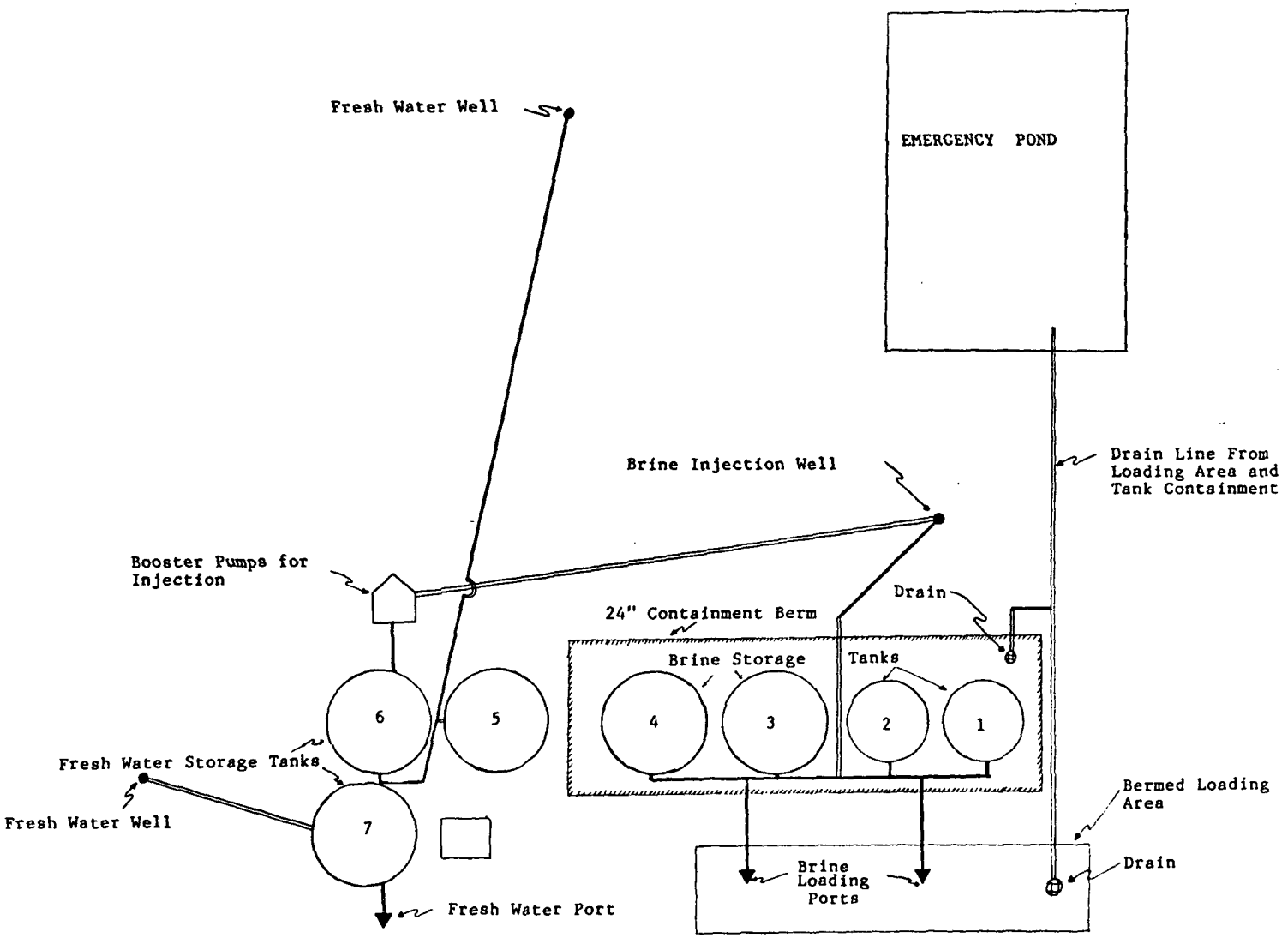


Figure 3-1 Brine facility site plan

ports and on each tank. Fresh water storage tanks are also interconnected and pipelines are buried to prevent freezing. Loading of product onto trucks is facilitated by pumps on the tank trucks.

3.2 BRINE WELL

Figure 3-2 is a copy of the "SUNDRY NOTICE AND REPORT" (NMOCD form C-103) on the Kinsolving Brine Well. It is the only available report on the well completion methods and was filed with NMOCD on February 28, 1983. Geoscience Consultants, Ltd. contacted the Hobbs OCD office and Mansell Brine Sales of Midland, Texas in an attempt to find original completion reports. Both offices stated that no reports were available. No one currently at Mansell Brine has any knowledge of specific well completion techniques. The previous owners of Mansell Brine who drilled the well are deceased. The plans and specifications for the Kinsolving Brine Well (Appendix A) are based upon a field inspection by Geoscience Consultants Ltd. this report and conversation with John Stearns of KTS.

The surface equipment associated with the brine production well is the wellhead valving and the booster pump, and the buried pipelines. The well head valving is designed to accommodate brine production and maintenance of the well. Brine production results from injection of fresh water (at 300 psi) into the annulus between the well casing and production tubing. Brine is produced through the tubing and flows into the storage tanks through subsurface pipelines. This method is typical of brine wells in New Mexico.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

OIL CONSERVATION DIVISION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-103
Revised 10-1-78

5a. Indicate Type of Lease: State [X] Fee [ ]
5. State Oil & Gas Lease No.: M-15635

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT —" (FORM C-101) FOR SUCH PROPOSALS.)

OIL WELL [ ] GAS WELL [ ] OTHER- Brine Well

7. Unit Agreement Name: KTS Brine
8. Farm or Lease Name: —
9. Well No.: 1
10. Field and Pool, or Wildcat:

Name of Operator: .K. Kinsolving dba Kenneth Tank Service
Address of Operator: ox 100 Crossroads, NM 88114
Location of Well: UNIT LETTER 1' 200 FEET FROM THE South LINE AND 200 FEET FROM THE East LINE, SECTION 27 TOWNSHIP 9S RANGE 35E NMPM

15. Elevation (Show whether DF, RT, GR, etc.)
12. County: Lea

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 [ ]		COMMENCE DRILLING OPNS. [ ]	PLUG AND ABANDONMENT [ ]
PULL OR ALTER CASING [ ]	CHANGE PLANS [ ]	CASING TEST AND CEMENT JOB [ ]	
OTHER [ ]		OTHER	

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Above well drilled and completed approximately 1966 by Mansell Brine Midland, Texas, later purchased by C.K. Kinsolving.
The brine well is reported by Mr. Mansell to be cased with 7 inch casing to a depth of 2000 feet with cement circulated to the surface. The total depth of the well is 2800 feet. Fresh water is injected into the well under 300 pounds pressure and the brine water is returned to the surface through a 2½ inch tubing inside the 7 inch casing.

Kenneth Tank Service pays quarterly royalty payments to Land Office on brine sales. Lease #M-15635

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

C. K. Kinsolving TITLE Owner DATE 2/28/83

ORIGINAL SIGNED BY JERRY SEXTON
DISTRICT I SUPERVISOR

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

Figure 3-2 Sundry Notice and Report on the Kinsolving Brine Well

Periodically the production tubing will become incrusted with salt. Incrustation is evident by an increase in injection pressures. Clean out of the production tubing is accomplished in the following manner: fresh water is injected into the production tubing to dissolve the incrusted salt, residual fresh water in the casing annulus is permitted to flow into the surface impoundment. When brine is produced, the valve to the impoundment is closed and the produced brine is then permitted to flow into the storage tanks. When the incrusted salt has been removed, fresh water is injected into the annulus of the well and the fresh water in the production tubing is displaced into the surface impoundment.

3.3 TRUCK LOADING FACILITY

An sloped asphalt pad will be constructed as shown in Appendix A. The pad will be drained by manhole drain connected to an 4 inch PVC pipe which will flow to the impoundment.

3.4 STORAGE TANK BERM

The brine tanks are presently operated with tank valves open. The interconnection of tanks is the most convenient method of operation. Periodic inspection of valves, pipes and tanks at the facility will insure that a spill capable of over flowing the emergency holding pond will not occur. The drain to the emergency holding pond will be inspected at every day to check that it is clear. The facility is open 24 hours a day and the tanks could be shut off individually and drained into trucks or into other tanks if and when a leak is detected. The holding pond capacity is designed to retain the fluid from a rupture flow

at an average of 40 gpm for 8 hours (2566 cubic feet). Plans and Specifications for the ponds are given in Appendix A.

To contain and channel any fluid resulting from a rupture, a berm will be constructed around the brine tank battery. The soil between the berm and the tanks will be compacted with earth moving equipment to decrease permeability and sloped toward a drain to the emergency holding pond. To prevent erosion of the berm due to flow from a rupture, gravel will be emplaced on the berm. The bermed area is direct spills to the lined pond.

3.5 EMERGENCY HOLDING POND

The pond will be used for holding spilled fluid for a short time period. Small releases will quickly evaporate and large releases will be pumped back into storage tanks or into trucks.

After considering several liner options, a soil-covered synthetic liner is the most cost-effective, environmentally sound system. Wind and UV radiation could cause deterioration of an exposed liner; therefore, a soil cover is necessary to prevent liner degradation due to the expected short residence time of fluid (the pond will be empty 99% of the time). The plans and specifications for ponds and liners are provided in Appendix A. Because fluid will be present in the pond only for short periods and because evaporation is so much greater than precipitation, the buried 6 mil polyethylene film used for oil well mud pits in the area is adequate to protect ground water.

3.6 PIPELINES

Semi-annual pressure testing of subsurface brine pipelines will insure their integrity. Subsurface pipelines will be repaired if testing shows potential leakage. Any leakage from surface pipes will be remedied, and any tank leakage which reaches ground level will be repaired immediately. Catastrophic leaks such as pipe rupture will be easily detected as surface seeps and quickly repaired.

3.7 FRESH WATER AND BRINE PRODUCTION

Brine is produced by pumping fresh water down the annulus of the cased well into the salt-bearing stratum of the Salado Formation (Permian). The fresh water dissolves the salt (which is overlain by impermeable anhydrite and shales and underlain by thick marine shales), and the resulting brine is returned to the surface via an inner production pipe. Thus, all operations are performed by a single well. Each barrel (42 gallons) of fresh water dissolves about 80 pounds of salt, forming a dense brine.

Production of brine is eposidic and depends, of course, on the demands of oil drilling in the area. The demand for fresh water for drilling is also subject to these same demand factors. KTS is predominantly a supplier of fresh water for drilling fluids. The brine production royalty report for 1983-1984 (Appendix C) shows that 66,766 barrels of brine were produced. KTS sells about two times as much fresh water as brine. Fresh water production from the facility is 180,000-220,000 bbls/year. A flow meter installed on the injection pipe will permit monitoring of amounts of fresh water used in brine production.

3.8 CLOSURE AND RESTORATION OF SITE

Following cessation of brine production, the brine well will be plugged according to appropriate New Mexico OCD regulations. A plugging bond with the N.M. Oil Conservation Division (Appendix D) is in place. Any salt crusts and residual brine will be removed from the area to a site approved to accept such wastes. The brine production site will be contoured if necessary to prevent ponding of water at the site.

4.0 SITE HYDROGEOLOGY

4.1 WATER BEARING ROCKS

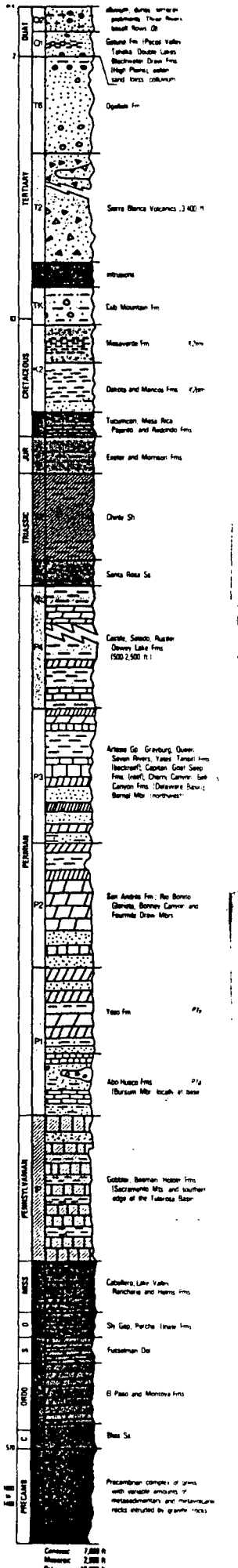
The brine facility lies on the northern edge of the Permian Basin in the High Plains physiographic province. Figure 4-1 shows the stratigraphy of the eastern High Plains of New Mexico. Like most sedimentary basins, much of the thick sequence of limestones, sandstones shales and evaporites do not yield usable ground water. A summary of the water bearing rocks between the injection zone and the ground surface immediately below the injection zone is presented below.

4.1.1 Ogallala Formation

A thin veneer of quaternary alluvial and aeolian deposits overlie the Ogallala Formation in the Crossroads area (Figure 4-2). The Ogallala consists of unconsolidated fine sand with minor amounts of clay, coarse sand, caliche and gravel. Although the unit is the principal aquifer of the High Plains and yields good quality water in much of northern Lea County; the quality deteriorates significantly near saline playa lakes (Figure 4-3). The unit is approximately 130 feet thick at the site (Figure 4-5, Figure 4-6 and Appendix B).

4.1.2 Tucumcari Shale

Underlying the Ogallala is the basal sand unit of the Tucumcari Shale. Post Cretaceous erosion has removed most of the shale and the remainder of this water-producing unit is only 10-20 feet thick at the site (see Appendix B). Despite minimal saturated thickness in the area, the basal sand is capable of producing sufficient water, of adequate quality, for the brine



GUADALUPE SERIES

Ogallala overlain by thin veneer of alluvium

Not present in site area

Exeter and Morrison not present

Santa Rosa not observed in subsurface

Figure 4-1 Stratigraphic column of eastern High Plains of New Mexico (NMGS, 1983). Map symbols for Figure 4-3 shown in left column.

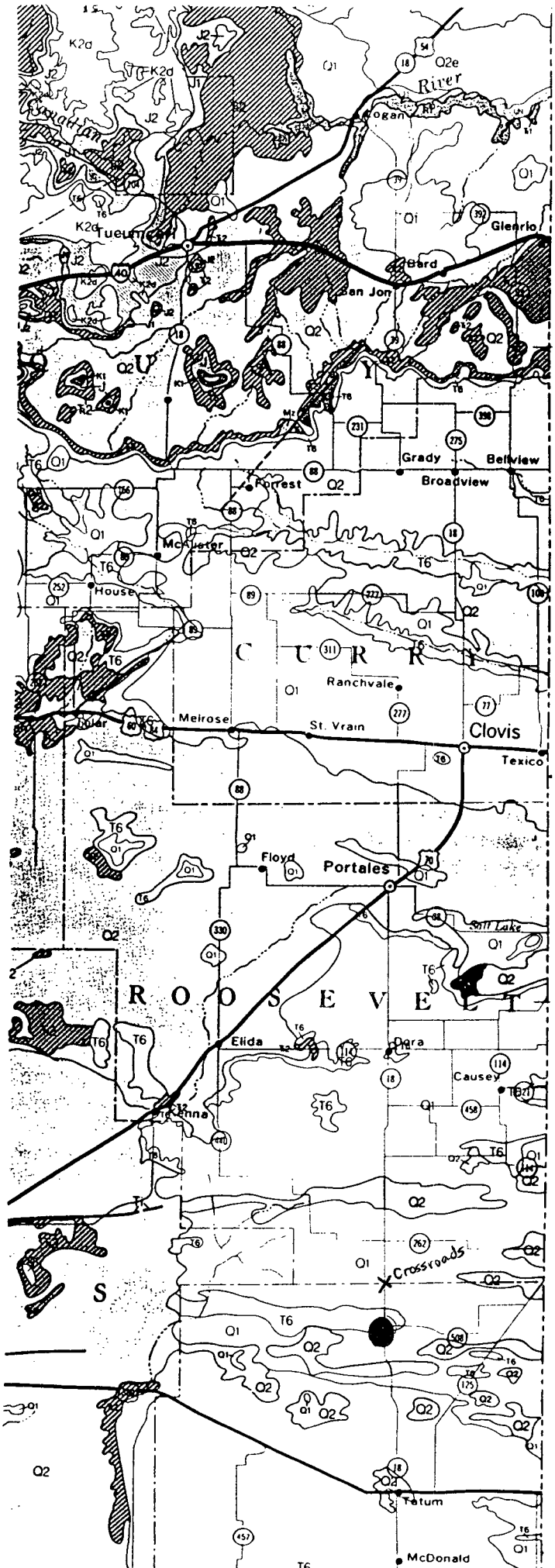


Figure 4-2

Geologic Map of Eastern High Plains. Brine facility circled (NMGS, 1983)

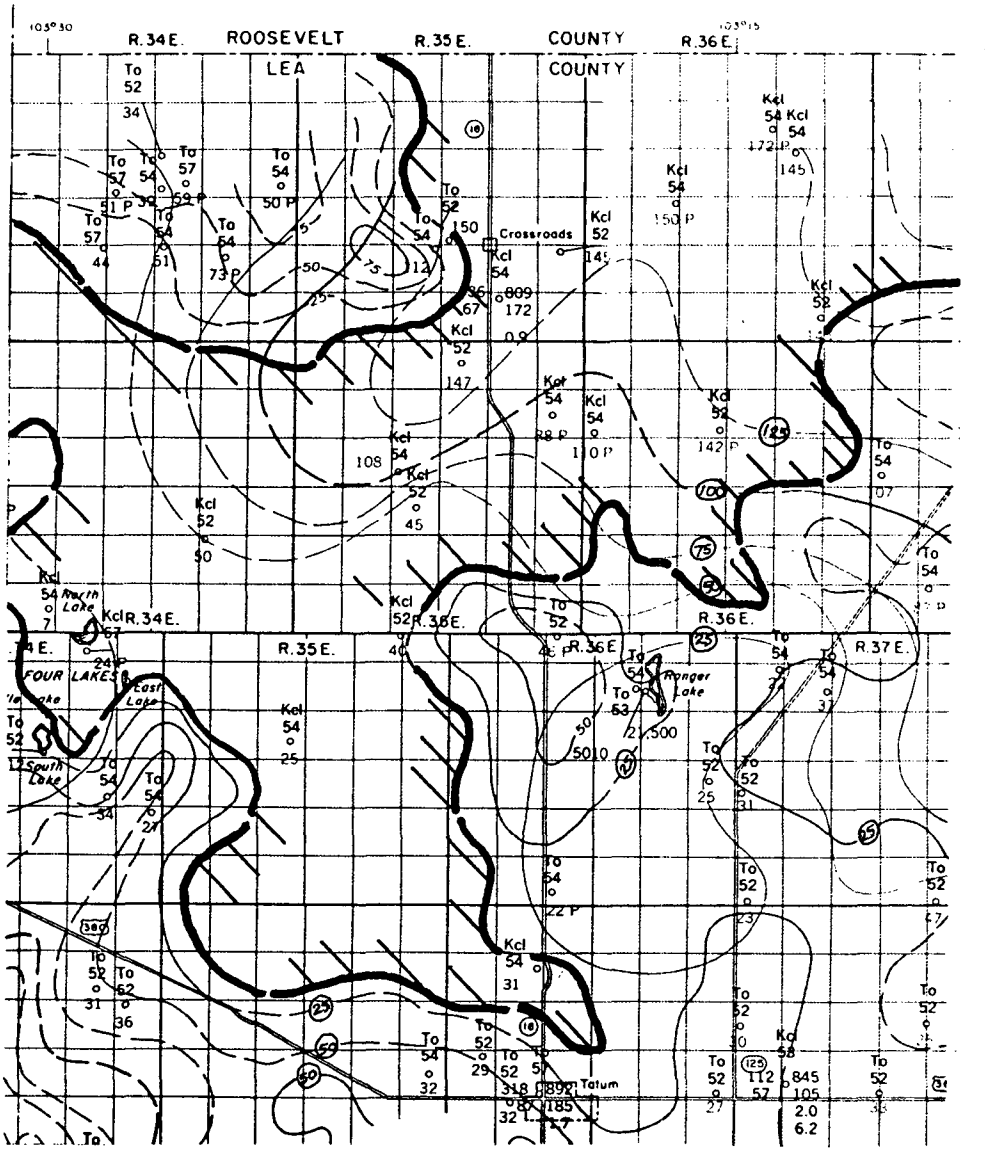


Figure 4-3 Depth to water and water quality of Northern portion of Lea County (Ash, 1963). Legend on Figure 4-4.

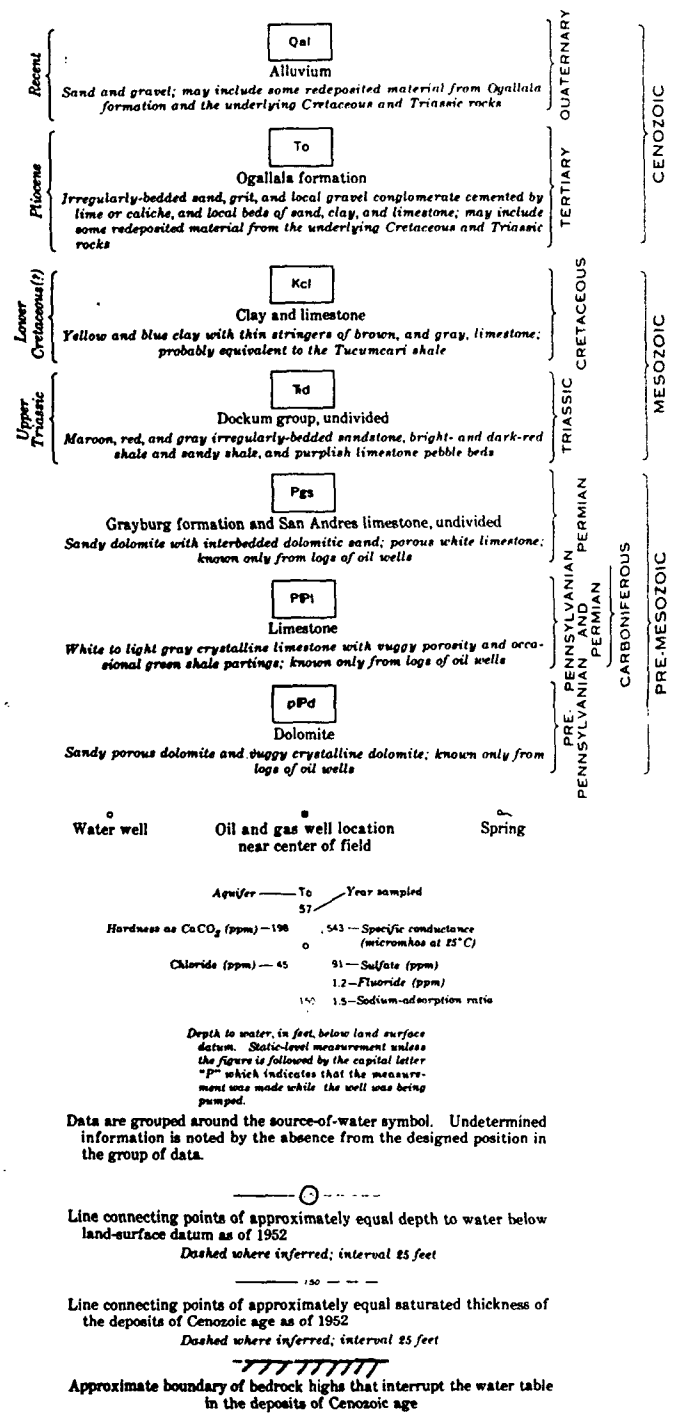


Figure 4-4 Legend for Figure 4-3.

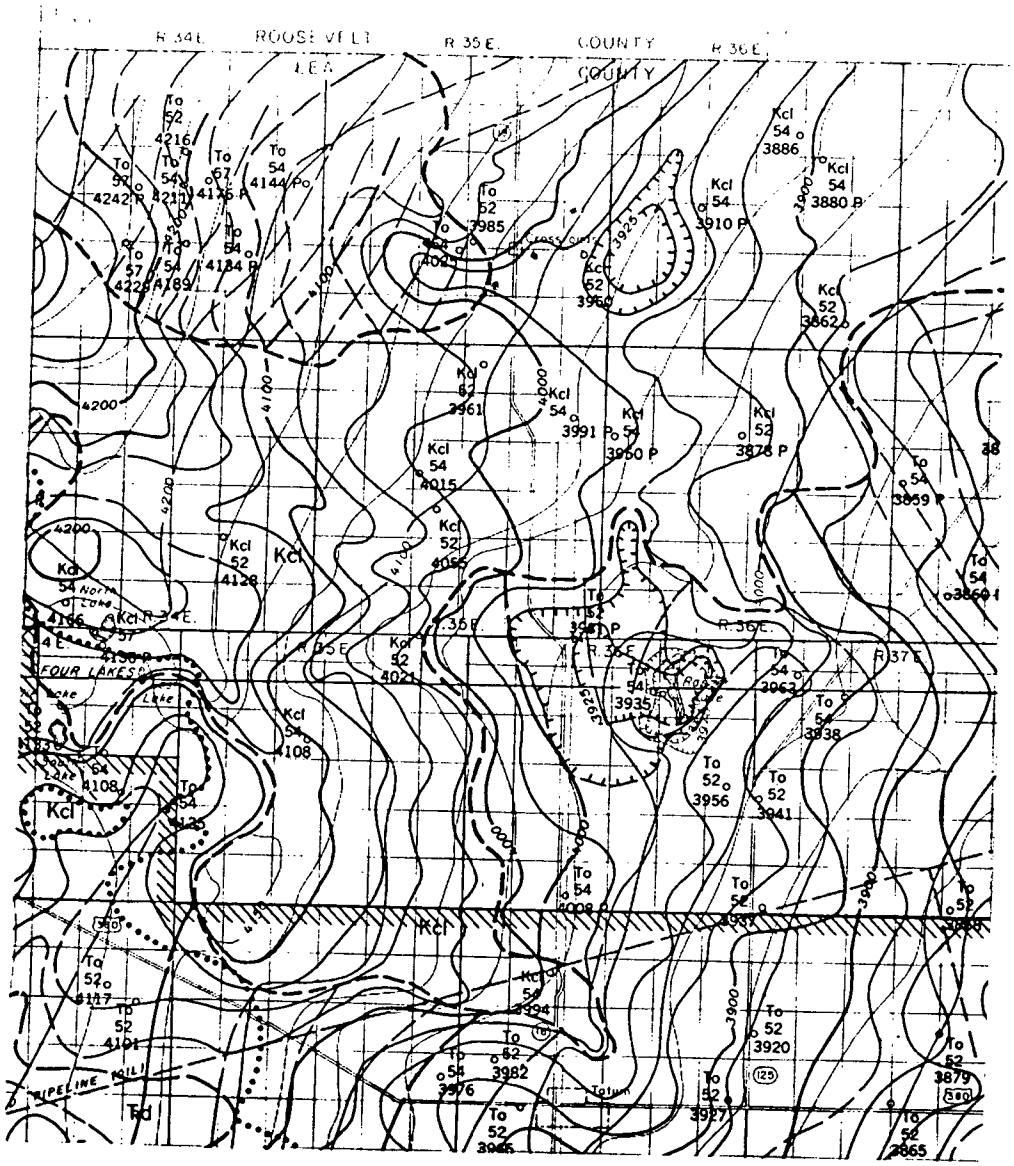


Figure 4-5 Map of Northern Lea County showing topography and elevation of post-Mesozoic erosional surface and water quality (Ash 1963). Legend is Figure 4-6.

EXPLANATION

AQUIFERS

Recent	Qal Alluvium *Sand and gravel; may include some redeposited material from Ogallala formation and the underlying Cretaceous and Triassic rocks*	QUATERNARY		CENOZOIC
Pliocene	To Ogallala formation *Irregularly-bedded sand, grit, and local gravel conglomerate cemented by lime or caliche, and local beds of sand, clay, and limestone; may include some redeposited material from the underlying Cretaceous and Triassic rocks*	TERTIARY		
Lower Cretaceous (?)	Kcl Clay and limestone *Yellow and blue clay with thin stringers of brown, and gray, limestone; probably equivalent to the Tucumcari shale*	CRETACEOUS		MESOZOIC
Upper Triassic	Trd Dockum group, undivided *Maroon, red, and gray irregularly-bedded sandstone, bright- and dark-red shale and sandy shale, and purplish limestone pebble beds*	TRIASSIC		

GEOLOGIC UNITS DIRECTLY BELOW THE ROCKS OF CENOZOIC AGE

Lower Cretaceous (?)	Kcl Clay and limestone *Yellow and blue clay with thin stringers of brown and gray, limestone; probably equivalent to the Tucumcari shale*	CRETACEOUS	MESOZOIC
Upper Triassic	Trd Dockum group, undivided *Maroon, red, and gray irregularly-bedded sandstone, bright- and dark-red shale and sandy shale, and purplish limestone pebble bed*	TRIASSIC	

Spring

Water well

Aquifer — To
Year sampled — 52
3494

Altitude of water level, in feet above mean sea level. Static-level measurement unless the figure is followed by the capital letter "P" which indicates that the measurement was made while the well was being pumped.

Data are grouped around the source-of-water symbol. Undetermined information is noted by the absence from the designated position in the group of data.

4025

Contour drawn on the water table in the deposits of Cenozoic age as of November-December, 1952

Dashed where approximately located; contour interval 25 feet; datum is mean sea level

Approximate boundary of bedrock highs that interrupt the water table in the deposits of Cenozoic age

Contour drawn on the post-Mesozoic erosional surface

Dashed where approximately located; contour interval 25 feet; datum is mean sea level

Buried contact

Area included in declared Underground Water Basin, prior to Oct. 1, 1952

Area added to declared Basin on Oct. 1, 1952

Figure 4-6 Explanation for Figure 4-5.

station and scattered stock wells.

The hydraulic characteristics of this aquifer are reported by ranchers and drillers to be quite variable. The location of ranch houses in the area often corresponds to the only place on the property with available ground water. The fresh water wells at the brine station are one of the few wells in the area capable of supporting large withdrawals.

4.1.3 Dockham Group

The Triassic red beds of the Dockham Group (Chinle Formation equivalent) and the anhydrites of the Rustler Formation underlie the Cretaceous Section. The upper 1,200 feet of the Dockam Group is predominantly reddish shale but does include minor amounts of sandstone conglomerate and limestone. The lack of porous formations is evident by the electric log cross section through the site (Figure 4-7 and see Appendix B). Porous units which are penetrated in area oil tests (eg 525 foot depth in Magnolia Glenn well) are not continuous throughout the area. This is typical of the alluvial deposits that comprise the Chinle Formation.

The evaporites of the Rustler Formation are not water bearing. The anhydrites do form an excellent seal above the underlying injection zone. Not only are these evaporite units virtually impermeable but any fractures or conduits which may have formed over time tend to "heal" by recrystallization of the anhydrite in fractures.

Both the anhydrite and the overlying rocks are continuous throughout northern Lea County.

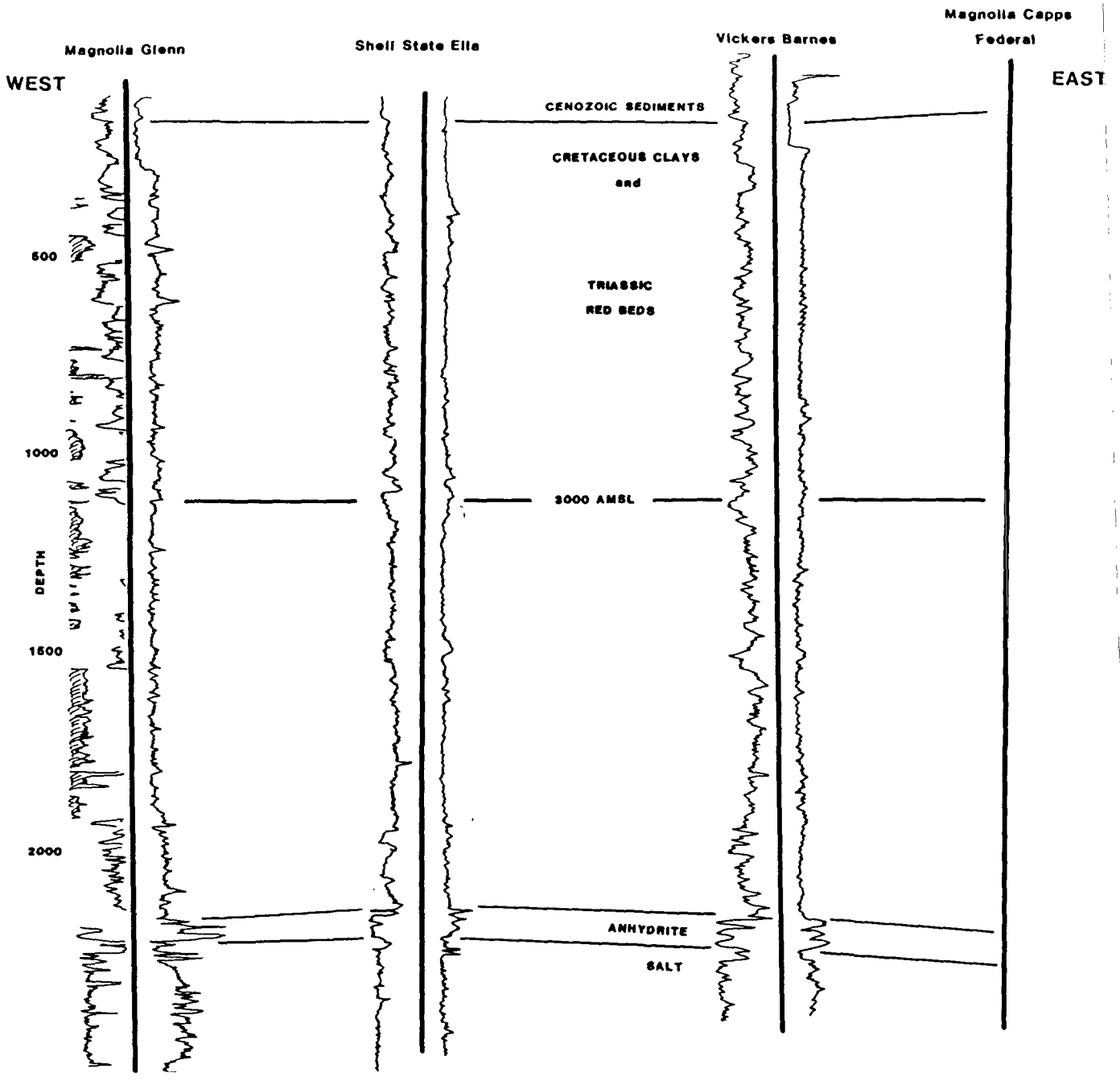


Figure 4-7 Geophysical log cross-section between ground surface and injection zone. Gamma-ray trace on left, neutron trace on right. Large-scale logs are in Appendix B with map showing location of cross section.

4.1.4 Salado Formation

The injection zone of the brine well comprises all of the 500 feet Salado Formation (Figure 4-7). The Salado consists of inter-bedded halite, polyhalite, anhydrite and minor amounts of other evaporites.

The only fluid known to be present in the Salado in this area is the saturated brine in the solution cavity surrounding the well.

4.1.5 Guadalupe Series

Permian marine limestones, shales, evaporites and sandstones underlie the Salado. These units produce much of the oil in the northern and western Permian Basin. An analysis of formation water produced from the San Andres Formation is shown in Figure 4-8. As is evident, these units contain water far in excess of 10,000 mg/l TDS.

4.2 MOVEMENT OF GROUND WATER

It is apparent from the previous discussion that a dependable supply of usable ground water exists only in the basal sandstone of the Tucumcari Shale. Ground water may be present in discontinuous sandstone units of the Chinle Formation; however, potential Triassic aquifers at the site (if they were encountered) are at depths which precludes development. The overlying Cenozoic sediments which are good aquifers in some portions of Northern Lea County are not saturated in the site area.

Figure 4-9 shows the water table elevation in the only potential water bearing zone (Tucumcari Shale). In the site

ROSWELL GEOLOGICAL SOCIETY SYMPOSIUM

Data prepared by: Larry D. Rider
Affiliation: Mobil Oil Company
Date: July 22, 1960

Field Name: Crossroads Slaughter San Andres
Location: Sec. 20, 29, 30, 31, T. 9 S., R. 36 E.
County & State: Lea Co., N. Mex.

DISCOVERY WELL: Magnolia #1 Santa Fe "A" COMPLETION DATE: Feb. 18, 1948

PAY ZONE: San Andres, 4,837 feet. Fine crystalline, brown dolomite with variable zones of pinpoint to intercrystalline porosity.

NATURE OF PRODUCING ZONE WATER: Resistivity: .04 ohm-meters @ 100 °F.

	Total Solids	Na+K	Ca	Mg	Fe	SO_4	Cl	CO_3	HCO_3	OH	H_2S
ppm	256626	90015	6202	2611	1	1115	156550		114		

INITIAL FIELD PRESSURE:

TYPE OF DRIVE: Water

NORMAL COMPLETION PRACTICES:

Figure 4-8 Analysis of formation water in San Andres Formation (Guadalupe Series) from Crossroads oil field (Roswell Geological Society, 1960)

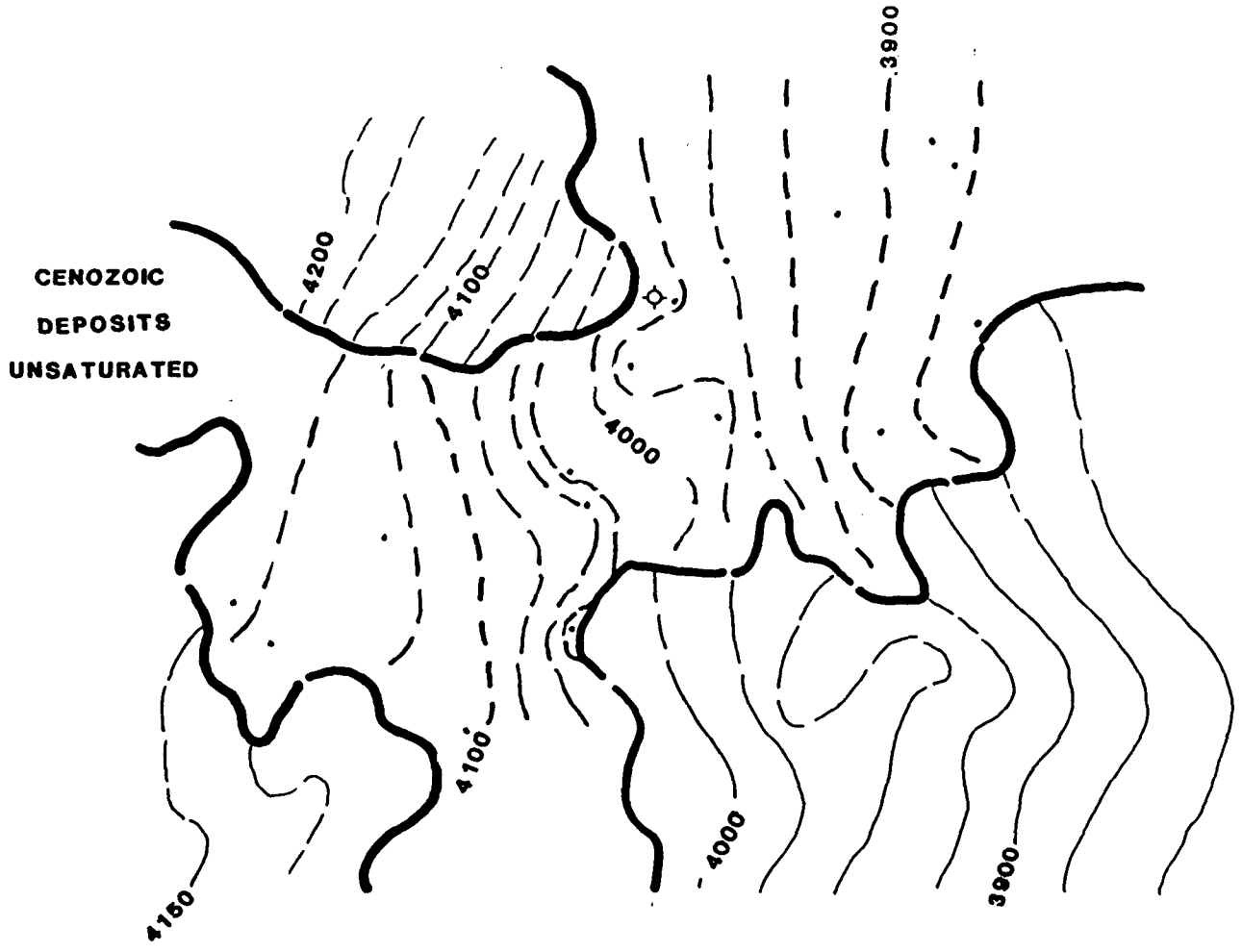


Figure 4-9 Water table elevations (feet) in northern Lea County for Mesozoic and Cenosoic deposits. Brine well shown as dry hole. Solid circles are water wells used in survey (Ash, 1963).

area, the natural gradient (20 feet per mile) is generally easterly. The local gradient at the site is influenced by pumping of the fresh water production wells at the site retarding or possibly locally reversing regional flow direction.

4.3 STRUCTURE

The sub-surface geology of the area is well known due to numerous oil tests. Figure 4-10 is a structure map draw on the top of the San Andres Formation of the area demonstrating the absence of faults and showing the gentle southeast dip into the Permian Basin.

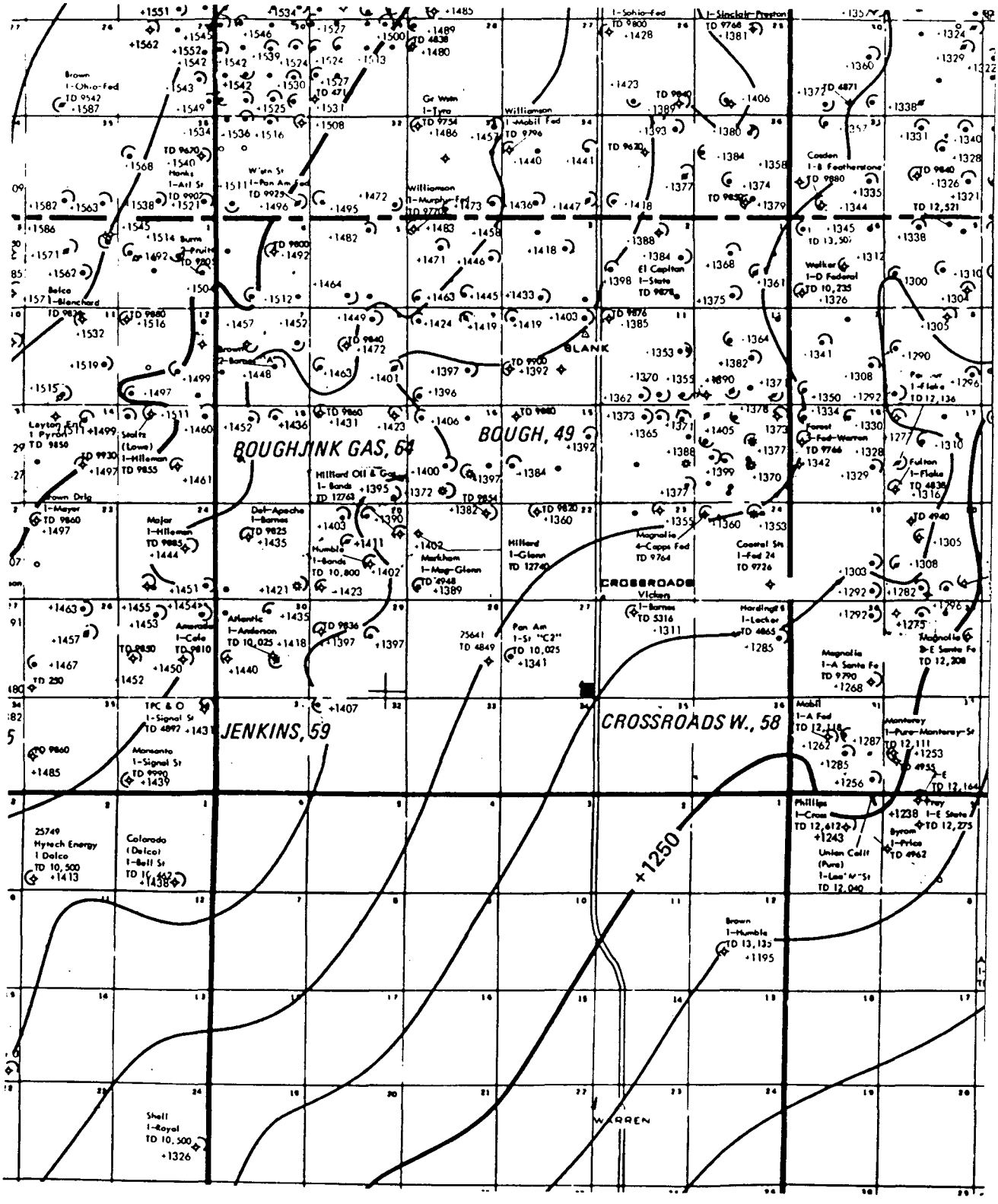


Figure 4-10 Structure Map of Northern Lea County

5.0 MONITORING, REPORTING AND CONTINGENCIES

Because all produced brine is stored in above ground storage tanks, failures of delivery pipelines and tanks will be visible and monitored by on site personnel. Any leaks in above ground facilities that do not evaporate (ie, around bolts sealing tanks) will be repaired. All delivery valves will be placed over the paved loading area to contain any leakage. Leakage obviously means lost product and significant valve leaks will be repaired. Because KTS will be inspecting the facility during all loading operations, any failure which results in flow into the emergency holding pond will be easily detected. The fluid in the pond will be pumped to usable tanks or loaded directly to trucks from the catchment area. This will minimize the time of standing fluid in the catchment area. Subsurface brine pipelines will be pressure tested once a year. Brine production will be monitored by totalizing brine sales as shown in Appendix C. An analysis of the water being injected to produce brine is included in Appendix E. This water supply will be analyzed for TDS and chloride annually quarterly. Results of all monitoring will be reported to the NMEID in January of each year for the previous calendar year. If tests indicate a leak in the brine delivery system, the lines will be repaired within 60 days.

Monitoring the annular pressure of the well is necessary to check for salt incrustation on production tubing. Changes in annular pressure after incrustation clean out will also be indicative of any casing leaks. A five year record of casing

pressure reading will be ample evidence of mechanical integrity. Due to the process of injecting fresh water down the annulus and producing brine through tubing and the fact that brine is denser than fresh water, only fresh water could be in contact with any unit which contains usable ground water. A leak in the casing would only result in some fresh water losses into the aquifer from which it came or into other units with lower water quality. Additionally, brine is 20 per cent denser than fresh water and brine will remain in the solution cavity rather than migrating up the borehole.

Because the pressure in the annulus is greater that the pressure in the production tubing, the integrity of the tubing can be ascertained by analysis of produced brine. Any production tubing failure would result in injected water (fresh) entering the tubing thereby diluting any brine. Semi-annual analyses of produced brine will, therefore, permit detection of any tubing leaks. Analyses results will be reported to the NMEID in January of each year with the monitoring report.

6.0 SUMMARY OF DISCHARGE PLAN REQUIREMENTS

1. Construct all surface facilities within 120 days of discharge plan approval.

2. Monitor and record annular pressure during injection and during tubing cleanout (Section 5.0).

3. Periodic visual inspection tanks and pipelines for leakage (Section 5.0).

4. Analyze produced brine (for proper weight) once every 6 months. Analyze injected water for TDS and chloride every year (Section 5.0).

5. Report results of monitoring and analyses to NMEID in January of each year for the previous calendar year (Section 5.0).

6. Plugging bond for site abandonment (see Section 7.0).

7. Signatory requirement certification pursuant to WQCC regulation 5-101.H.1 (Section 7.0).

7.0 SIGNATORY AND FINANCIAL RESPONSIBILITY REQUIREMENTS

Pursuant to WQCC regulation 5-210.B.17 Kenneth Tank Lines has filed a $5000 plugging bond for the brine production well at this facility with the New Mexico Oil Conservation Division. This bond was originally dated and signed on March 7, 1983 and is with the Fireman's Fund Insurance Co. through the Cook Insurance Agency, Portales, New Mexico.

Pursuant to WQCC regulation 5-101.H.1 and 5-101.H.2, Mr. Kenneth Kinsolving as owner of Kenneth Tank Service certifies 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.

Executed this the 14 day of August, 1984.

C.K. Kinsolving dba
Kenneth Tank Service

C. K. Kinsolving
PRINCIPAL

Address

By C. K. Kinsolving
Signature

Title

(Note: Principal, if corporation, affix corporate seal here.)

FIREMAN'S FUND INSURANCE COMPANY
SURETY

1385 South Colorado Boulevard, Denver, CO 80222
Address

By _____
Attorney-in Fact
Shirley Rivera

(Note: Corporate surety affix corporate seal here.)

ACKNOWLEDGEMENT FORM FOR NATURAL PERSONS

STATE OF New Mexico)
COUNTY OF Roosevelt) ss.

On this 7th day of March, 19 83, before me personally appeared _____, to me known to be the person (persons) described in and who executed the foregoing instrument and acknowledged that he (they) executed the same as his (their) free act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on the day and year in this certificate first above written.

OFFICIAL SEAL
Signature Notary Public
TEAL
NOTARY PUBLIC - NEW MEXICO
NOTARY BOND FILED WITH SECRETARY OF STATE
My Commission Expires 5-24-83

My Commission expires

ACKNOWLEDGEMENT FORM FOR CORPORATION

STATE OF _____)
COUNTY OF _____) ss.

On this _____ day of _____, 19___, before me personally appeared _____, to me personally known who, being by me duly sworn, did say that he is _____ of _____ and that the foregoing instrument was signed and sealed on behalf of said corporation by authority of its board of directors, and acknowledged said instrument to be the free act and deed of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on the day and year in this certificate first above written.

Notary Public

My Commission expires

ACKNOWLEDGEMENT FORM FOR CORPORATE SURETY

STATE OF COLORADO)
COUNTY OF DENVER) ss.

On this 7th day of March, 19 83, before me appeared Shirley Rivera, to me personally known, who, being by me duly sworn, did say that he is Attorney-in-Fact of Fireman's Fund Insurance Company and that the foregoing instrument was signed and sealed on behalf of said corporation by authority of its board of directors, and acknowledged said instrument to be the free act and deed of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on the day and year in this certificate first above written.

Notary Public

November 24, 1985
My Commission expires

(Note: Corporate surety attach power of attorney.)

APPROVED BY:

OIL CONSERVATION COMMISSION OF NEW MEXICO

By _____

Date _____

RECEIVED AUG 0 8 1980

Form O & G B-1
Adopted 8-17-77

STATE OF NEW MEXICO

ONE-WELL PLUGGING BOND

FOR CHAVES, EDDY, LEA, McKINLEY, RIO ARRIBA, ROOSEVELT, SANDOVAL, AND SAN JUAN COUNTIES ONLY

BOND NO. 638-43-00
(For Use of Surety Company)

AMOUNT OF BOND $5000.

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 (See Rule 104).

File with Oil Conservation Commission, P. O. Box 2088, Santa Fe 87501

KNOW ALL MEN BY THESE PRESENTS:

That C.K. Kinsolving d.b.a. Kenneth Tank Service, (An individual) (a partnership) (a corporation organized in the State of _____, with its principal office in the city of _____, State of _____, and authorized to do business in the State of New Mexico), as PRINCIPAL, and Fireman's Fund Insurance Company, a corporation organized and existing under the laws of the State of California, and authorized to do business in the State of New Mexico, as SURETY, are held firmly 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 and No/100 - ($5,000.00) 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 (CO_2) 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 (CO_2) 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 3,000 feet, to prospect for and produce oil or gas, or carbon dioxide (CO_2) 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 (CO_2) 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 SE¼SE¼
(Here state exact legal subdivision by 40-acre tract or lot)
Section 27, Township 9 (North) (South), Range 35 (East) (West), N.M.P.M. Lea County, New Mexico.

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.

FIREMAN'S FUND INSURANCE COMPANIES

FIREMAN'S FUND INSURANCE COMPANY
THE AMERICAN INSURANCE COMPANY
NATIONAL SURETY CORPORATION
ASSOCIATED INDEMNITY CORPORATION
AMERICAN AUTOMOBILE INSURANCE COMPANY
HOME OFFICE: SAN FRANCISCO, CALIFORNIA

BOND NO. SLR 638 4300

RIDER

In consideration of the premium charged, it is understood and agreed that:

Effective from the 7th day of March, 1983, the land description is corrected to read as follows:

200 feet from the South Line
200 feet from the East Line
Section 27, Township 9 South, Range 35 East, Lea County, New Mexico

Provided, however, that the liability of the Fireman's Fund Insurance Company under the attached bond and under the attached bond as changed by this rider shall not be cumulative.

Nothing herein contained shall be held to vary, waive, alter or extend any of the terms, conditions, agreements or warranties of the aforementioned bond, other than as stated above.

Attached to and forming a part of Bond No. SLR 638 4300 issued by the Fireman's Fund Insurance Company

dated the 7th day of March, 1983,

on behalf of C. K. Kinsolving dba Kenneth Tank Service

and in favor of the State of New Mexico

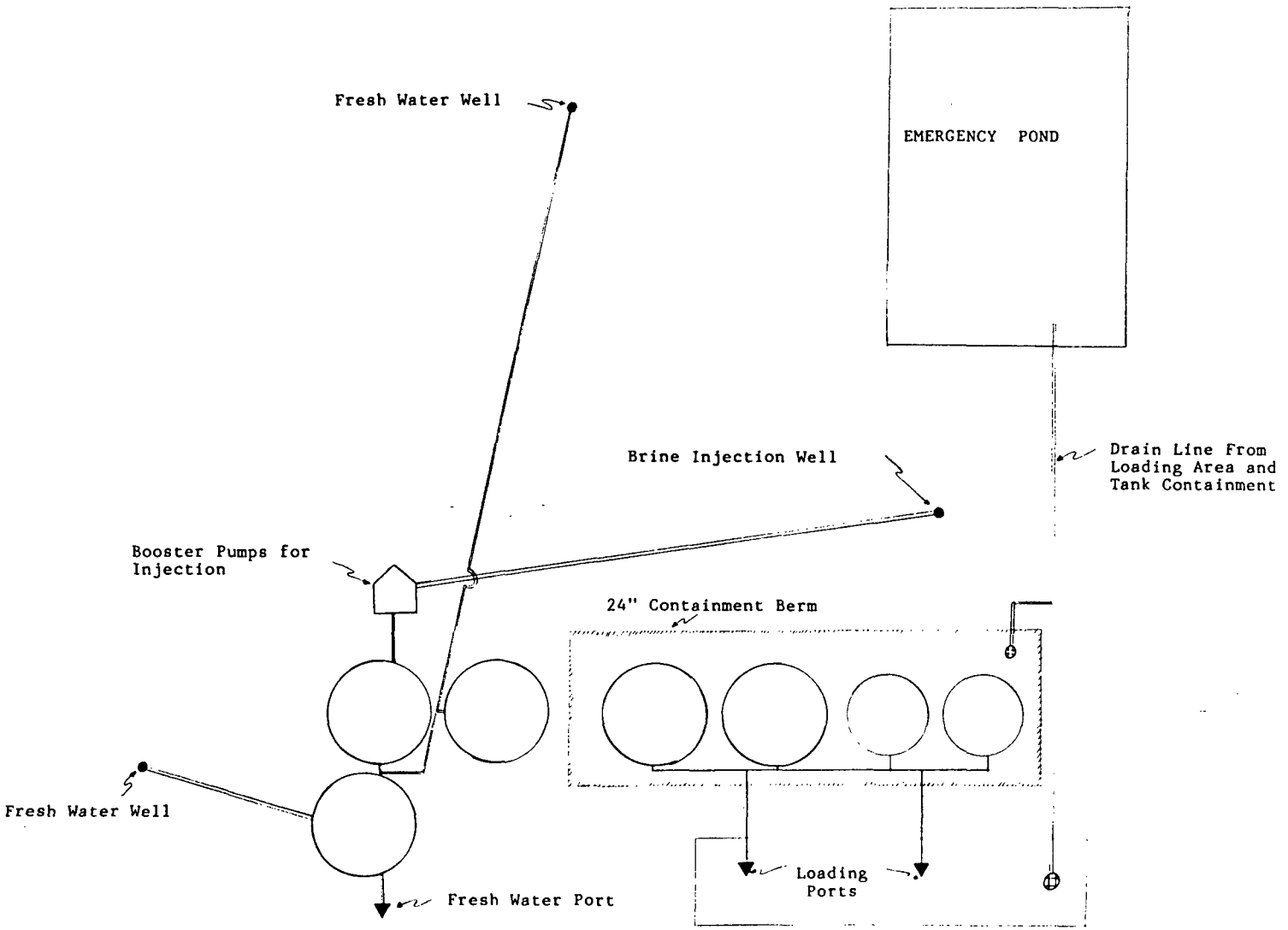
Signed this 5th day of May, 1983

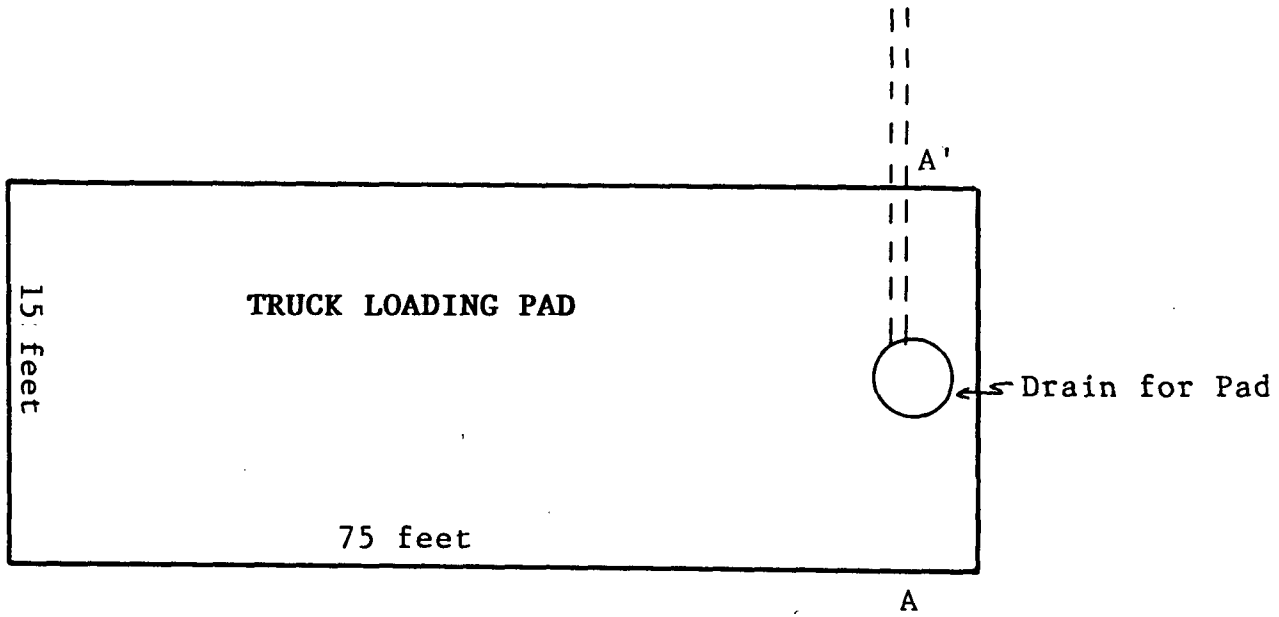
FIREMAN'S FUND INSURANCE COMPANY
Surety

By: Shirley Rivera
Attorney-in-Fact

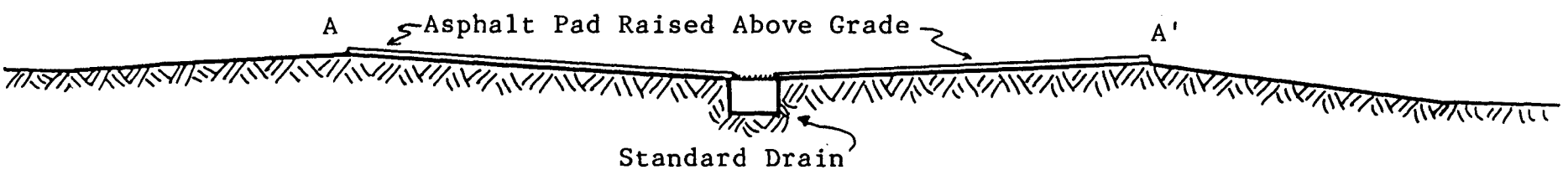
10270—11-66

APPENDIX A
PLANS AND SPECIFICATIONS

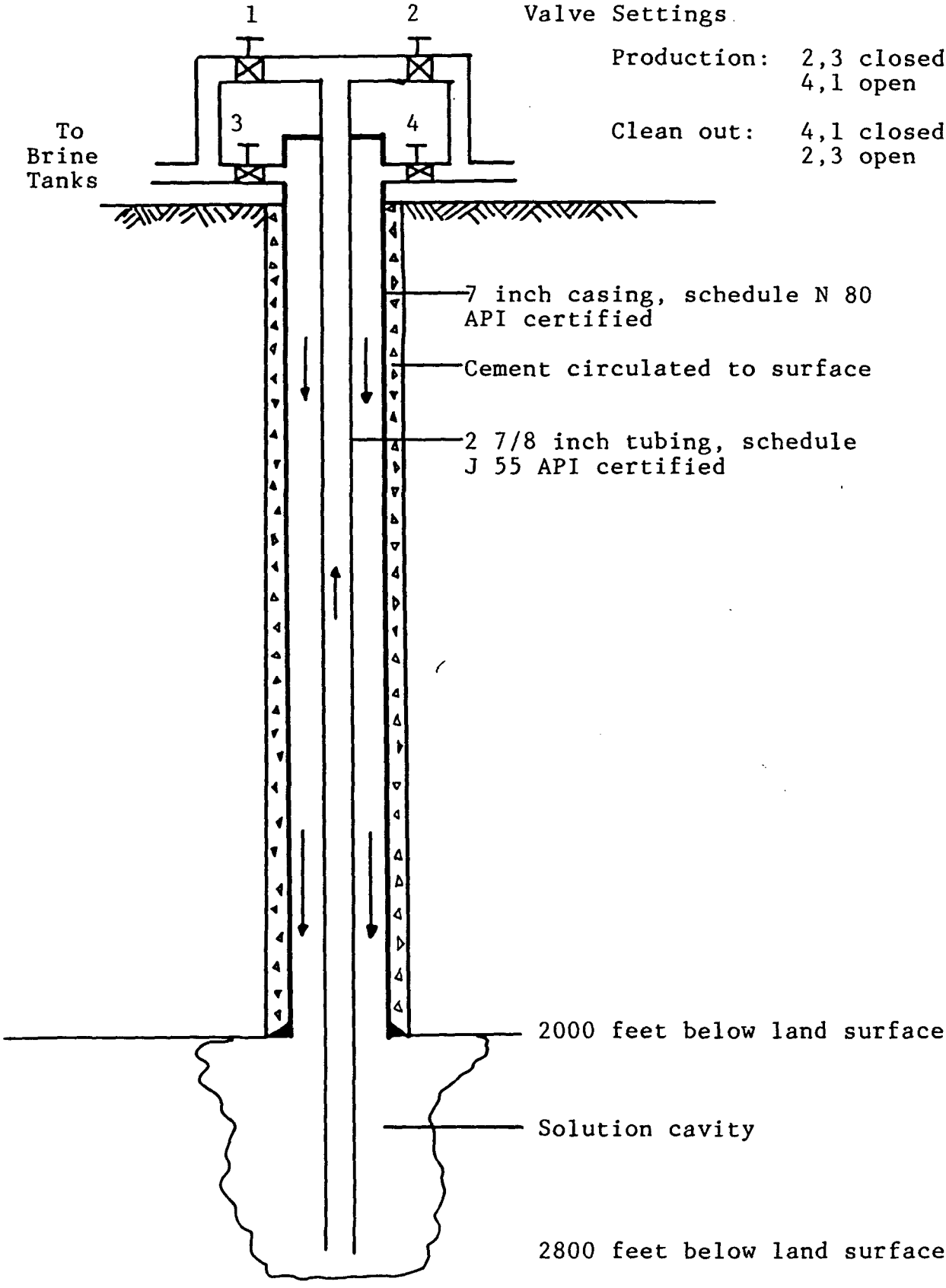

Fresh Water Well
EMERGENCY POND
Brine Injection Well
Drain Line From Loading Area and Tank Containment
Booster Pumps for Injection
24" Containment Berm
Fresh Water Well
Loading Ports
Fresh Water Port



Plan View

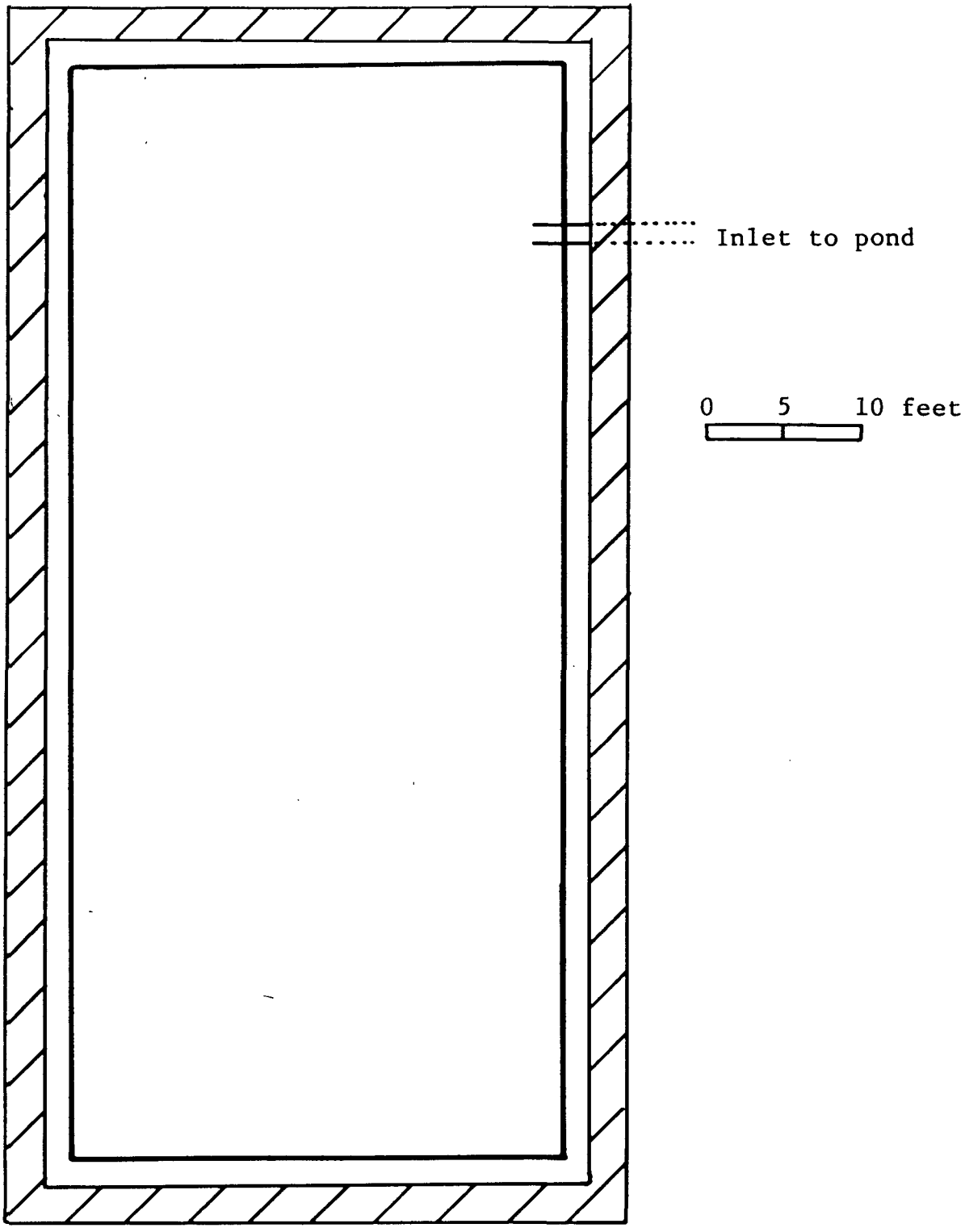


Design of Truck Loading Pad

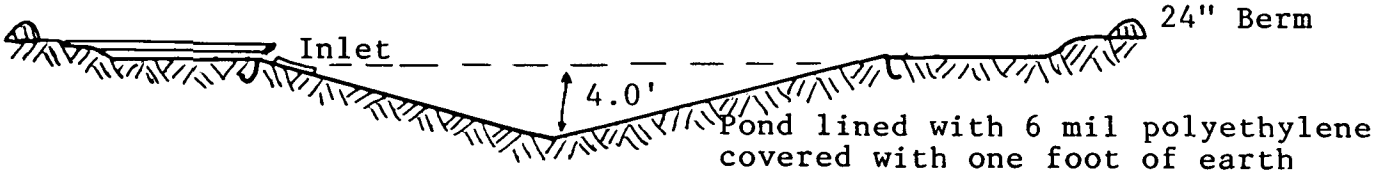


BRINE WELL CONSTRUCTION

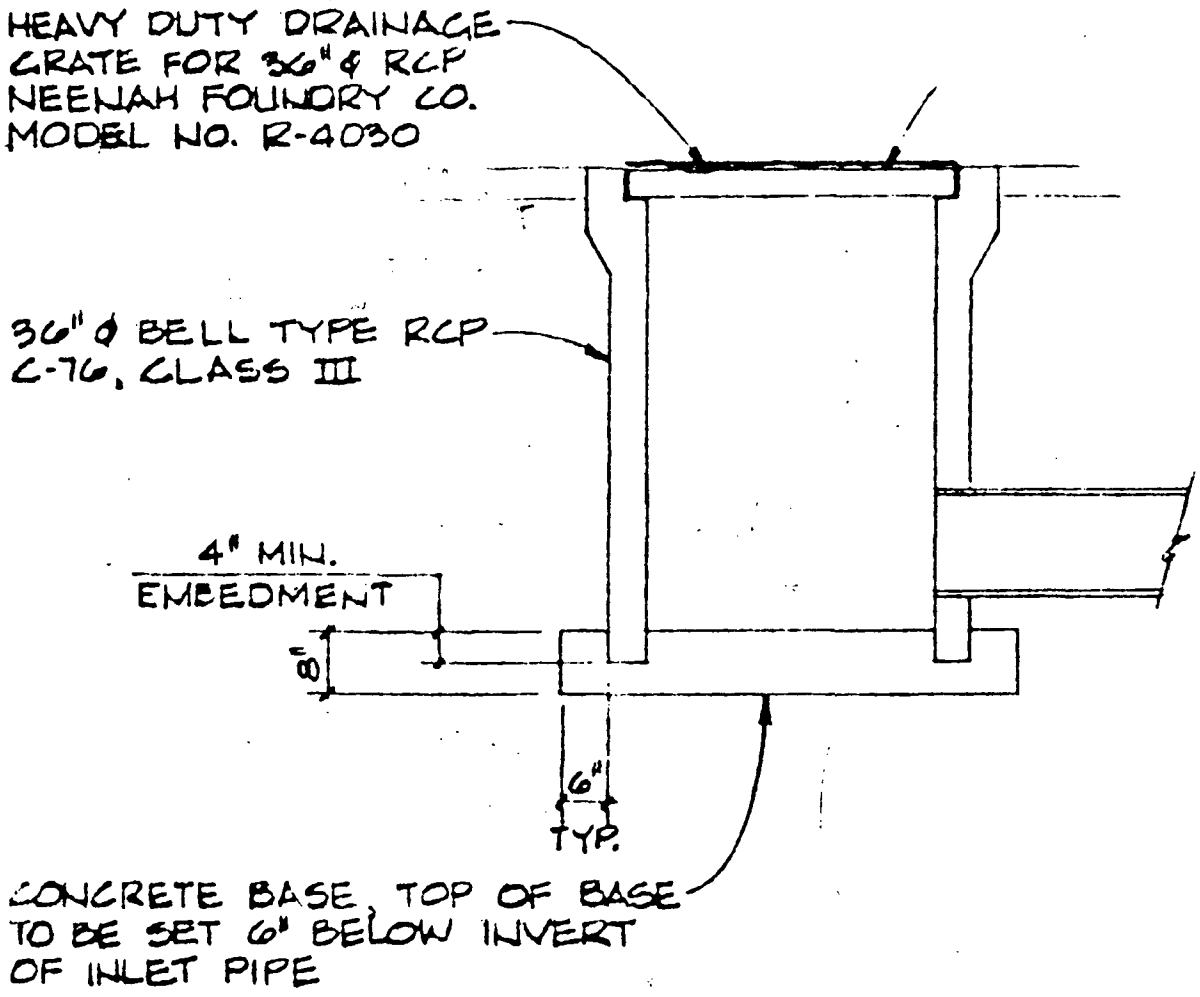
PLANS AND SPECIFICATIONS FOR HOLDING POND



PLAN VIEW OF EMERGENCY POND



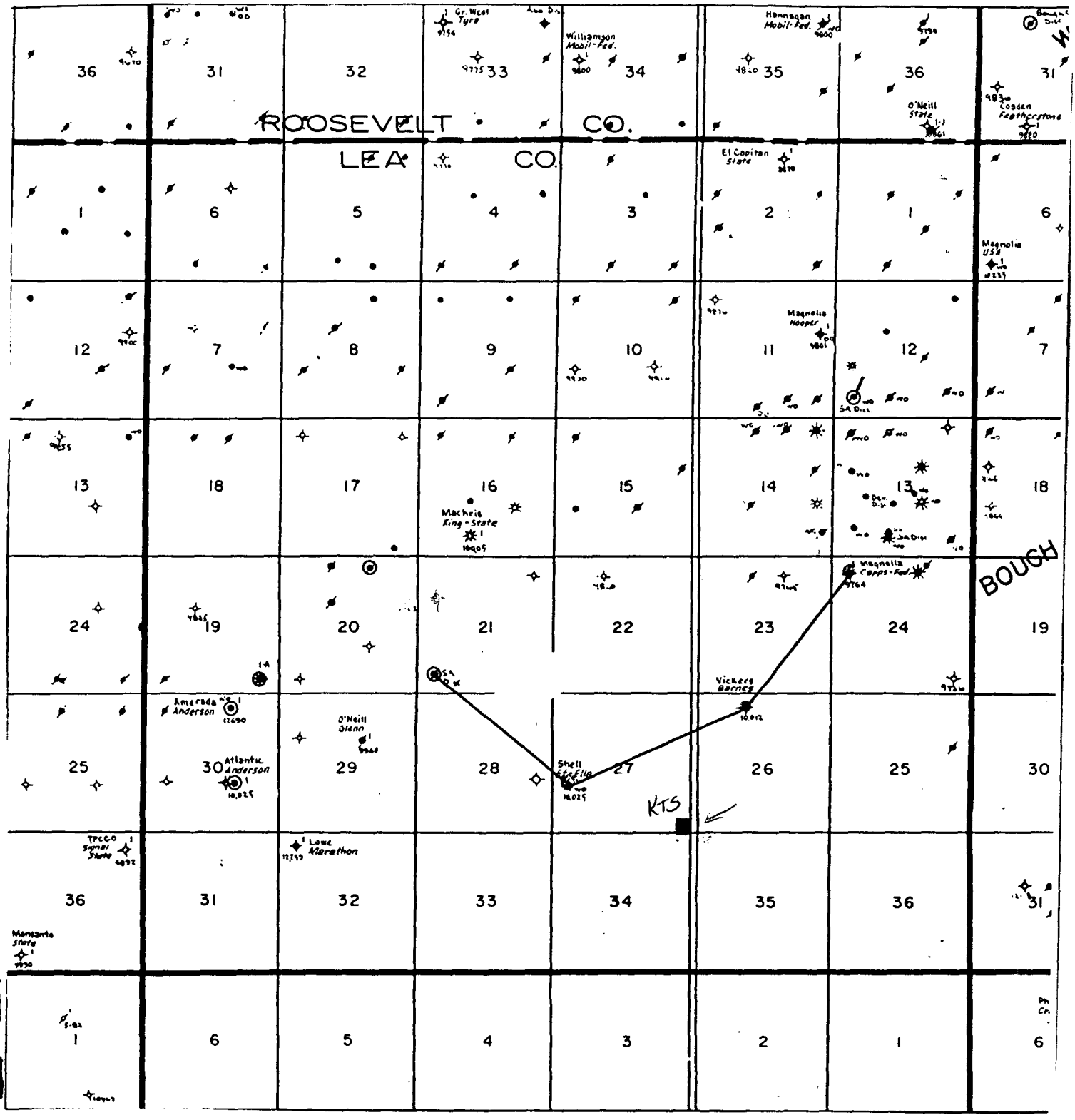
CROSS SECTION



STANDARD AREA DRAIN

Drain design for loading pad and berm catchment area

APPENDIX B
DATA ON OIL WELL
GEOPHYSICAL LOGS AND WATER WELLS IN SITE AREA


ROOSEVELT CO.
LEA CO.
BOUGH
KTS
Gr. West Tyra
Williamson Mobil-Fed.
Hannagan Mobil-Fed.
O'Neill State
Cosden Featherstone
El Capitan State
Magnolia USA
Magnolia Hooper
SA Dist.
Machris King-State
Magnolia Capps-Fed.
Vickers Barnes
Amerada Anderson
Atlantic Anderson
O'Neill Stann
Shell Estelle
TPC&O Sumac State
Lowe Marathon
Monsanto State
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26-9-35

SCHLUMBERGER WELL SURVEYING CORPORATION

Laterolog

COMPANY	JACK MARKHAM
WELL	MAGNOLIA-GLENN #1
FIELD	WILDCAT
LOCATION	SEC 21, 9 SO 35 EAST
COUNTY	LEA
STATE	NEW MEXICO
Other Surveys	GRN
Location of Well	660' FSL 660' FWL
Elevation: K.B.: D.F.: or G.L.:	4154

Depths measured from KB ft. above

Run No.	
Date	2-16-58
Reading	4518
Reading	298
Measured	4625
Schlum.	298
Driller	301
Reached	4522
Driller	4522
Mud	SALT BASE STARCH OIL
Visc.	10.7 43
Resist.	355 @ 73 °F
Res. BHT	04 @ 117 °F
Wtr. Loss	0 CC 30 min
Size	7 7/8"
	16 - 2.5
Time	2 HRS
No.	5 - LUE
Recorded by	STRENCAD
Witness	AYERS

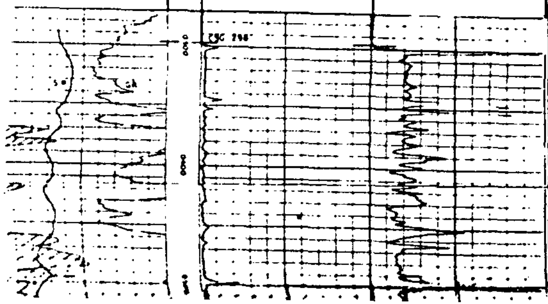
REMARKS

Reproduced By
West Texas Electrical Log Service
Dallas 2, Texas

REFERENCE W7887D

8 COMPLETION RECORD

SPONTANEOUS POTENTIAL millivolts	DEPTHS	RESISTIVITY ohms. m²/m	RESISTIVITY ohms. m²/m
30		0 — 500	0 — 50
GAMMA RAY MICROGMS RAD-EQ/TON		0 — 5000	



REPRODUCED BY
WEST TEXAS ELECTRICAL LOG SERVICE
1203 Commerce Street
Dallas 1, Texas

REFERENCE No. A 487-8

RADIOACTIVITY LOG

NE ... WELLS COMPANY

COMPANY	VICKERS PET. CO. INC.
WELL	CONTINENTAL BARNABLE NO. 1
FIELD	LEA CO. W/C
COUNTY	LEA STATE: N.M.
LOCATION	660' FNL 1980' FEL SEC. 26-9S-35E
Location of Well	4117' D.F.

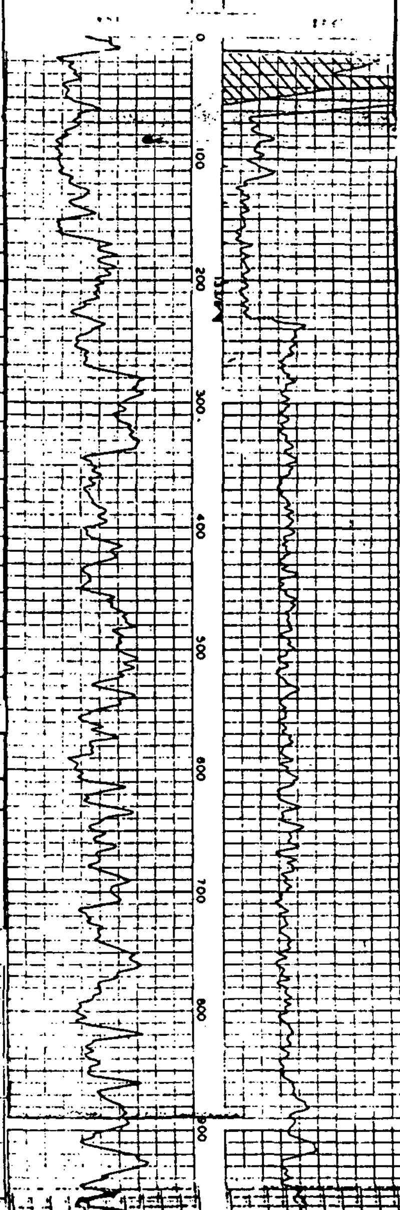
LOG MEASURED FROM ROTARY TABLE. ELEVATION 4119.5'
DRILLING MEASURED FROM R. TABLE ELEVATION 4119.5'
PERMANENT DATUM 13 3/8" GRADE ELEVATION 4109.9'

RUN NUMBER	1	1	2	2
TYPE OF LOG	GAMMA RAY	NEUTRON	GAMMA RAY	NEUTRON
DATE	8-18-48	8-18-48	8-22-48	8-22-48
COMPANY DEPTH STEEL LINE	4895'	4896'	5316'	5316'
MAXIMUM DEPTH REACHED	4896'	4895'	5311'	5311'
WELL FLUID	9.1# MUD	9.1# MUD	10.4# MUD	10.4# MU
FLUID LEVEL	FULL	FULL	FULL	FULL
MAXIMUM TEMPERATURE				
O.D. OF INSTRUMENT—INCHES	3 5/8	3 5/8	3 5/8	3 5/8
SENSITIVITY REFERENCE	274	275	274	275
RECORDED BY	KELLY AND	LITTLE	KELLY	KELLY
WITNESSED BY	PIERCE	PIERCE	KEMPER	KEMPER

CASING RECORD				OPEN HOLE RECORD	
RUN NO.	SIZE—IN.	WT.—LB.	INTERVAL	BIT SIZE—IN.	INTERVAL
1	13 3/8		SURFACE TO 234'	12 1/4	234' TO 4855
				8 3/4	4855' TO T.D.

REMARKS OR OTHER DATA

GAMMA RAY	DEPTH	NEUTRON
INTENSITY INCREASES →		RADIATION INTENSITY →



PAN GEO ATLAS CORP.

PGAC *Gamma Ray Neutron Log*

FILE NO.	
COMPANY	SHELL OIL COMPANY
WELL	SHELL STATE ELLA NO. 1
FIELD	WILDCAT
COUNTY	LEA STATE NEW MEXICO
LOCATION	1980' FSL, 660' FWL
SEC 27 TWP 9-S RGE 35-E	
Other Services	NONE

Permanent Datum GROUND LEVEL Elev. 4125
Log Measured from D.F. 11 Ft. Above Permanent Datum
Drilling Measured from D.F.
Elevations: KB 4138, DF 4136, GL 4125

Date	9-12-63
Run No.	ONE
Type Log	GR/N
Depth-Driller	10025
Depth-Logger	10029
Bottom Logged Interval	10027
Top Logged Interval	100
Type Fluid in Hole	SW-GEL-S...
Salinity Ppm Cl	62000
Density Lb/Gal	9.6
Level	FULL
Max. Rec. Temp. Deg F	162°F
Opr. Rig Time	10 1/2 HRS
Recorded By	CAREY
Witnessed By	MR. COFFEY

Run No.	Bore-Hole Record: Bit	From	To	Casing Record: Size	Wgt	From	To
				8 5/8		SURF.	41..
1	7 7/8	4123	10025				

Reproduced By
West Texas Electrical Log Service
Dallas 2, Texas

REFERENCE A1701K

ELSI

27 COMPLETION RECORD

SPUD DATE
COMP DATE
DST RECORD
CASING RECORD
PERFORATING RECORD
ACID FRAC SHOT
IP
COR / GR
TP / CP
REMARKS:

Gamma Ray	
Run No.	ONE
Tool Model No.	1A
Diam.	3 5/8"
Detect. Model No.	1A
Type	SCINT.
Length	
Dist. to N. Source	24.7"
Hoist Truck No.	EL-25
Inst. Truck No.	EL-25
Tool Serial No.	211

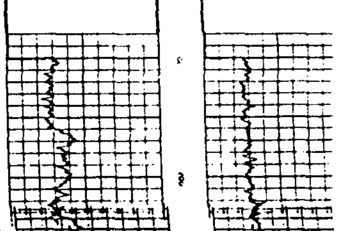
EQUIPMENT DATA: Run No., Log Type, Tool Model No., Diam., Detect. Model No., Type, Length, Source Model No., Serial No., Spacing, Type, Strength

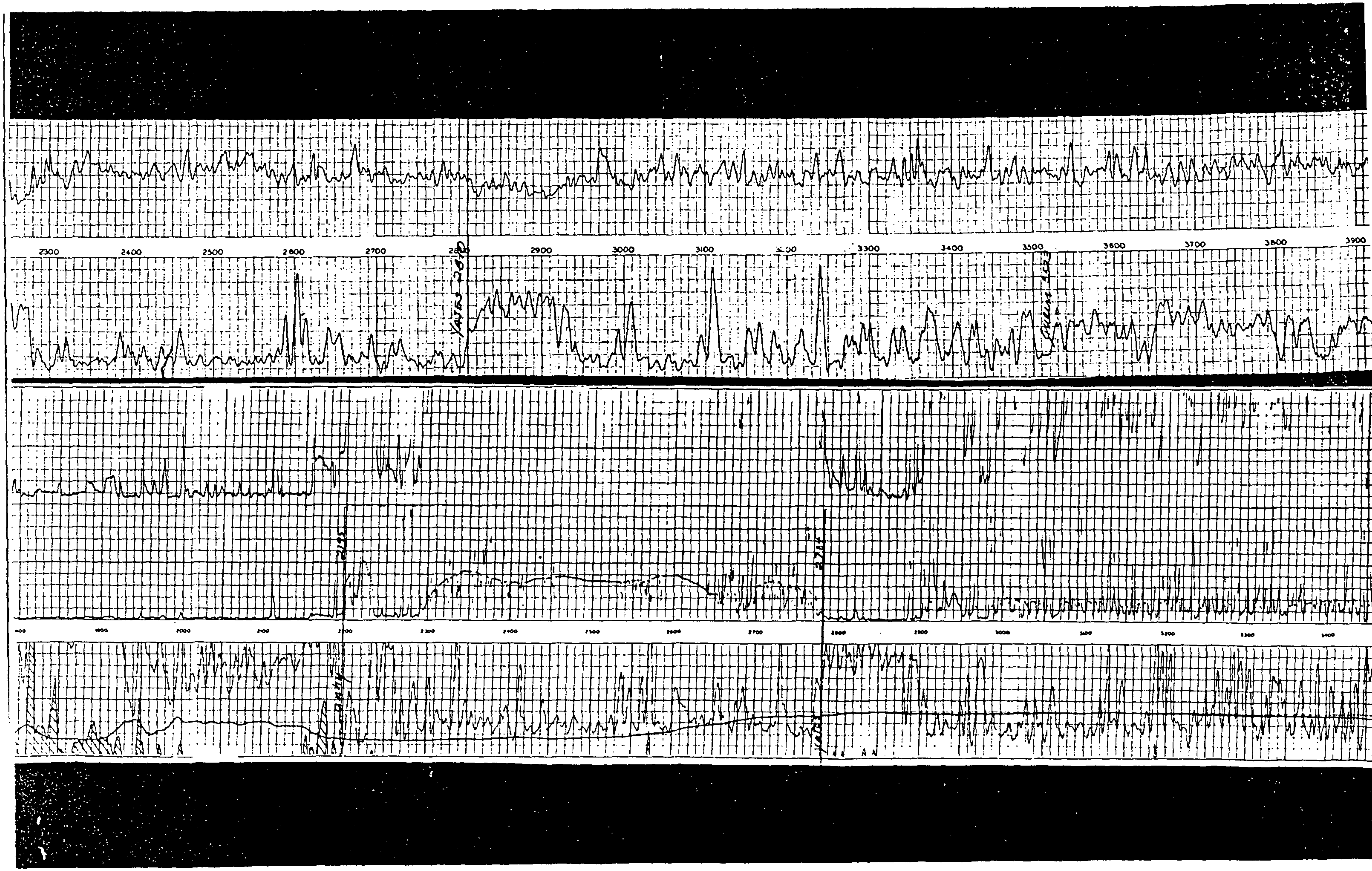
LOGGING DATA

Run No.	Depths From	To	Speed Ft/Min	T.C. Sec.	Sens. Setting	Zero Div. L or R	API GR Units Per Log Div.
AS	4114	SURF	30	2	625	0	12
1	10027	4114	15	4	625	0	12

Remarks: INSTRUMENT RUN DECENTRALIZED.
3.15"/100 API - 150 API NEUTRON UNITS/LOG DIV.
7.36"/100 S.U. - 200 API NEUTRON UNITS/LOG DIV.

Gamma Ray	DEPTH	
API GAMMA RAY UNITS		API N...
0 — 120		
120 — 240		




2300
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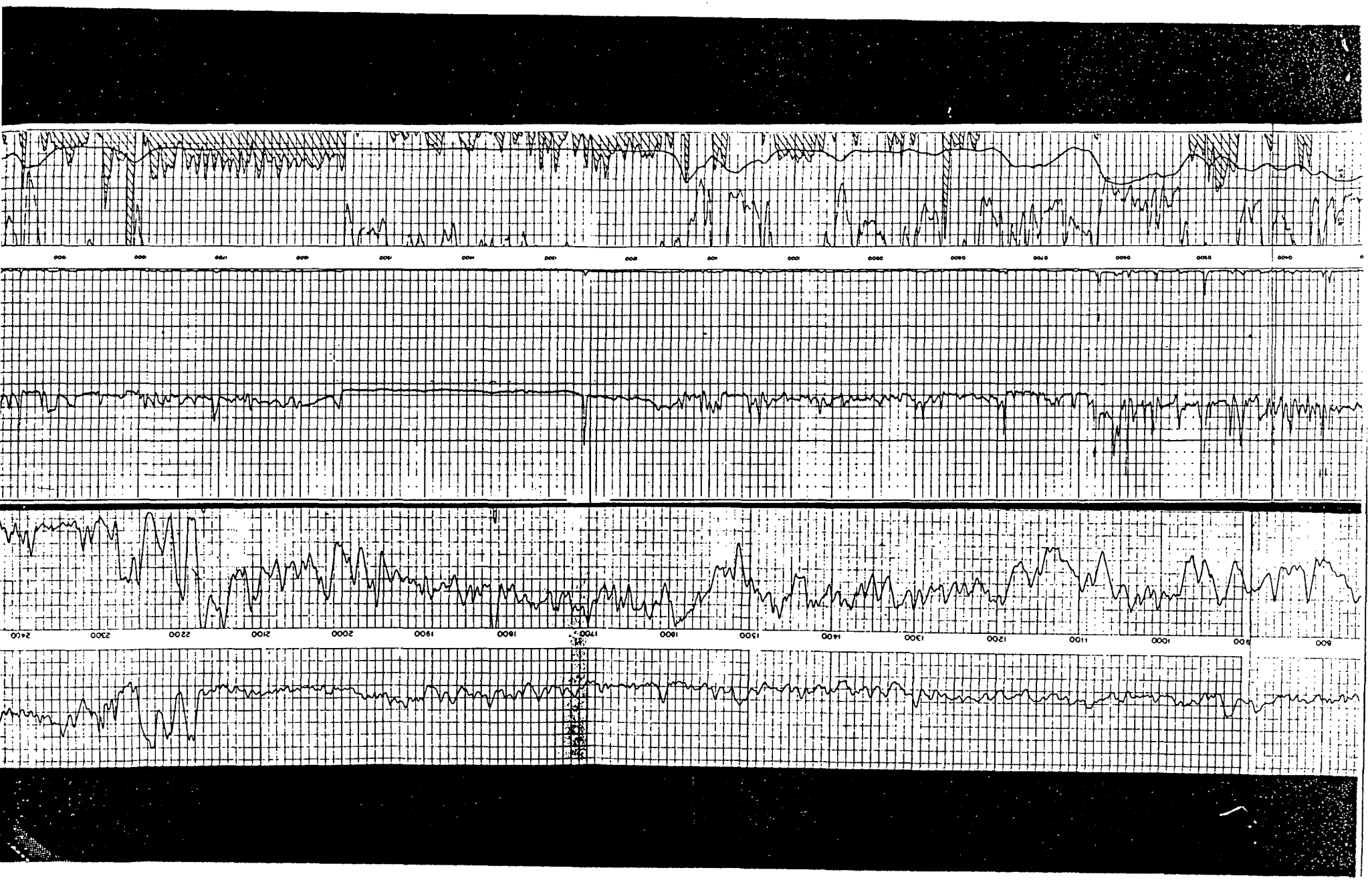


27-9-35 27-9-35

PAN GEO ATLAS CORP.

PGAC *Gamma Ray Neutron Log*

FILE NO	
COMPANY	SHELL OIL COMPANY
WELL	SHELL STATE ELLA NO. 1
FIELD	WILDCAT
COUNTY	LEA — STATE NEW MEXICO
LOCATION	1980' FSL, 660' FWL
Other Services	NONE
SEC 27 — TWP 9-S — RGE 35-E	

Permanent Datum	GROUND LEVEL	Elev. 4125
Log Measured from	D. F. 11 Ft. Above Permanent Datum	
Drilling Measured from	D. F.	

Elevations: KB 4136; DF 4136; GL 4125

Date	9-12-63
Run No.	ONE
Type Log	GR/N
Depth-Driller	10025
Depth-Logger	10029
Bottom Logged Interval	10027
Top Logged Interval	100
Type Fluid in Hole	SW-GEL-S[illegible]
Salinity Ppm Cl	62000
Density Lb/Gal	9.6
Level	FULL
Max. Rec. Temp. Deg. F	1[illegible]2°F
Opr. Rig Time	10 1/2 HRS
Recorded By	EARLY
Witnessed By	MR. COFFEY

Run No.	Bore-Hole Record: Bit	From	To	Casing Record: Size	Wgt.	From	To
				8 5/8	-	SURF	4123
1	7 7/8	4123	10025				

PROPERTY OF *Permian Associat*[ion], *Inc.* ROSWELL, N.M. 88201

Reproduced By
West Texas Electrical Log Service
Dallas 2, Texas

REFERENCE A1701K — ELSI

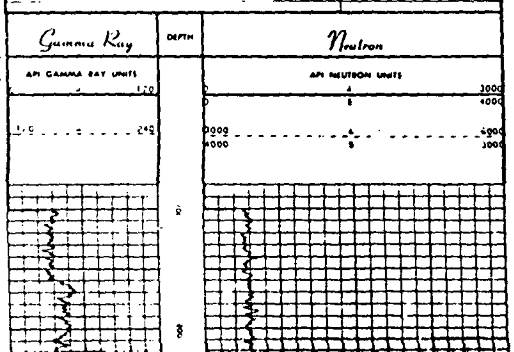
27 COMPLETION RECORD — Property Of HANSON OIL CO.

SPUD DATE
COMP DATE
DST RECORD
CASING RECORD
PERFORATING RECORD
ACID FRAC SHOT
IP
GOR — GR
TP — CP
REMARKS:

EQUIPMENT DATA — Gamma Ray / Neutron

LOGGING DATA — General / Gamma Ray / Neutron

Run No.	From	To	Speed Ft/Min	T.C. Sec.	Sens. Setting	Zero Div. L or R	API G.R. Units Per Log Div.	T.C. Sec.	Sens. Setting	Zero Div. L or R	API N. Units Per Log Div.
45	4114	SURF	30	2	625	0	12	2	454	0	150
"	10027	4114	15	4	625	0	12	4	540	0	200



27-9-35 27-9-35

SCHLUMBERGER LATEROLOG

with Gamma Ray

COMPANY	SHELL OIL COMPANY
WELL	STATE ELLA # 1
FIELD	WILDCAT
LOCATION	SEC. 27-9S-35E
COUNTY	LEA
STATE	NEW MEXICO
Other Surveys	IEL, MLL, SGR
Location of Well	1980' FROM S/L, 660' FROM W/L
Elevations: K.B.	
D.F.	4136
or G.L.	4125

Log Depths Measured From DF, 11 Ft. above GL

RUN No.	ONE	TWO	
Date	9-7-61	9-12-61	
First Reading	9610	10018	
Last Reading	4700	9610	
Feet Measured	4900	408	
Csg. Schlum.	-	-	
Csg. Driller	4115	4115	
Depth Reached	9615	10025	
Bottom Driller	9617	10025	
Mud Nat.	SALT	SALT GEL	
Dens. / Visc.	9.4 / 39	9.8 / 50	
Mud Resist.	.082 @ 77 °F	.084 @ 85 °F	
" Res. BHT	.047 @ 140 °F	.05 @ 144 °F	
" pH	6		
" Wtr. Loss	10.6 cc 30 min	9.8 cc 30 min	
" Rmf (H)	.063 @ 77 °F	.061 @ 79 °F	
" Rmc		.11 @ 79 °F	
Bit Size	7 7/8"	7 7/8"	
Laterolog 3	6" / 5'	6" / 5'	
Laterolog 7			
Opr. Rig Time	4 1/2 HOURS	3 HOURS	
Truck No.	2519-HOBBS	3701-HOBBS	
Recorded By	WILSON	MENOCHINO	
Witness	COFFEY	COFFEY	

PROPERTY OF *Permian Association, Inc.* ROSWELL, N.M. 88201

Reproduced By
West Texas Electrical Log Service
Dallas 2, Texas

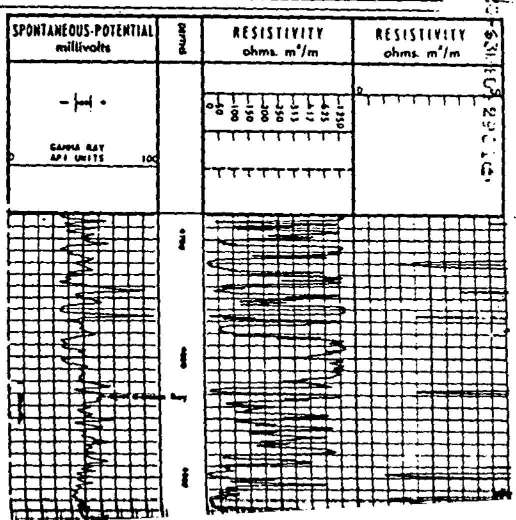
The Property of THE PERMIAN ASSOCIATION, INC.

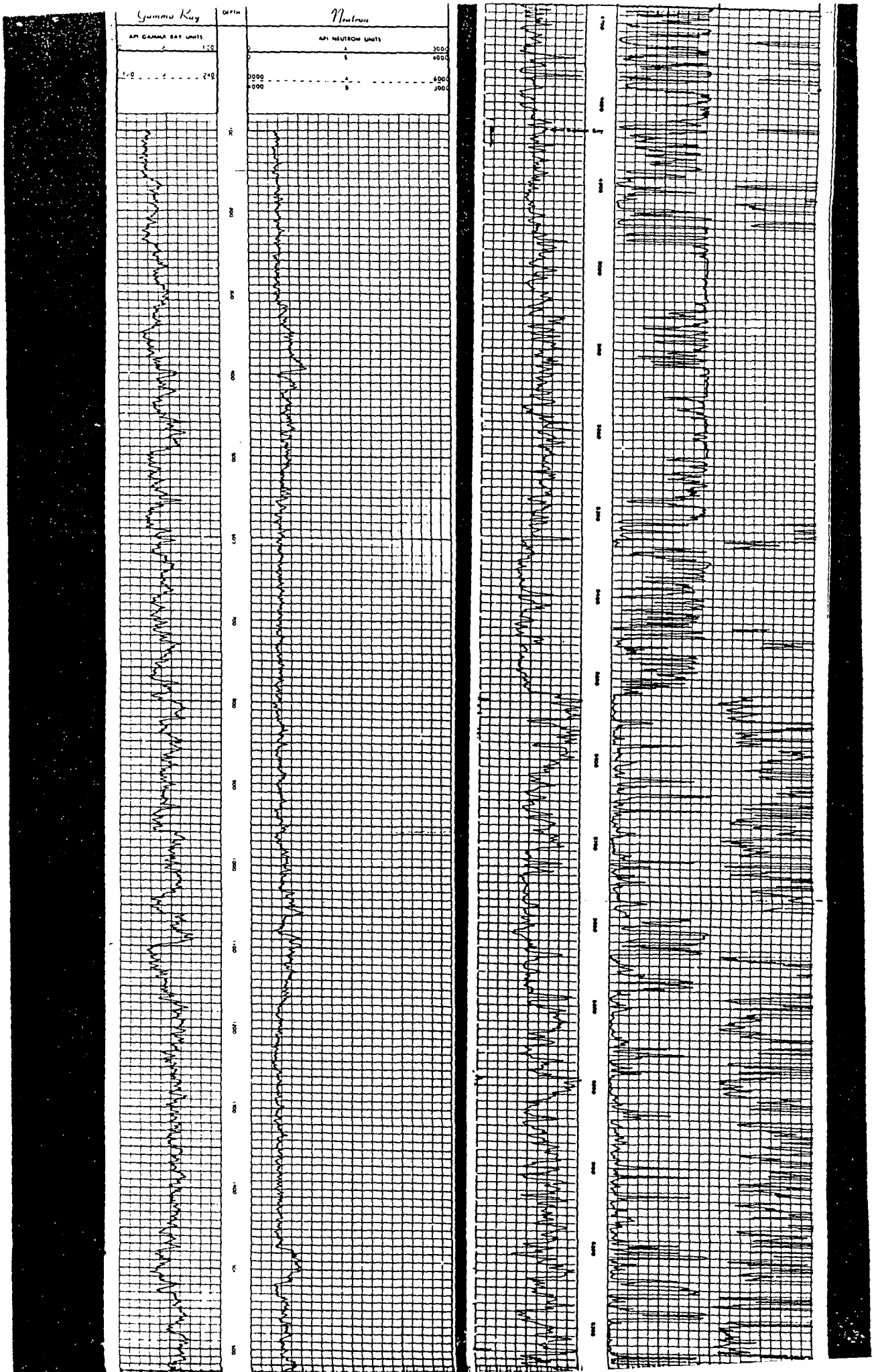
REFERENCE W3454K — ELSI

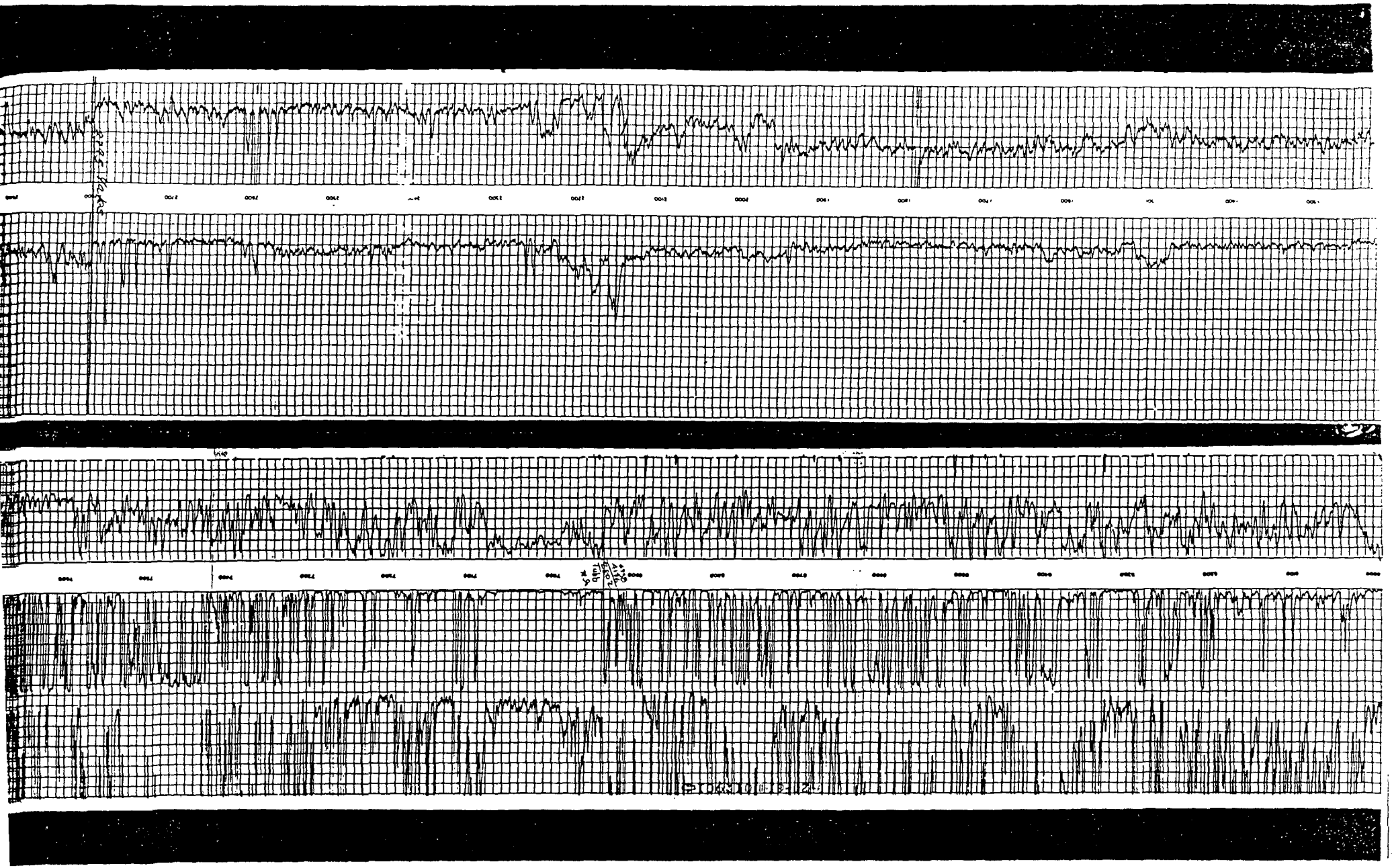
21 COMPLETION RECORD

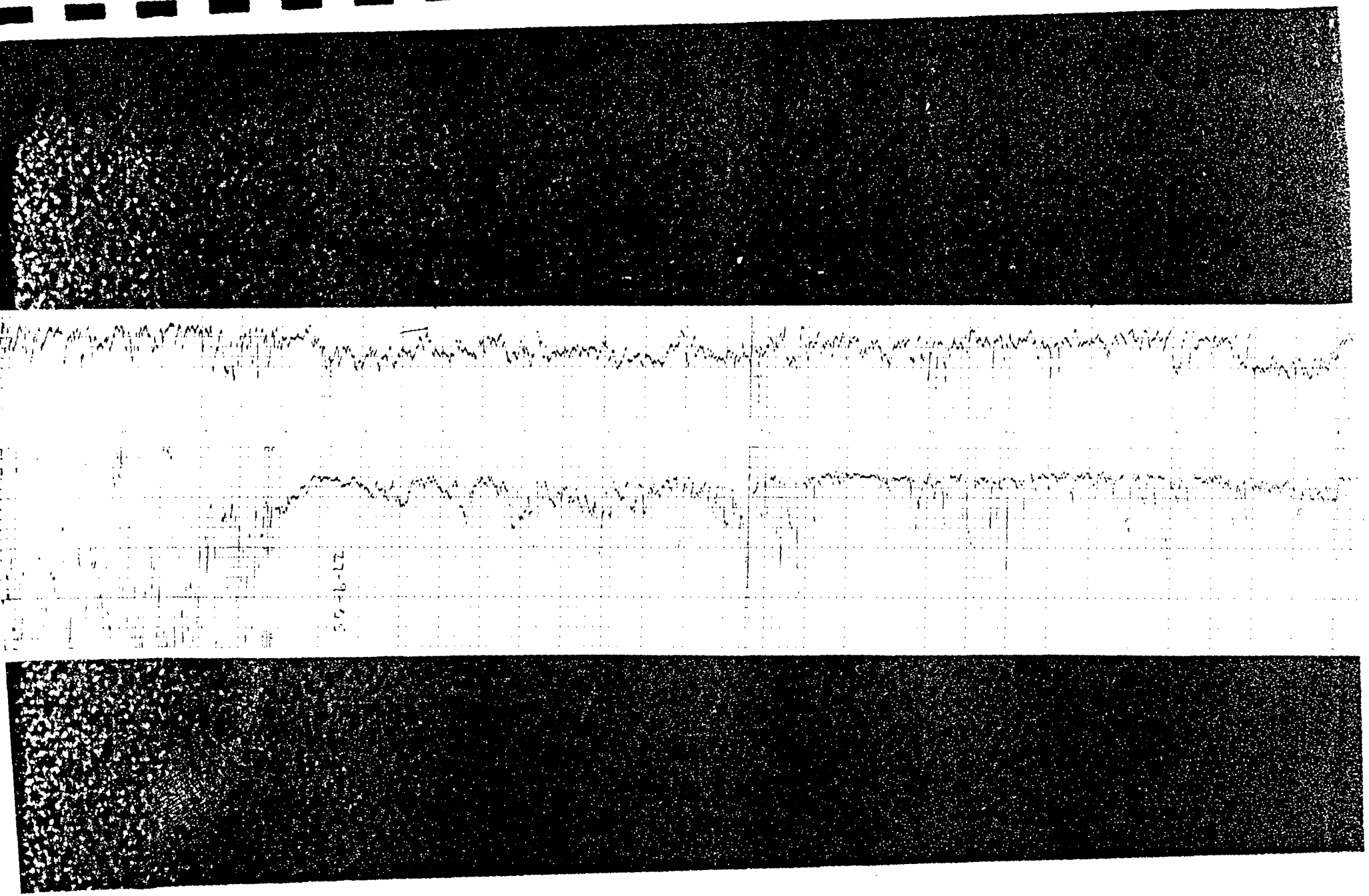
SPUD DATE
COMP DATE
DST RECORD
CASING RECORD
PERFORATING RECORD
ACID. FRAC SHOT
IP
GOR — GR
TP — CP
REMARKS:

Log starts at 4715




Gamma Ray
API GAMMA RAY UNITS
0
120
240
DEPTH
Neutron
API NEUTRON UNITS
0
3000
6000
0
3000
6000





Property Of
HANSON OIL CO.

SCHLUMBERGER WELL SURVEYING Co.

SCHLUMBERGER *Gamma Ray-*

COMPANY	A. L. MARKHAM
WELL	MAGNOLIA - GLESS
FIELD	
LOCATION	
COUNTY	LEA
STATE	NEW MEXICO

Location of Well
667
667

FILING No.

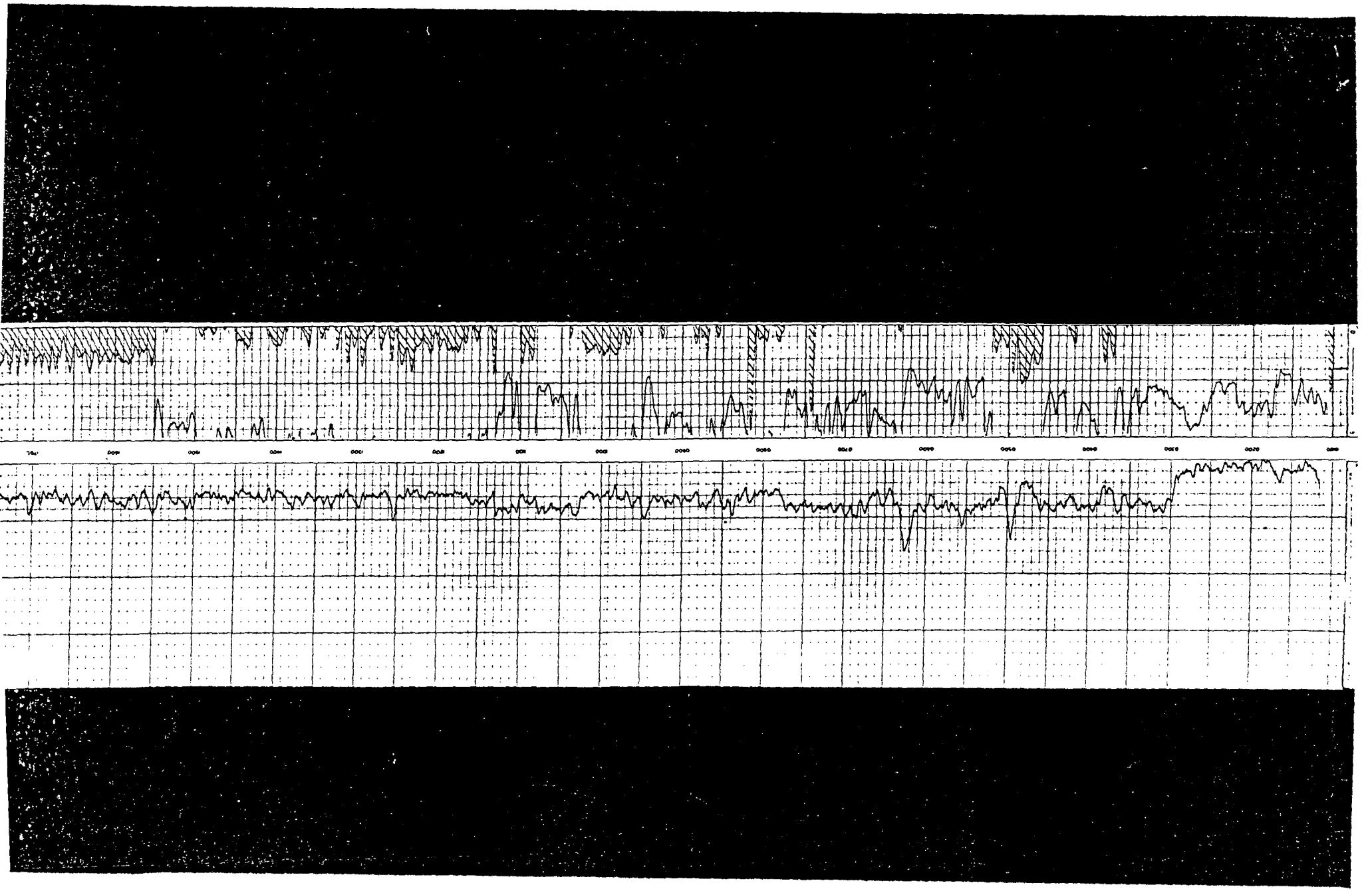
Log Depths Measured From

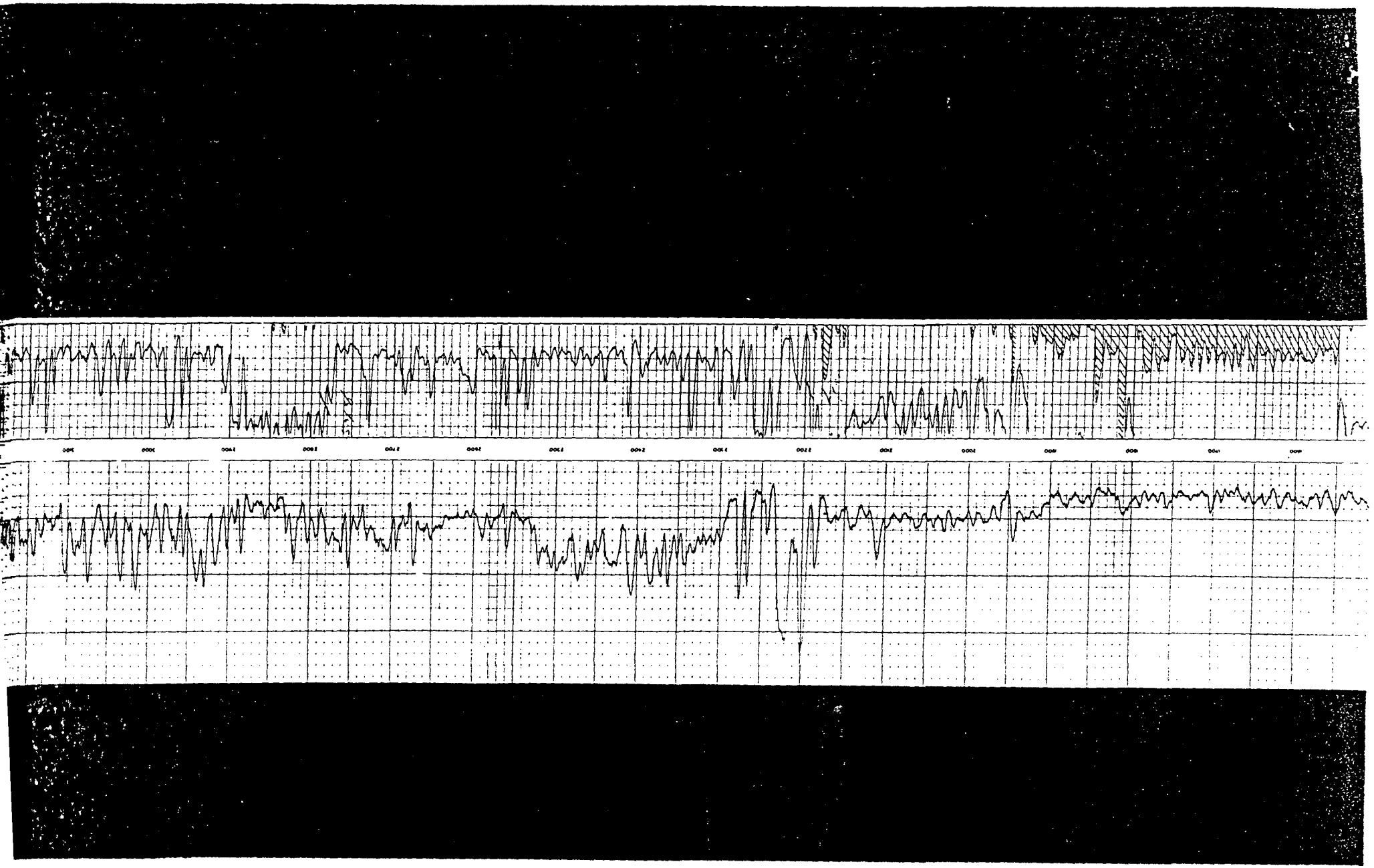
Date	
First Reading	4320
Last Reading	
Footage Measured	4820
Max. Depth Reached	
Bottom Driller	
Maximum Temp.	
Fluid Nature	SALT BASE OIL STARCH
Fluid Level	
Casing Size	
Casing Weight	208
Casing Size	
Casing Weight	
Bit Size	
Bit Size	
No. Counters Used	ONE
Type Equipment	
Type Panel	
Truck No.	
Observer	
Witness	

West Texas Electrical Log Service

REFERENCE N7500SD

GAMMA RAY		NEUTRON
INTERVAL		INTERVAL
ZERO		ZERO
INTERVAL		INTERVAL
ZERO		ZERO
INTERVAL		INTERVAL
ZERO		ZERO





M

NEW MEXICO OIL CONSERVATION COMMISSION

Company	Well No.	Lease	S-T-R
Jack Markham	1	Magnolia-Glenn	21-9S-35E

Location 660 Fr. S L 660 fr. W L — County Lea — Field Wildcat

Spud 1-30-58 Comp. 3-25-58

Total Depth 4948' li P. B. 4875' Top Pay 4804'

I. P. P 19 BOPD + 5 B salt wtr.

Ch. on Tbg. @ Press: T.

C. Pkr. Gor. Gr. 32.

Perfs: 60h 4804-19, 80h 4831-54, 12h 4855-58, 28h 4861-68.

CSG. RECORD

Size	Depth	Sax
8 5/8	305	200
5½	4947	200

FORMATION RECORD

S/J Elev. 4159' DF

A 2195'

Y 2784'

BX

SA 4034'

Treatments 5000 r/a 4804-19, 12,000 r/a 4831-68.

6259 — Artesia Printing Co.

D

NEW MEXICO OIL CONSERVATION COMMISSION

Company	Well No.	Lease	S-T-R
Magnolia Pet. Co.	1	Capps Fed.	24-9S-35E

Location 660 Fr. N L 660 fr. W L — County [illegible] Lea — Field # Bough

Spud 12-1-56 Comp. 2-1-57

Total Depth 9764' li. P. B. Top Pay

I. P.

Ch. on Tbg. @ Press: T.

C. Pkr. Gor. Gr.

CSG. RECORD

Size	Depth	Sax
10 3/4	420	425
7 5/8	4188	1400

Undesignated # (Bough)

TEMPORAILY ABANDONED

FORMATION RECORD

S/J Elev. 4123' DF

A 2218'	Per-Pa 8898'
Y 2296'	Bough [illegible]
BX 2662'	[illegible] A 9550'
Y 2764'	B 9586'
Q 3488'	C 9632'.
SA 4038'	
Glo 5468'	
Tu 6870'	
Abo 7667'	

Treatments

5?75 — Artesia Printing Co.

OWPB PAN AMERICAN PETROLEUM #1 CZ State L

COMPANY	WELL NO.	LEASE	S T R
Shell Oil Co.	1	State-Ella	27-9S-35E

Loc. 1980 fr. S L 660 fr. W L — County Lea

Spud. 8-1-63 Comp. 9-20-63 — Field Wildcat

T.D. 10,025 P.B. 5000 T.Pay

I.P. D & A

CSG. RECORD

Size	Depth	Sax
13-3/8	305	300
8-5/8	4115	1695
4-1/2	5000	300

Tbg. at

Remarks: DST 4811-74, op 1-1/2 hrs, rec1/2 bbl O&GCM emulsion, FP 146-152#, SIP 1505#/2 hrs; DST 4882-4931, op 45 min, rec 0.9 bbls SWCM, FP 111-114#, SIP 1552#/90 mins; DST 9831-70, op 1 hr, rec 100 mud, FP 60-74#, SIP 4319#/1 hr.

FORMATION RECORD

Elev. 4136-DF

T. Yates 2810

T. San And. 4045

T. Yeso 5520

T. Abo 7735

T. Wolfc. 9010

T.

T.

T.

T.

Treatment:

New Mexico Bureau of Mines and Mineral Resources

WELL LOG CARD

Location [illegible]0/N & 1980/W

Sec. 26 T. 9S R. 35E

Elevation [illegible] Source [illegible]

Formation	Depth	Thickness
T. [illegible]	[illegible]	
T. [illegible]	[illegible]	
T. [illegible]	4090	
T. [illegible]	[illegible]	
T. [illegible]	7766	
T. [illegible]	[illegible]	
T. [illegible]	9581	
[illegible]		

	Casing	Record
Total Depth 10012 ([illegible])		
I Bbls. Oil Dry [illegible]	951	[illegible]
PI M Cu. Ft. Gas	[illegible]	[illegible]
Commenced [illegible]		
Completed 4-[illegible]-50 ([illegible])		
Pay Horizon		
Comp. in Lime		
Other Ownership		

Remarks SR 1-25-50

Land Class	
Federal	
State	
Patd.	[illegible]

Wildcat

Lea

Area | County | Log No. 6/1[illegible] | Sec. 26 T. 9S R. 35E

OWDD

Forest Oil Company

Barnes & Curtis No. 1 Co.

New Mexico Bureau of Mines and Mineral Resources

Well Log Card

Location

660 N & 1980 W

Sec. 26 T. 9S R. 35E

Elevation Source

4[illegible]7

Formation	Depth	Thickness

	Casing	Record
Total Depth 55[illegible]		
I Bbls. Oil P&A		
PI M Cu. Ft. Gas		
Commenced 7-20-48		
Completed [illegible]		
Pay Horizon		
Comp. in Same		
Other Ownership		

Remarks SR 7-21-48

Land Class	
Federal	
State	
Patd.	X

Barnes-Wildcat

Lea

Area | County | Log No. | Sec. 26 T. 9S R. 35E

Continental

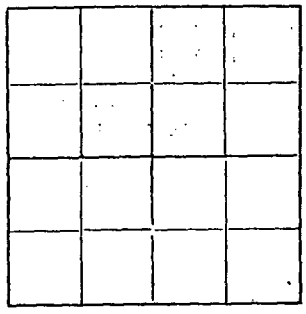
Vickers Pet Co No. 1 Co.

Form WR-23 STATE ENGINEER OFFICE

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1



(Plat of 640 acres)

(A) Owner of well C. W. Kinsolving

Street and Number

City State

Well was drilled under Permit No. and is located in the

NW ¼ NW ¼ NW ¼ of Section 35 Twp. 19S Rge. 35E

(B) Drilling Contractor License No.

Street and Number

City State

Drilling was commenced 19

Drilling was completed 19 48

Elevation at top of casing in feet above sea level Total depth of well 164

State whether well is shallow or artesian Depth to water upon completion

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1				
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
8					164			

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 PLUGGING RECORD

Name of Plugging Contractor License No.

Street and Number City State

Tons of Clay used Tons of Roughage used Type of roughage

Plugging method used Date Plugged 19

Plugging approved by:

Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received Typed 3/23/71

File No. Use OWD Location No. 9.35.35.111

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	149			No record
At	149			Hard rock
149	150			Hard rock
150	160			Water sand
160	164			Red bed

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well

Well Driller

This well record was taken from USGS Well Schedule dated May 15, 1954 (1:55PM) H.O.Reeder.

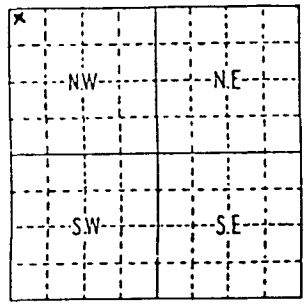
Location: 9.35.35.
Owner: --
Year Completed: 1948
Depth of Well: 164'
Casing Record: 164' of 8"

WELL RECORD

File No. _____

INSTRUCTIONS: This form should be typewritten, and filed in the office of the State Engineer, (P.O. Box 1079) Santa Fe, New Mexico, unless the well is situated in the Roswell Artesian Basin, in which case it should be filed in the office of the Artesian Well Supervisor, Roswell, New Mexico. Section 5 should be answered only if an old artesian well has been plugged. All other sections should be answered in full in every case, regardless of whether the well drilled is shallow or artesian in character. This report must be subscribed and sworn to before a Notary Public.

Sec. 1



(Plat of 640 acres)
Locate Well Accurately

Owner of well C. W. Kinsolving

Street and Number

Post Office Crossroads New Mexico

Well was drilled under Permit No. and

is located in the N. W. ¼ N. W. ¼ SE. ¼ of Section 35

Township 9S., Range 35e.

Drilling Contractor Dale Thorn

Street and Number 500 N .W.- Main St.

Post Office Portales New Mexico

Drilling was commenced August 10 19 48 Drilling was completed August 13 19 48

Elevation at top of casing in feet above sea level unknown

State whether well is shallow or artesian shallow

Total depth of well 167 feet.

Sec. 2 PRINCIPAL WATER-BEARING STRATA

No. 1, from 151 to 161, Thickness in feet 10, Formation gravel

No. 2, from 161 to 167, Thickness in feet 6, Formation sand

No. 3, from to , Thickness in feet , Formation

No. 4, from to , Thickness in feet , Formation

No. 5, from to , Thickness in feet , Formation

Sec. 3 RECORD OF CASING

DIAMETER IN INCHES	POUNDS PER FOOT	THREADS PER INCH	NAME OF MANUFACTURER	FEET OF CASING	TYPE OF SHOE	PERFORATED FROM	PERFORATED TO	PURPOSE
8				65	167		167	prevent cave

Sec. 4 RECORD OF MUDDING AND CEMENTING

DIAMETER OF HOLE IN INCHES	NUMBER OF SACKS OF CEMENT	METHODS USED	SPECIFIC GRAVITY OF MUD	TONS OF CLAY USED

Sec. 5 PLUGGING RECORD OF OLD WELL

Well is located in the ¼ ¼ ¼ of Section , Township ,

Range Name of plugging contractor

Street and Number Post Office

Tons of clay used Tons of roughage used Type of roughage

Was plugging approved by Artesian Well Supervisor

Cement plugs were placed as follows:

No. 1 was placed at feet Number of sacks of cement used

No. 2 was placed at feet Number of sacks of cement used

No. 3 was placed at feet Number of sacks of cement used

No. 4 was placed at feet Number of sacks of cement used

No. 5 was placed at feet Number of sacks of cement used

(OVER)

9.35.35.

Sec. 6

LOG OF WELL

FROM (depth in feet)	TO (depth in feet)	THICKNESS IN FEET	DESCRIPTION OF FORMATION
0	2	2	soil
2	30	28	rock
30	100	70	pack sand
100	146	46	dry sand
146	151	5	hard rock
151	161	10	gravel
161	167	6	sand
167	0	0	red bed

~~L S Elev~~ _____ _____

Depth to K _____ Trc _____

Elev of K _____ Trc _____

Loc. No. 9.35.35.111

Hydro. Survey _____ Field Check _____

SOURCE OF ALTITUDE GIVEN

~~Interpolated from Topo. Sheet~~ _____

~~Determined by Inst. Leveling~~ _____

Other _____

I, C W Kinsolving .....do solemnly swear that, to the best of my knowledge and belief, the foregoing information is a true and correct record of the well for which report is hereby made, insofar as can be determined from all available records.

SUBSCRIBED AND SWORN TO BEFORE ME this 28. Signed C. W. Kinsolving

day of August, A. D., 1943. Position Rancher

Phillip R. Robinson

Notary Public Street and Number .....

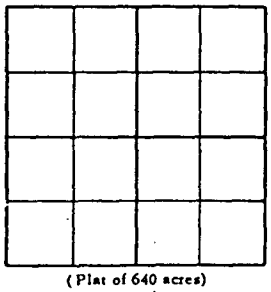
WR-45

STATE ENGINEER OFFICE

DRILL HOLE RECORD

INSTRUCTIONS: This form should be executed in duplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections pertaining to the specific drill hole shall be answered as completely and accurately as possible. Any additional remarks or information pertinent to the plugging or construction and operation and maintenance of the drill hole should be included in Section 7.

Section 1



(Plat of 640 acres)

(A) Owner of land or lessee _____

Street and Number _____

City _____ State _____

Hole is located in the _____ ¼ _____ ¼ _____ ¼ of Section _____

Twp. _____ Rge. _____

(B) Drilling Contractor _____

Street and Number _____

City _____ State _____

Drilling: Commenced _____ 19__ Completed _____ 19____

Elevation at top of casing in feet above sea level _____ Total depth of hole _____

Check whether water encountered is ☐ shallow or ☐ artesian. Depth to water upon completion _____

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1				
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 PLUGGING RECORD

Name of Plugging Contractor _____

Street and Number _____ City _____ State _____

Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____

Plugging method used _____ Date Plugged _____ 19____

Plugging approved by:

_____
Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received Typed 4/22/71

File No. _____ Use _____ Location No. 9.35.2.3 3142 43

Section 6 LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	50			Caliche
50	100			Sand and gravel
100	160		Yellow	Clay
160	180		Blue	Clay
180	190			Sand
190	200			Gravel
200	289		Red	Clay

Well produces 9 gpm.

Loc. No. 9.35.2.314243

Hydro. Survey ~~Survey~~ Field Check KO

Section 7. Remarks and additional information

This well record was collected by the USGS-WRD and constitutes a part of their Technical File for Roosevelt County.

Location: 9.35.2. 300

Owner: Oce K. Lovejoy

Year Completed: June 22, 1961

Depth of Well: 289'

Casing: 289'of 6"

SW¼ Sec. 2, T. 9S., R. 35E.
ACP Farm No. 85-021-G244
Roosevelt County

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Elmer Whitehorn & J.B.Watson
Driller

Form WR-23 STATE ENGINEER OFFICE

WELL RECORD

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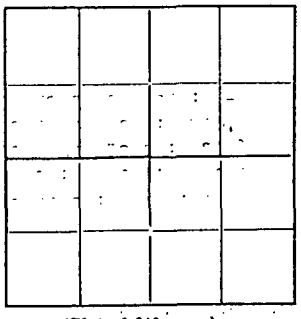
Section 1



(Plat of 640 acres)

(A) Owner of well.....

Street and Number.....

City ..... State .....

Well was drilled under Permit No..... and is located in the

..... ¼ ..... ¼ ..... ¼ of Section ..... Twp. ..... Rge. .....

(B) Drilling Contractor..... License No. .....

Street and Number.....

City ..... State .....

Drilling was commenced..... 19.....

Drilling was completed..... 19.....

Elevation at top of casing in feet above sea level..... Total depth of well.....

State whether well is shallow or artesian..... Depth to water upon completion.....

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1				
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 PLUGGING RECORD

Name of Plugging Contractor..... License No. .....

Street and Number..... City..... State.....

Tons of Clay used..... Tons of Roughage used..... Type of roughage.....

Plugging method used..... Date Plugged..... 19.....

Plugging approved by:

..... Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received .....

File No..... Use..... Location No. 9.35.1.4

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	20	20	Caliche	
20	145	125	Sandy clay	
145	150	5	Water sand	
150	170	20	Clay	
170	190	10	Water sand	
190	200	10	Red bed	

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Grady Backus
Well Driller

Location: 9.35.1.4
Owner: Oce K. Lovejoy
Year Completed: July 10, 1967
Depth of Well: 200'
Diameter of Well: --

Form WR-23 STATE ENGINEER OFFICE

WELL RECORD

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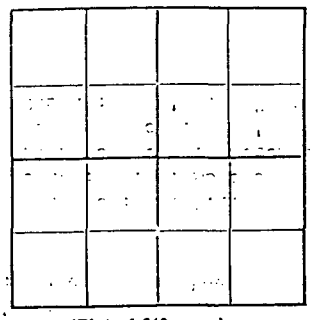
Section 1



(Plat of 640 acres)

(A) Owner of well.....

Street and Number.....

City ..... State .....

Well was drilled under Permit No. ..... and is located in the

..... ¼ ..... ¼ ..... ¼ of Section ..... Twp. ..... Rge. .....

(B) Drilling Contractor ..... License No. .....

Street and Number.....

City ..... State .....

Drilling was commenced ..... 19.....

Drilling was completed ..... 19.....

Elevation at top of casing in feet above sea level ..... Total depth of well .....

State whether well is shallow or artesian ..... Depth to water upon completion .....

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1				
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 PLUGGING RECORD

Name of Plugging Contractor ..... License No. .....

Street and Number ..... City ..... State .....

Tons of Clay used ..... Tons of Roughage used ..... Type of roughage .....

Plugging method used ..... Date Plugged ..... 19.....

Plugging approved by:

..... Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received .....

File No. ..... Use ..... Location No. 9.35.1.2

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	30	30	Light caliche	
30	88	58	Light clay	
88	159	71	Light sand	
159	222	63	Light lime	
222	263	41	Light clay	
263	286	23	Light blue clay and red -- plenty of water	

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Grady Backus
Well Driller

Location: 9.35.1.2
Owner: Ode K. Lovejoy
Year Completed: December 1966
Depth of Well: 286'
Casing: 286' of 10" steel

Form WR-23 STATE ENGINEER OFFICE

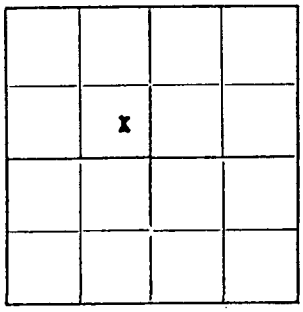
FIELD ENGR. Lea

WELL RECORD

W. . . PEVELER WATER WELL #1

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1



(Plat of 640 acres)

(A) Owner of well HUMBLE OIL & REFINING COMPANY

Street and Number Box 2347

City Hobbs, State New Mexico

Well was drilled under Permit No. - and is located in the

¼ SE ¼ NW ¼ of Section 33 Twp. 18-S Rge. 35-E

(B) Drilling Contractor Abbott Bros. License No. WD-46

Street and Number Box 637

City Hobbs, State New Mexico

Drilling was commenced November 2, 1961

Drilling was completed November 5, 1961

Elevation at top of casing in feet above sea level Total depth of well 240

State whether well is shallow or artesian Shallow Depth to water upon completion 150

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	150	170	20	Water Sand
2				
3	Well produced some water but not enough to be used in drilling well.			
4	Water well was capped (only) and turned over to rancher.			
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 PLUGGING RECORD

Name of Plugging Contractor License No.

Street and Number City State

Tons of Clay used Tons of Roughage used Type of roughage

Plugging method used Date Plugged 19

Plugging approved by:

Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received

File No. Mic. Lea Co. Use O W D. Location No. 18.35.33.140

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	25	25		Caliche.
25	150	125		Clay
150	170	20		Water Sand.
170	240	70		Red Clay.
				L S Elev _____ _____
				Depth to K_____Trc_____
				Elev of K_____Trc_____
				Loc. No. 10.35.33.140
				Hydro. Survey_____Field Check_____
				SOURCE OF ALTITUDE GIVEN
				Interpolated from Topo. Sheet_____
				Determined by Inst. Leveling_____
				Other_____

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

ORIGINAL SIGNED. ARVIN D. EADY

Well Driller

Humble Oil & Refining Company

4

APPENDIX C
ESTIMATE OF BRINE AND FRESH WATER PRODUCED AT FACILITY

MAILING ADDRESS
BOX 100
CROSSROADS, N.M.
88114

KENNETH TANK SERVICE

Crude and Water Transports

CROSSROADS, NEW MEXICO 88114

PHONE:
505-675-2356

July 20, 1984

Geoscience Consultants
222 Copper Square 500 Copper Avenue N.W.
Albuquerque, New Mexico 87102

Attention: Randy Hicks

RE: Kenneth Tank Service
Brine Facility

Dear Mr. Hicks:

Owner and operators of Kenneth Tank Service make a conservative estimate that fresh water facilities of Kenneth Tank Service produce approximately one hundred eighty thousand to two hundred twenty thousand barrels of fresh water per year. This estimate is based on a five year production period. Approximately thirty percent of this fresh water is used for brine production with the remainder being used in fresh water operations.

Sincerely yours,

C.K. Kinsolving
Owner

CKK/las

– KTS – Brine Salt Station

10% Royalty = $422.63

SALT M15635 ROYALTY REPORT FOR MONTH OF JUL AUG SEP 1983

KINGSOLVING C K
CROSSROADS N M 88114

	BBLS		Amt
July	2605	@ 35¢	$911.75
Aug	4140	@ 35¢	1449.00
Sept	5330	@ 35¢	1865.50
	12,075 barrels		$4226.25

SALT M15635 ROYALTY REPORT FOR MONTH OF OCT NOV DEC 1983

KINGSOLVING C K
CROSSROADS N M 88114

	Bbls	@ 35¢	Amt
Oct	5905		$2066.75
Nov	5,510		1928.50
Dec	12,435		4352.25
	23,850		$8347.50

Royalty $834.75

10% Royalty = $557.90

SALT M15635 ROYALTY REPORT FOR MONTH OF APR MAY JUN 1984

KINGSOLVING C K
CROSSROADS N M 88114

April 5845 bbls @ 35¢ = 2045.75
May 6410 bbls @ 35¢ = 2243.50
June 3685 bbls @ 35¢ = 1289.75
15,940 bbls @ 35¢ = $5579.00

SALT M15635 ROYALTY REPORT FOR MONTH OF JAN FEB MAR 1984

KINGSOLVING C K
CROSSROADS N M 88114

	BBLS	Amt
Jan.	2561½	2646.53
Feb.	4095	1433.25
Mar.	3245	1135.75
	14,401½	5215.53

10% Royalty = 521.55

Copy of Royalty Report for 1983-1984 showing brine production figures

APPENDIX D
PLUGGING BOND FILED WITH OCD

RECEIVED AUG 0 8 19[illegible]

Form O & G B-1
Adopted 8-17-77

STATE OF NEW MEXICO

ONE-WELL PLUGGING BOND

FOR CHAVES, EDDY, LEA, McKINLEY, RIO ARRIBA, ROOSEVELT, SANDOVAL, AND SAN JUAN COUNTIES ONLY

BOND NO. 638-43-00
(For Use of Surety Company)

AMOUNT OF BOND $5000.

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 (See Rule 104).

File with Oil Conservation Commission, P. O. Box 2088, Santa Fe 87501

KNOW ALL MEN BY THESE PRESENTS:

That C.K. Kinsolving d.b.a. Kenneth Tank Service, (An individual) (a partnership) (a corporation organized in the State of _____, with its principal office in the city of _____, State of _____, and authorized to do business in the State of New Mexico), as PRINCIPAL, and Fireman's Fund Insurance Company, a corporation organized and existing under the laws of the State of California, and authorized to do business in the State of New Mexico, as SURETY, are held firmly 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 and No/100 - ($5,000.00) 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 (CO_2) 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 (CO_2) 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 3,000 feet, to prospect for and produce oil or gas, or carbon dioxide (CO_2) 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 (CO_2) 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 SE¼SE¼
(Here state exact legal subdivision by 40-acre tract or lot)
Section 27, Township 9 (North) (South), Range 35 (East) (West), N.M.P.M.
Lea County, New Mexico.

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.

C. K. Kinsolving
PRINCIPAL

Address

By C. K. Kinsolving - V
Signature

Title

(Note: Principal, if corporation, affix corporate seal here.)

FIREMAN'S FUND INSURANCE COMPANY
SURETY

1385 South Colorado Boulevard, Denver, CO 80222
Address

By _____
Attorney-in Fact
Shirley Rivera

(Note: Corporate surety affix corporate seal here.)

ACKNOWLEDGEMENT FORM FOR NATURAL PERSONS

STATE OF New Mexico)
COUNTY OF Roosevelt) ss.

On this 7th day of March, 19 83, before me personally appeared _____, to me known to be the person (persons) described in and who executed the foregoing instrument and acknowledged that he (they) executed the same as his (their) free act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on the day and year in this certificate first above written.

OFFICIAL SEAL
Notary Public
TEAL
NOTARY PUBLIC - NEW MEXICO
My Commission Expires 5-24-83

My Commission expires

ACKNOWLEDGEMENT FORM FOR CORPORATION

STATE OF _____)
COUNTY OF _____) ss.

On this _____ day of _____, 19____, before me personally appeared _____, to me personally known who, being by me duly sworn, did say that he is _____ of _____ and that the foregoing instrument was signed and sealed on behalf of said corporation by authority of its board of directors, and acknowledged said instrument to be the free act and deed of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on the day and year in this certificate first above written.

Notary Public

My Commission expires

ACKNOWLEDGEMENT FORM FOR CORPORATE SURETY

STATE OF COLORADO)
COUNTY OF DENVER) ss.

On this 7th day of March, 19 83, before me appeared Shirley Rivera, to me personally known, who, being by me duly sworn, did say that he is Attorney-in-Fact of Fireman's Fund Insurance Company and that the foregoing instrument was signed and sealed on behalf of said corporation by authority of its board of directors, and acknowledged said instrument to be the free act and deed of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on the day and year in this certificate first above written.

Notary Public

November 24, 1985
My Commission expires
(Note: Corporate surety attach power of attorney.)

APPROVED BY:

OIL CONSERVATION COMMISSION OF NEW MEXICO

By _____

Date _____

FIREMAN'S FUND INSURANCE COMPANIES

FIREMAN'S FUND INSURANCE COMPANY
THE AMERICAN INSURANCE COMPANY
NATIONAL SURETY CORPORATION
ASSOCIATED INDEMNITY CORPORATION
AMERICAN AUTOMOBILE INSURANCE COMPANY
HOME OFFICE: SAN FRANCISCO, CALIFORNIA

BOND NO. SLR 638 4300

RIDER

In consideration of the premium charged, it is understood and agreed that:

Effective from the 7th day of March, 19 83, the land description is corrected to read as follows:

200 feet from the South Line
200 feet from the East Line
Section 27, Township 9 South, Range 35 East, Lea County, New Mexico

Provided, however, that the liability of the Fireman's Fund Insurance Company under the attached bond and under the attached bond as changed by this rider shall not be cumulative.

Nothing herein contained shall be held to vary, waive, alter or extend any of the terms, conditions, agreements or warranties of the undermentioned bond, other than as stated above.

Attached to and forming a part of Bond No. SLR 638 4300 issued by the Fireman's Fund Insurance Company

dated the 7th day of March, 1983,

on behalf of C. K. Kinsolving dba Kenneth Tank Service

and in favor of the State of New Mexico

Signed this 5th day of May, 19 83.

FIREMAN'S FUND INSURANCE COMPANY
Surety

By: Shirley Rivera
Attorney-in-Fact

360270—11-66

APPENDIX E
CHEMICAL ANALYSES OF FRESH WATER SUPPLY WELL

Four wells were sampled for ground water quality analyses. The fresh water tanks at the brine facility were sampled. This sample is a composite of both supply wells. The east pasture pipeline well is about 300 feet east of the brine facility. This well pumps water to a stock tank about 1/4 mile south of the brine facility. This well was used for fresh water supply for the abandoned fresh water service operated by C.K. Kinsolving in the 1960's. This well shows slightly elevated levels of dissolved solids. This elevation in dissolved solids may be due to the discharge of brine from water trucks prior to filling with fresh water during the 1960's, although variations in water quality in the region would be expected. The Sterns well is in Crossroads at the residence of John Sterns.

ASSAIGAI

ANALYTICAL LABORATORIES, INC.

To: GeoScience Consultants
220 Copper Square
500 Copper Ave. N.W.
Albuquerque, NM 87107

Date: 2 April 1984
0340
Page 1 of 2

Attn: Alberto Guiterrez

Analyte	Stearns Well 840223 1545	Fresh Water Tanks-Brine Station 840223 1540 Well #1 pumping	East Pasture Pipeline Well 840223; 1450	East Pasture Windmill 840223-1530
Cl	198.92 cl/l	558.86 cl/l	1387.58 cl/l	71.04 cl/l
SO_4	340.0 mg/l	350.0 mg/l	360.0 mg/l	200.0 mg/l
NO_3 as N?	12.50 mg/l	2.20 mg/l	2.25 mg/l	1.65 mg/l
HCO_3 as $CaCO_3$?	94.0 mg/l	114.0 mg/l	120.0 mg/l	129.0 mg/l
Ca	170.53 mg/l	133.10 mg/l	105.93 mg/l	82.85 mg/l
Na	21.63 mg/l	109.83 mg/l	345.58 mg/l	24.54 mg/l
Mg	53.68 mg/l	50.94 mg/l	51.34 mg/l	33.48 mg/l
K	5.94 mg/l	8.00 mg/l	58.20 mg/l	5.32 mg/l
TDS	948.0 mg/l	1458.0 mg/l	2644.0 mg/l	892.0 mg/l
Cation/ Anion Balance	0.972 mg/l	0.629 mg/l	0.535 mg/l	0.078 mg/l

899.2 TDS

1336.92 TDS

Normal Detection Limits:

Cl	0.1 mg/l
SO_4	1.0 mg/l
NO_3	0.1 mg/l
HCO_3	5 mg/l
Ca	0.1 mg/l
Na	0.1 mg/l
Mg	0.01 mg/l
K	0.1 mg/l
TDS	1.0 mg/l

Reference: "Standard Methods for the Examination of Water and Wastewater", 15th Edition, APHA, N.Y., 1980.

PROPOSAL TO MODIFY SURFACE FACILITIES KENNETH TANK SERVICE CROSSROADS, NEW MEXICO

Prepared for

Kenneth Tank Service
Crossroads, New Mexico

March 9, 1984

Prepared by

Geoscience Consultants, Ltd.
Suite 220
500 Copper Ave. NW
Albuquerque, New Mexico
87106

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

Geoscience Consultants, Ltd. submits this proposal which will serve to bring the surface facilities at Kenneth Tank Service into compliance with the WQCC regulations. NMEID may have comments concerning this proposal and we encourage the NMEID to contact us by phone with their comments and questions. Geoscience Consultants, Ltd. can then respond in a more timely fashion and the permit process can be accelerated.

Kenneth Tank Service (KTS) proposes to construct a berm around its brine storage facility and a lined emergency holding pond to contain any brine flows which would result from a storage tank or pipeline failure. Also proposed is a lined catchment for the brine loading area which would divert any spills from trucks or brine delivery ports to the lined holding pond. The holding pond will be used only for containment of major spills and for retention of fluid used in periodic clean out of the brine well production tubing. The pond will contain liquid only for the time required to repair the storage and delivery system in the event of a leak. After repair or clean out, any fluid that has not evaporated will be pumped from the pond to the storage tanks or into transport trucks for use as drilling fluid.

Plans and specifications for the brine well were developed from reports sent to the NM Oil Conservation Division, a field inspection and information provided by John Sterns of KTS.

The brine well and loading facility are typical of other operations in New Mexico. Fresh water is pumped under pressure into the annulus between the casing and tubing. Open hole

completion in the Salado Formation permits contact with salt, and saturated brine is produced at the surface through the production tubing.

Detailed plans and specifications on proposed surface structures will be submitted after communications with the EID and after EID approval of these concepts.

2.0 LOCATION

The Kenneth Tank Service brine facility is located approximately one mile south of Crossroads, New Mexico in Section 27, T9S, R35E (SE1/4, SE1/4, SE1/4). The injection well, fresh water production wells and product loading terminal are on the west side of State Route 18 and are shown in Figure 2-1. Also shown is the 2 1/2 mile area of review to be employed in the discharge plan process.

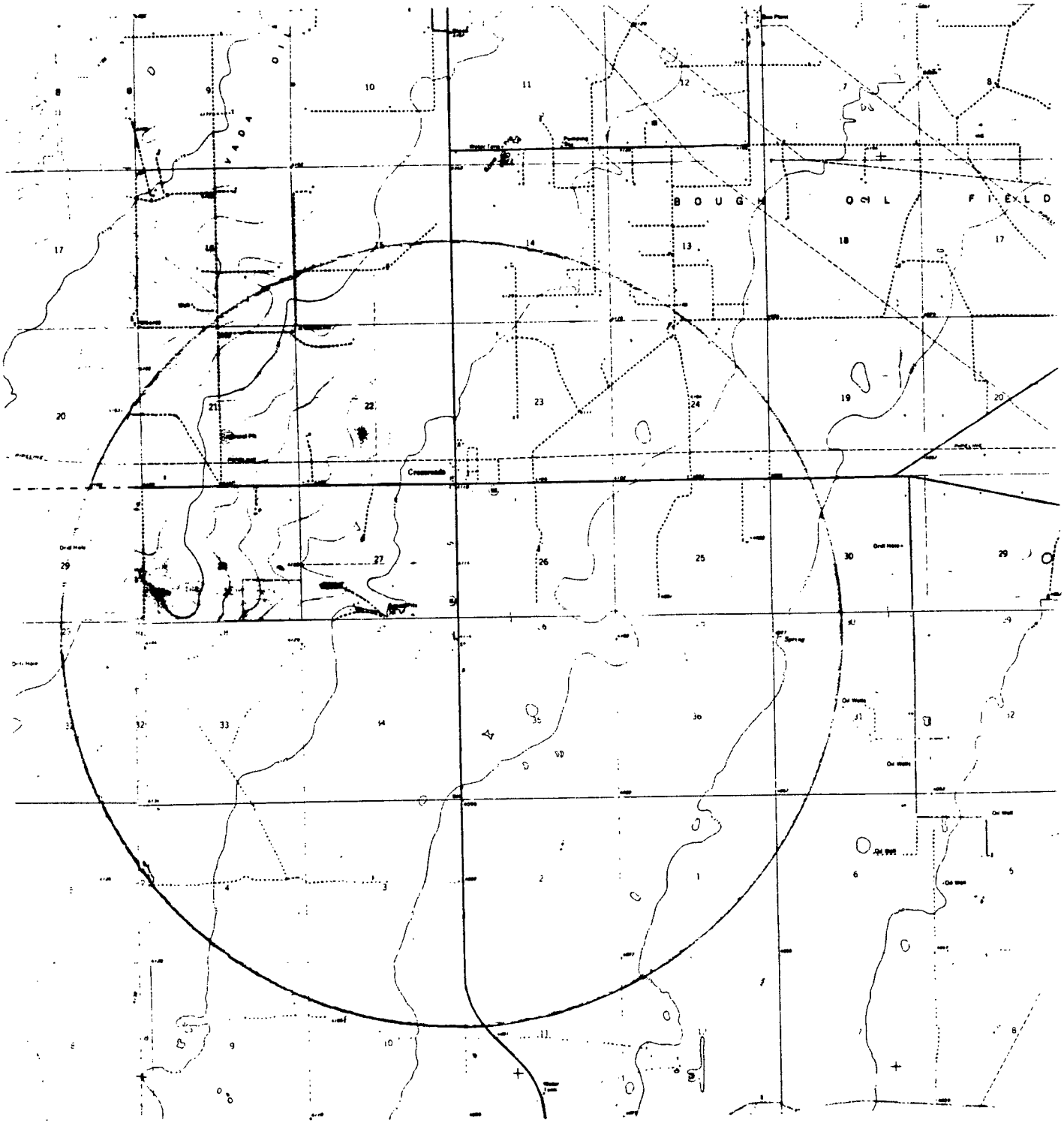


Figure 2-1 Location of the Kenneth Tank Service brine facility and the 2½ mile area of review (to be employed in the discharge plan).

3.0 FACILITY DESCRIPTION AND OPERATING

The brine and fresh water facility consists of:

1. 4 brine storage tanks
2. 3 fresh water storage tanks
3. Product delivery pipelines for trucking loading
4. 2 fresh water supply wells
5. 1 brine injection/production well
6. 1 topside fresh water booster pump for injection
7. Ticket office

Figure 3-1 is the site plan of the facility which shows all of the above structures.

3-1 Storage Tanks and Pipelines

The 4 northernmost storage tanks are used for brine storage. Tanks #1 and #2 have a measured circumference of 48.75 feet and a measured height of 16 feet. The maximum calculated capacity of each tank is 22650 gallons (rounded) or 3025 cubic feet. Tanks #3 and #4 have a measured circumference of 68 feet, a measured height of 16 feet and a maximum calculated capacity of 44000 gallons (rounded) or 5887 cubic feet. All three fresh water tanks (5,6,7) have a measured circumference of 68 feet and a measured height of 16 feet. The fresh water tanks are located south of the brine tanks (Figure 3-2).

All tanks are 10 gauge bolted galvanized steel (Figure 3-3). API certified the small amount of leakage around bolted joints evaporate prior to reaching ground surface. Pipelines connect the brine tanks to 2 delivery port for truck loading (Figure 3-1). All four brine tanks are interconnected by these pipelines (Figure 3-4). Valves are present only at the delivery

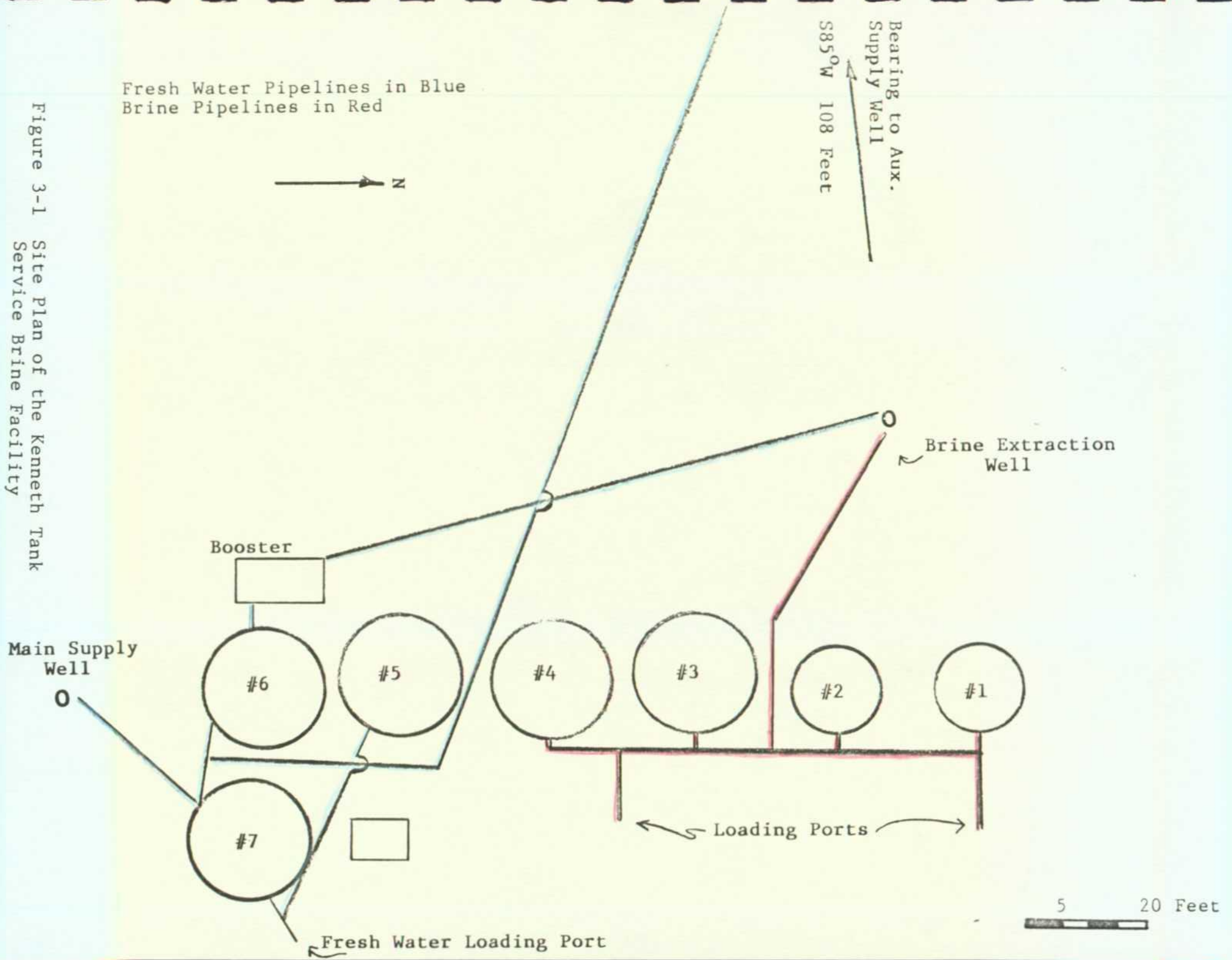


Figure 3-1 Site Plan of the Kenneth Tank Service Brine Facility

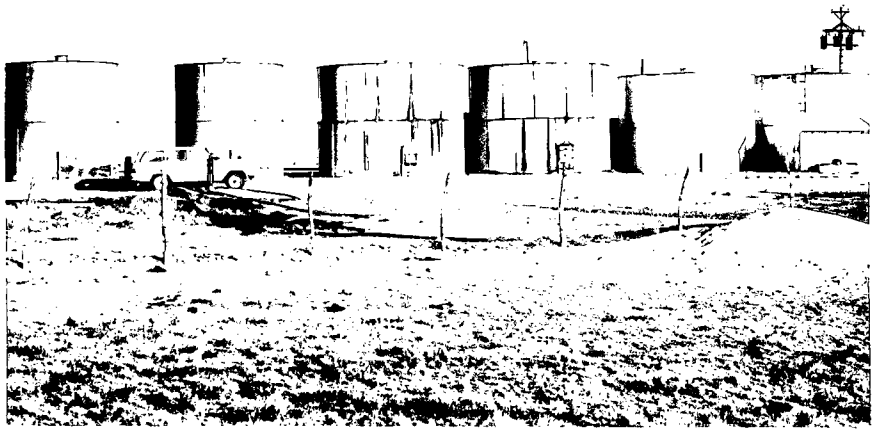


Figure 3-2 Photograph of the Kenneth Tank Service facility. View from the west.

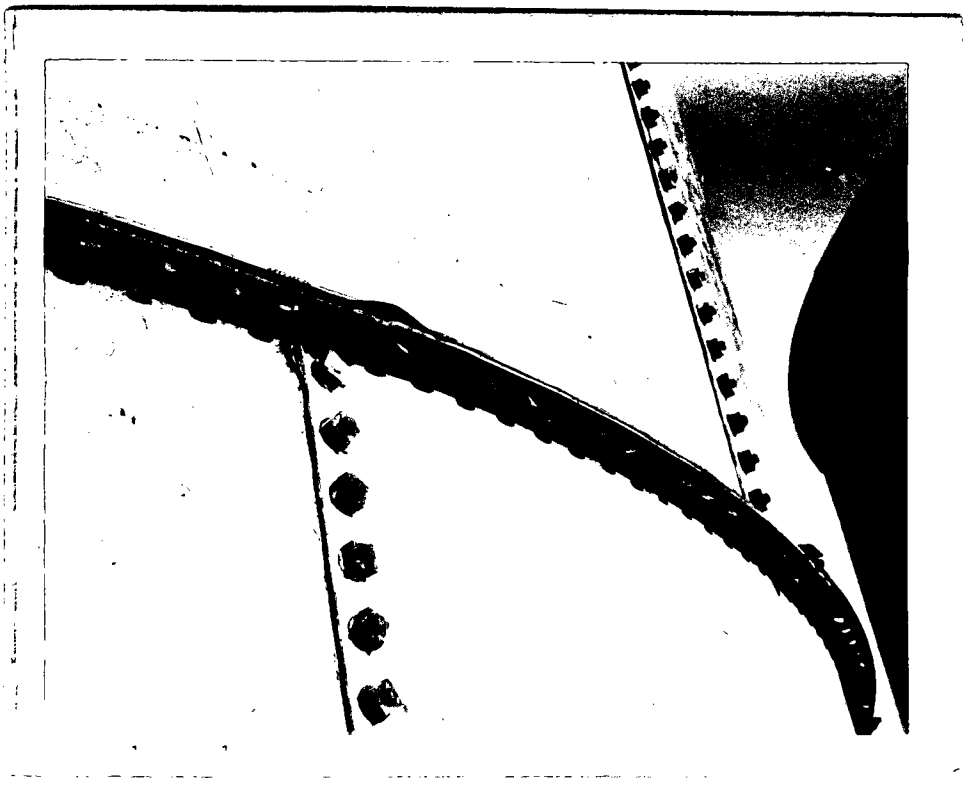


Figure 3-3 Heavy guage bolted steel tank construction.

Figure 3-4 Photograph of Kenneth Tank Service facility. View from the north. Tank truck is loading fresh water.

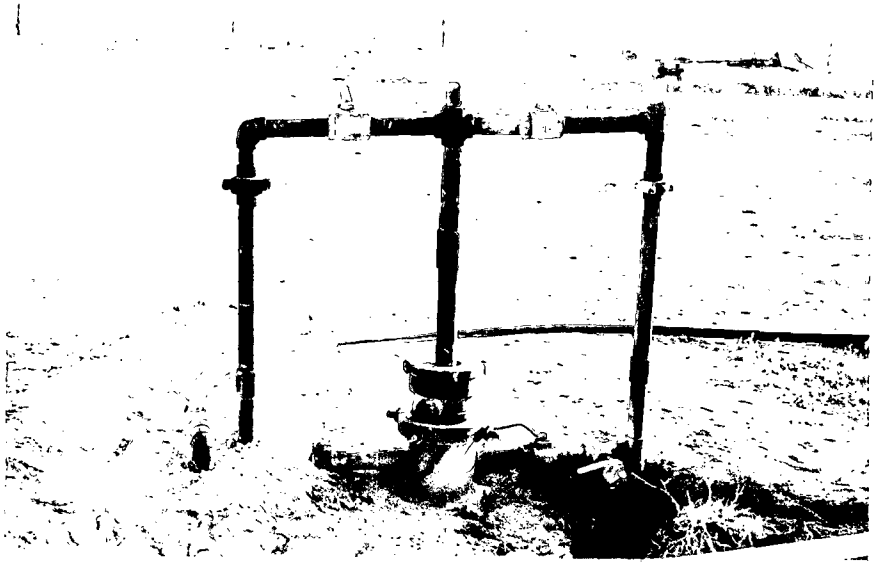


Figure 3-5 Photograph of brine extraction well.

ports. Fresh water storage tanks are also interconnected and pipelines are buried to prevent freezing. Loading of product onto trucks is facilitated by pumps on the tank trucks.

3-2 Brine Well

Brine well construction is described in Section 4.0. The surface equipment associated with brine production is the wellhead valving (Figure 3-5) and the booster pump.

The well head valving is designed to accommodate brine production and maintenance of the well. Brine production results from injection of fresh water (at 300 psi) into the annulus between the well casing and production tubing. Brine is produced through the tubing and flows into the storage tanks through subsurface pipelines. This method is typical of brine wells in New Mexico. Figure 3-6 illustrates this method.

Periodically the production tubing will become encrusted with salt. Encrustation is evident by an increase in injection pressures. Clean out of the production tubing is accomplished in the following manner. Fresh water is injected into the production tubing to dissolve the encrusted salt. Residual fresh water in the casing annulus is permitted to flow onto the surface.

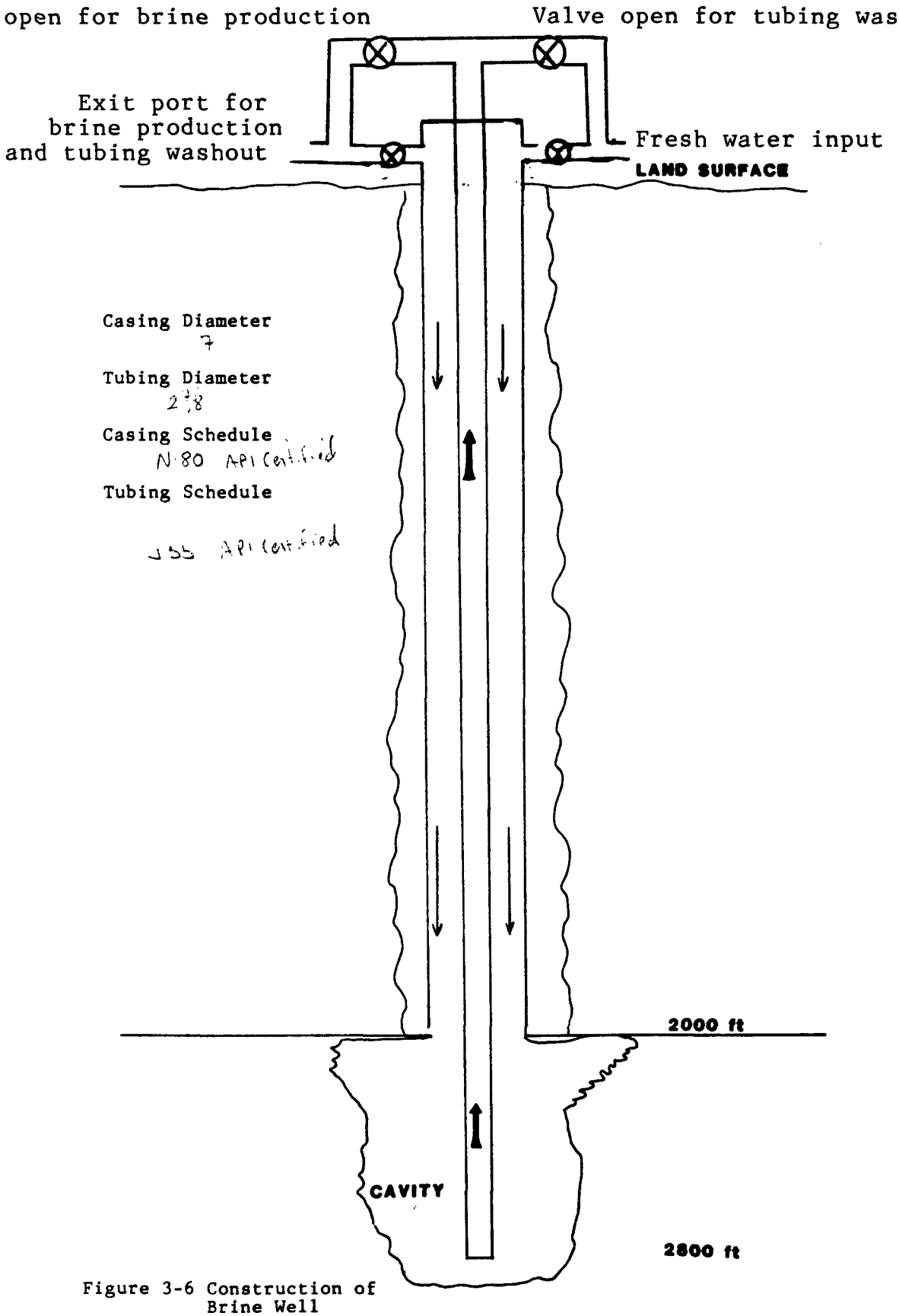


Figure 3-6 Construction of Brine Well

4.0 WELL CONSTRUCTION

Figure 4-1 is a copy of the "SUNDRY NOTICE AND REPORT" (NMOCD form C-103) on the Kinsolving Brine Well. It is the only available report on the well completion methods and was filed with the NMOCD on February 28, 1983. Geoscience Consultants, Ltd. contacted the Hobbs OCD office and Mansell Brine Sales of Midland, Texas in an attempt to find original completion reports. Both offices stated that no reports were available. No one currently at Mansell Brine has any knowledge of specific well completion techniques. The previous owners of Mansell Brine who drilled the well are deceased. The plans and specifications for the Kinsolving Brine Well (Figure 3-6) are based upon a field inspection, this report and conversations with John Stearns of KTS.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

OIL CONSERVATION DIVISION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-103
Revised 10-1-78

5a. Indicate Type of Lease: State [X] Fee [ ]
5. State Oil & Gas Lease No.: M-15635

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT —" (FORM C-101) FOR SUCH PROPOSALS.)

7. Unit Agreement Name: KTS Brine
8. Farm or Lease Name: —
9. Well No.: 1
10. Field and Pool, or Wildcat:

OIL WELL [ ] GAS WELL [ ] OTHER- Brine Well

Name of Operator: C.K. Kinsolving dba Kenneth Tank Service

Address of Operator: Box 100 Crossroads, NM 88114

Location of Well: Unit Letter L, 200 FEET FROM THE South LINE AND 200 FEET FROM THE East LINE, SECTION 27, TOWNSHIP 9S, RANGE 36E, NMPM

15. Elevation (Show whether DF, RT, GR, etc.):
12. County: Lea

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK [ ] PLUG AND ABANDON [ ]
TEMPORARILY ABANDON [ ]
PULL OR ALTER CASING [ ] CHANGE PLANS [ ]
OTHER [ ]

SUBSEQUENT REPORT OF:

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

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Above well drilled and completed approximately 1966 by Mansell Brine Midland, Texas, later purchased by C.K. Kinsolving.
The brine well is reported by Mr. Mansell to be cased with 7 inch casing to a depth of 2000 feet with cement circulated to the surface. The total depth of the well is 2800 feet. Fresh water is injected into the well under 300 pounds pressure and the brine water is returned to the surface through a 2⅜ inch tubing inside the 7 inch casing.

Kenneth Tank Service pays quarterly royalty payments to Land Office on brine sales. Lease #M-15635

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

C.K. Kinsolving TITLE Owner DATE 2/28/83

ORIGINAL SIGNED BY JERRY SEXTON
DISTRICT I SUPERVISOR

BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

Figure 4-1 Sundry Notice and Report on the Kinsolving Brine Well

5.0 POTENTIAL COMPLIANCE PROBLEMS: SURFACE FACILITIES

The following potential problems at KTS are addressed in Section 6.0:

1. Overflow or leakage of brine from tank trucks and loading operations
2. Potential rupture of tanks or pipelines
3. Slow leakage of tanks or pipelines
4. Leakage of clean out water from well casing annulus

6.0 PROPOSED WASTE MANAGEMENT DESIGN

Several different design options for minimizing the risk of ground water degradation from surface activities were evaluated. Plans and specifications for the most cost-effective design which meets with NMEID approval will be submitted 60 days after receipt of written approval of the proposed design. Discussion with the NMEID concerning these options will be conducted if necessary.

6.1 Protection From Truck Loading Spills and Overflows.

Two options are presented for containment of spilled brine in the loading area. The first option is an asphalt or concrete pad which drains to the lined pond. This is designed to contain any spills or overflows. Drain lines will be capable of handling maximum flows from the loading pipelines or flows from hoses and valves on the trucks. A five foot by ten foot drain and a 8 inch PVC pipeline are anticipated. A schematic of this design is shown in Figure 6-1.

The alternate design also serves the purpose of containing brine overflows during loading operations. This option calls for excavation of loading area to a depth of about two feet. The soil is then mixed with bentonite and compacted to form a liner or is lined with a synthetic liner. Perforated PVC pipes (4inch diameter) are installed and covered with gravel. Overflows would drain into the perforated pipe and and subsequently into a pipeline to the lined pond as in the first option.

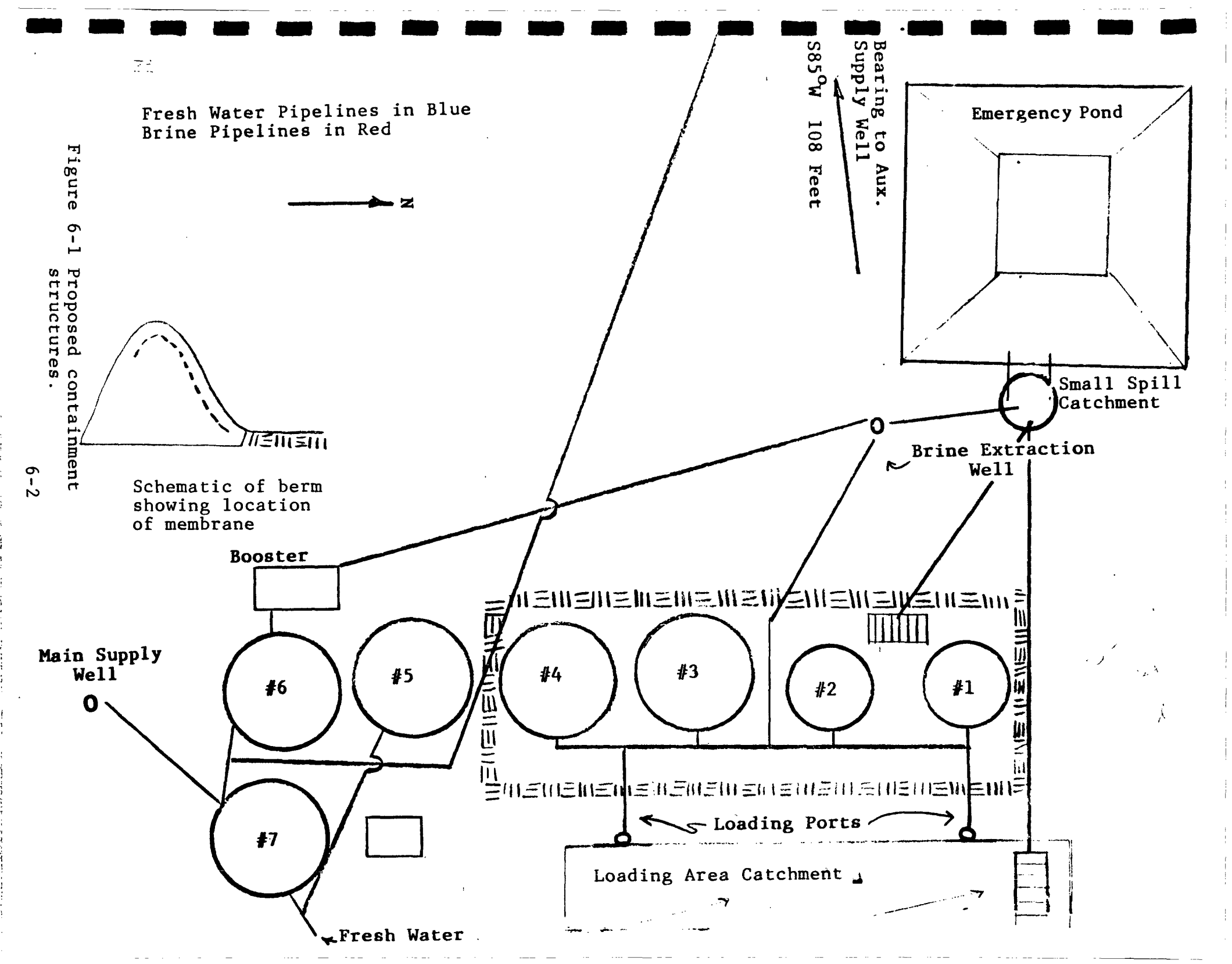


Figure 6-1 Proposed containment structures.

6.2 Protection From Tank and Pipeline Rupture.

The brine tanks are operated with intermediate valves typically open. Therefore, a rupture in tank #1 would result in drainage of all 4 brine tanks. The interconnection of tanks is the most convenient method of operation. A spill capable of over flowing the emergency holding pond is not anticipated. The drain to the holding pond will be inspected at least every 8 hours to check the flow. The facility is open 24 hours a day and the tanks could be shut off individually when a rupture is detected. The holding pond will be designed to retain the fluid from a rupture flow at an average of 40gpm for 8 hours ($2566ft^3$).

We propose to install valves on each tank. Valves between the tanks will be closed except for the single tank currently in use. This method would prevent escape of all stored brine if a single tank or pipeline was ruptured.

To direct any fluid resulting from a rupture, a berm will be constructed around the brine tank battery. The soil between the berm and the tanks will be compacted to decrease permeability and sloped toward a drain to the pond. To prevent erosion of the berm due to flow from a rupture, a membrane (cloth or plastic) will be installed in the berm (Figure 6-1). The bermed area is not designed to protect against an instantaneous release of an entire tank volume (catastrophic failure) nor is it designed to retain fluid. Its sole purpose is to direct spills to the lined pond.

6.3 Holding Pond

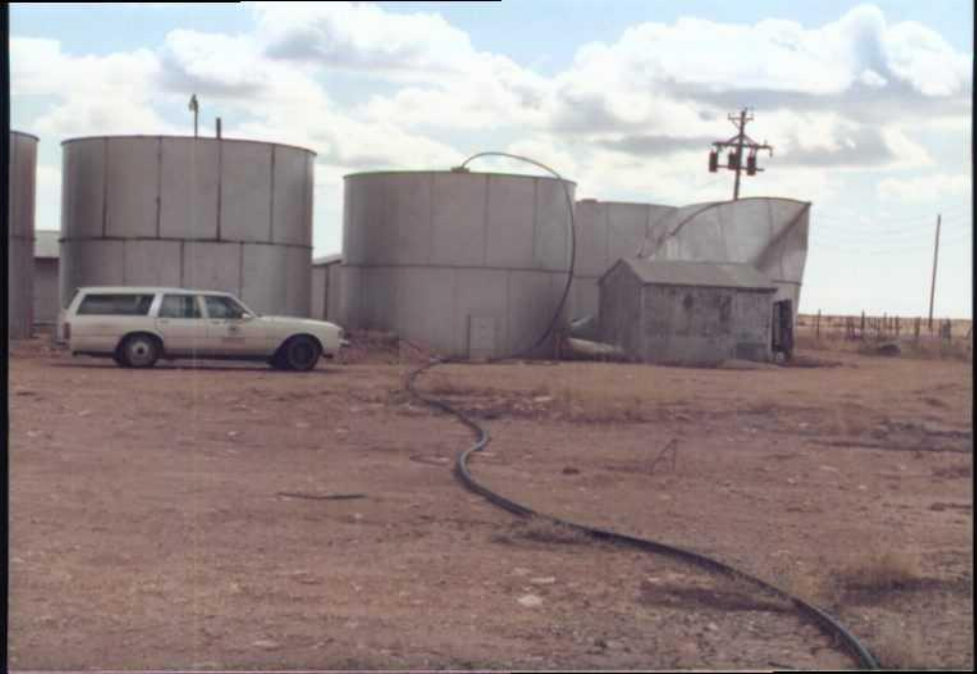
The pond will be used for holding spilled fluid for a short time period. Small releases will quickly evaporate in the 500 gallon, galvanized steel "small spill catchment" stock tank. Large releases from failures will be pumped back after tank repair (no more than one week).

Although several liner options were considered a soil covered synthetic liner is the most cost-effective, environmentally sound system. A soil cover is necessary due to the expected short residence time of fluid; the pond will be empty 99% of the time. Wind and UV radiation would cause deterioration of an exposed liner.

If this concept is approved, plans and specifications will be submitted 60 days after written notification of approval.

6.4 Slow Pipeline Leaks

Semi-annual pressure testing of subsurface brine pipelines will insure their integrity. Subsurface pipelines will be repaired if testing shows potential leakage. Any leakage from surface pipes will be remedied, and any tank leakage which reaches ground level will be repaired immediately.



Kenneth TK Suc 3/14/90

KTS 5-19-95

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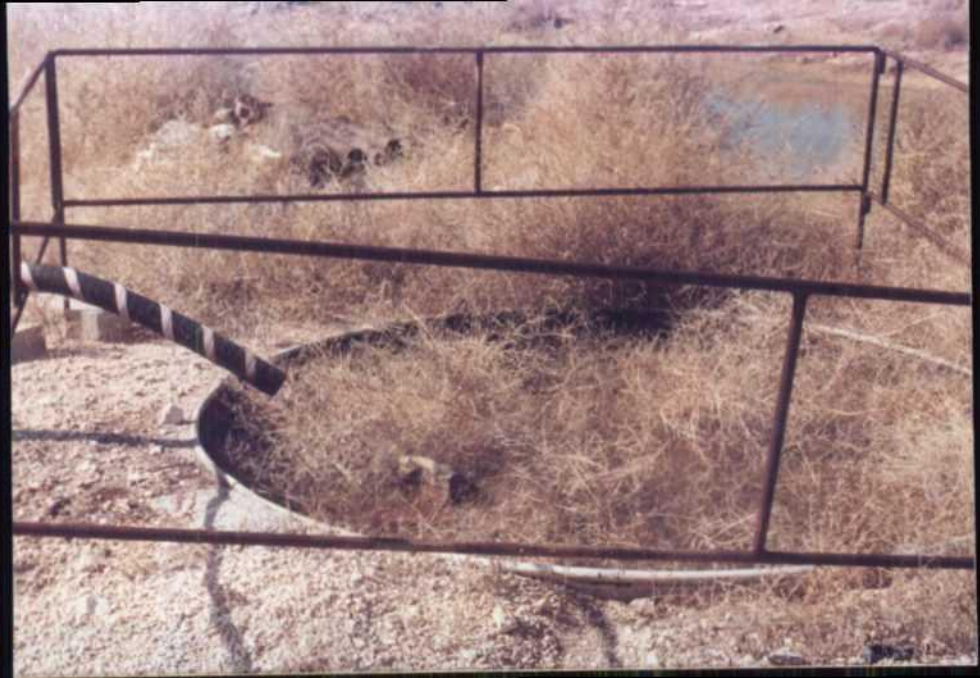

11-6-91

Kenneth Tank Service ~~Brine Station~~

Stock/holding tank recieving fresh water from line hooked up to well head.

K. Brown

11-6-91

Kenneth Tank Service ~~Brine Station~~

Emergency pond (s-lined, torn) receiving water overflowing from stock/holding tank. Freshwater

K. Brown

11-6-91

Kenneth Tank Service Brine Station

Oil spilled on ground between road and brine facility.

K. Braun

11-6-91

Kenneth Tank Service Brine Station

Brine loading pad with drain leading to stock/holding tank.

K. Brown

Kenneth Tk Svc 3/14/90

Kenneth TK Suc 3/14/90

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Kenneth Tank Service Brine Station

Leak in brine storage tank

K. Braun

11-6-91

Kenneth Tank Service Brine Station

Leak in brine storage tank.

K. Brown

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BW-013

Kenneth T. Suc 3/14/90

Cement Loading Ramp

KTS - 11-15-85

Slump TANK + Holding
TANK - KTS 11-15-85

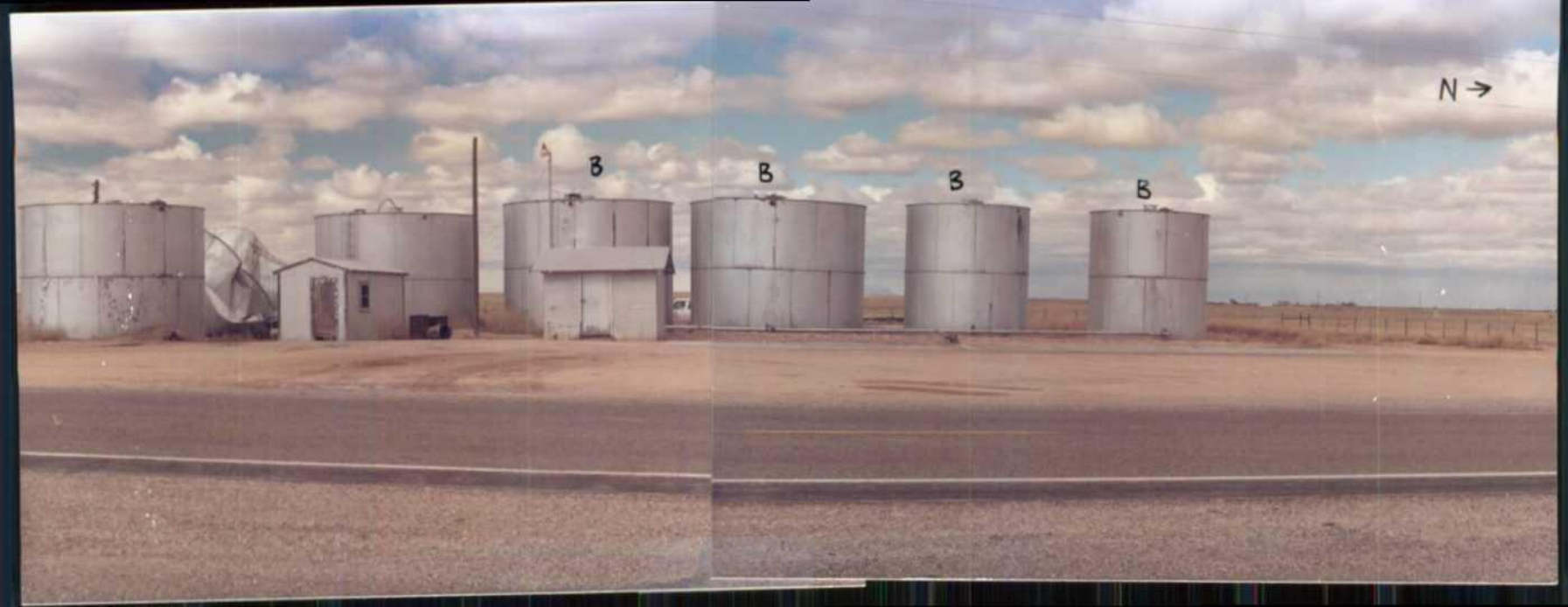
Dikes Around
Storage Tank
KTS - 11-15-85

TRUCK LOADING - LOADING RAMP KTS - 11-15-85

Loading Ramp - Loading
Truck - Dikes
KTJ - 11-15-85

Holding TANK (LINED)
KTS – 11-15-85

Loading RAMP & DIKES
AROUND STORAGE TANK
KTS 11-15-85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Kenneth Tk Soc 3/14/90 Kenneth Tk Soc 3/14/90