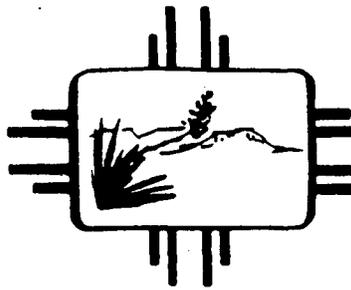


BW - 4

**GENERAL
CORRESPONDENCE**

YEAR(S):

1989 → 1982



New Mexico Health and Environment Department

CARLA L. MUTH
Secretary

MICHAEL J. BURKHART
Deputy Secretary

RICHARD MITZELFELT
Director

February 14, 1989

C. Gene Samberson
Heidel and Samberson
P.O. Drawer 1599
Lovington, New Mexico 88260

RE: Discharge Plan DP-321

Dear Mr. Samberson:

The Environmental Improvement Division (EID) has received your letter dated January 31, 1989, concerning the financial assurance requirements for Wasserhund, Inc., brine production facility. In your letter you request clarification regarding whether or not separate Trust Agreements should be submitted in each instance or if one Trust Agreement involving the plugging bond and the irrevocable letter of credit would be sufficient.

EID Ground Water staff has reviewed the Trust Agreement form and it appears that you may establish a trust to provide all of such financial assurance for the facility identified. You may establish a separate trust for each instance if you desire. However, only one trust needs to be established as long as it provides for all the required financial assurances for the facility, see the third paragraph of the Trust Agreement form provided to Wasserhund, Inc. (copy enclosed).

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

Sincerely,

Kevin A. Lambert
Hydrologist
Ground Water Section - UIC Program

KAL/mw

cc: J.E. Haseloff, Wasserhund, Inc., Lovington, New Mexico
Roelf Ruffner, EID Hobbs Field Office
Garrison McCaslin, EID District IV Manager, Roswell
Stuart P. Castle, EID Ground Water Bureau, Santa Fe
Gini Nelson, Office of General Counsel

Enclosure

C. GENE SAMBERSON
MICHAEL T. NEWELL

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

F. L. HEIDEL
(1913-1985)

January 31, 1989

R E C E I V E D
FEB 06 1989

GROUND WATER BUREAU

Mr. Kevin A. Lambert
Hydrologist
Ground Water Section - UIC Program
Environmental Improvement Division
Post Office Box 968
Santa Fe, New Mexico 87504-0968

Re: Discharge Plan DP-321

Dear Mr. Lambert:

I will be assisting Mr. J. E. Haseloff, President of Wasserhund, Inc., in connection with the various matters contained in your letter of August 5, 1988, and January 23, 1989, pertaining to the above captioned matter.

The Bonding Company and the OCD will be contacted for purposes of determining whether or not they are willing to agree to the proposed modifications you have suggested. If the modifications proposed to the plugging bond can be accomplished, you mentioned the need for a Trust Agreement to also be submitted in connection with the plugging bond. I note in the correspondence you have also mentioned that with respect to the irrevocable letter of credit previously furnished a Trust Agreement must be furnished in connection with it. My question is whether or not separate Trust Agreements should be submitted in each instance or if one Trust Agreement involving both the plugging bond and the irrevocable letter of credit would be sufficient. I would appreciate having your earliest response.

In addition to the foregoing, Mr. Haseloff is taking the necessary steps to obtain Financial Statements for the years 1986, 1987 and 1988 as he discussed with you. Same will be furnished as soon as we have received them. Thank you.

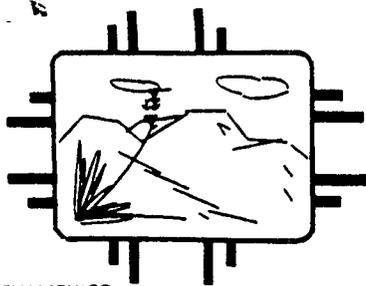
Very truly yours,

HEIDEL, SAMBERSON & NEWELL

By *C. Gene Samberson*

CGS:lt

cc: Mr. J. E. Haseloff



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

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

January 23, 1989

J.E. Haseloff, President
Wasserhund, Inc.
P.O. Box 249
Lovington, New Mexico 88260

RE: Discharge Plan DP-321

Dear Mr. Haseloff:

The Environmental Improvement Division (EID) Ground Water Section has reviewed your irrevocable standby letter of credit No. 354 received December 22, 1988. Please address the following questions and comments so that review and evaluation of your renewal application may proceed.

1. EID notified you by letter, dated August 5, 1988, regarding acceptable forms of financial assurances to cover the proper closing of surface facilities, and plugging and abandonment of the brine well at your facility. As stated clearly in the letter, a trust agreement must be submitted with an irrevocable standby letter of credit. Consequently, Wasserhund needs to obtain a trust agreement in order for EID to accept the irrevocable standby letter of credit. Please submit a copy of your trust agreement as soon as possible so we may complete our review. An acceptable trust agreement form was enclosed with our letter dated August 5, 1988.
2. EID is unable to accept your existing plugging bond in its present form (Bond #01013032880). However, the bond may be acceptable with some minor modifications. The proposed modifications are as follows:
 - a. Remove the "note" on the first page, through the address of the Oil Conservation Commission.

J.E. Haseloff, President

Page 2

January 23, 1989

- b. In the first paragraph, remove "and benefit..." through "...as amended," and replace with "of the Environmental Improvement Division".
- c. Remove the first two "WHEREAS" statements.
- d. After the third "WHEREAS" statement to read as follows:

WHEREAS, the above principal, individually, or in association with one or more parties, may continue the use of one well, to produce brine, the identification and location of said well being 567.4 feet from south line, and 161.7 feet from west line of Section 31, Township 16 South, Range 35 East, N.M.P.M., Lea County, New Mexico, and

- e. Add "WHEREAS said Principal shall establish a standby trust fund as is required when a one-well plugging bond is used to provide such financial assurance;
- f. NOW, THEREFORE: Change "Oil Conservation Commission" to "Environmental Improvement Division".
- g. On the second page, change the approval agency to read "Environmental Improvement Division of New Mexico".

If these modifications are acceptable to Wasserhund, please alter the bond form accordingly and return it to the EID Ground Water Section. We will then have it signed and return a copy to you. Please be aware that a trust agreement must also be submitted with the plugging bond.

If Wasserhund does not wish to pursue modification of the existing plugging bond, please choose one of the acceptable forms provided to you in our letter dated August 5, 1988. Note that a trust agreement must also be submitted with either a financial guarantee bond, performance bond, or irrevocable standby letter of credit.

3. EID is requiring financial assurance for the purpose of conducting a hydrogeological investigation (EID letter August 5, 1988). The cost estimate for such an investigation totals \$35,000.00.

Financial assurances for a hydrogeological investigation may be in the form of any of the types presented in our letter of August 5, 1988, or, in addition, self insurance may be acceptable for this purpose. If you wish to pursue this form of financial assurance please submit the following: a copy of your companies most recent financial statement (1988); a copy of two previous years financial statements (1986 and 1987); Wasserhund's fiscal year; type of business; and company structure (e.g. partnership, limited partnership, etc.). Once EID has reviewed this information and found it to satisfy the self insurance requirements, you will be notified and forwarded a self insurance form which must be signed and returned to EID.

J.E. Haseloff, President

Page 3

January 23, 1989

Timely action on your part, in addressing these matters, is necessary to avoid a lapse in your discharge plan, which would be a violation of the New Mexico Water Quality Act.

Thank you for your cooperation. Should you have any questions, feel free to contact me at 827-2902.

Sincerely,



Kevin A. Lambert

Hydrologist

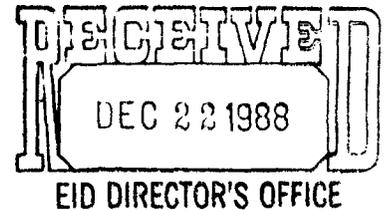
Ground Water Section - UIC Program

KAL/mw

cc: Roelf Ruffner, EID Hobbs Field Office
Garrison McCaslin, EID District IV Manager, Roswell

Liberty National Bank
P.O. Box 1627
Lovington, New Mexico 88260

State of New Mexico
c/o Director
Environmental Improvement
Division of the New Mexico
Health and Environment Department
P.O. Box 968
Santa Fe, New Mexico 87504-0968



Dear Sirs:

We hereby establish our irrevocable Standby Letter of Credit No. 354 in your favor, at the request and for the account of Wasserhund Inc., P.O. Box 249, Lovington, New Mexico 88260, up to the aggregate amount of Five Thousand U.S. dollars (\$5000.00), available upon presentation by you of:

1. Your sight draft, bearing reference to this letter of credit, No. 354; and

2. Your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under authority of the New Mexico Water Quality Act, *74-6-1 et seq. NMSA 1978."

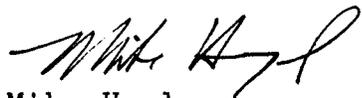
This letter of credit may be drawn on to cover any needed proper closing, plugging and abandonment of a well, and hydrogeologic investigation for ground-water contamination costs arising from the injection well(s) identified below in the amount of Five Thousand U.S. dollars (\$5000.00) annual aggregate.

Discharge Plan DP-321
Eidson State #1

SW 40 acres in the SW1/4; Section 31; Township 16 South;
Range 35 East; N.M.P.M., Lea County, New Mexico.

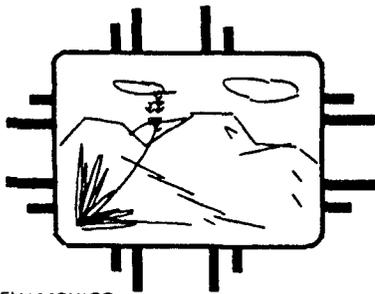
This letter of credit is effective as of 12-19-88 and shall expire on 12-19-89, but such expiration date shall be automatically extended for a period of one year on 12-19-89 and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify both you and Wasserhund, Inc. by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event that you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and Wasserhund, Inc. as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of Wasserhund, Inc. in accordance with your instructions.



Mike Hoyl
President & CEO
Liberty National Bank
P.O. Box 1627
Lovington, New Mexico 88260
12-19-88

This credit is subject to "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published by the International Chamber of Commerce."



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

J.E. Haseloff, President
Wasserhund, Inc.
P.O. Box 249
Lovington, New Mexico 88260

Dear Mr. Haseloff:

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 Wasserhund, Inc. brine facility. A copy of the inspection form is attached for your reference.

Deficiencies noted during the inspection are as follows:

1. Spillage of brine and produced waters near loading area noted. Facility should be free of ponded brine or produced waters, facility should be inspected frequently, and spillage cleaned up when detected.
2. Washover of brine from storage lagoon noted. Recommend steps be taken to increase freeboard, install windbreak, etc., to minimize winds impact on pushing brine over lagoon walls.

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

Sincerely,

Kevin Lambert
Hydrologist
Ground Water Section - UIC Program

KL/mw

Enclosure

BRINE STATION INSPECTION FORM

DATE 12/6 1988 EID INSPECTOR Lambert
FACILITY Wasserhand LOCATION Buckeye NM
FACILITY REP ON SITE - COUNTY Lea

WELL OPERATION valved for reversal cleanout salt buildup

WELL IS INJECTING: THROUGH ANNULUS THROUGH TUBING
SOURCE OF FRESH WATER Edison well/stock well
TRACE INJECTION/PRODUCTION LINES Underground
WELL HEAD PRESSURE _____ PSIG PUMP PRESSURE _____ PSIG
LEAKS AROUND WELL OR PUMP None Apparent looks good

STORAGE AREA

FOR PONDS: 1 brine storage
GENERAL LINER APPEARANCE hypalon lined Looksgood
AMOUNT OF FREEBOARD ~1 foot
ANY SIGN OF OVERFLOW OR LEAKS Yes salt crust on ground outside
LEAK DETECTION SYSTEM FLUIDS DRY could not get cap off pond
FOR TANKS: Appears overflow result of winds pushing brine over freeboard
GENERAL APPEARANCE Look good
LABELED PLAINLY YES NO
BERMED TO PREVENT RUNOFF YES NO
CHECK CONTENTS TO ASSURE PROPER FLUID/LABLE MATCH ~~YES~~

NUMBER OF TANKS FOR BRINE 1 FRESH WATER 1
holding tank

LOADING AREA orange tank is collection system?

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

Minor brine & produced water spillage
typical spillage observed at loading area

MONITORING WELLS

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

COMMENTS Generally facility looks good No major problems
recommend steps be taken to prevent winds from pushing brine over freeboard e.g. lower freeboard, windbreak etc.

Wasserhund, Inc.
P.O. Box 249
Lovington, New Mexico
88260

November 30, 1988

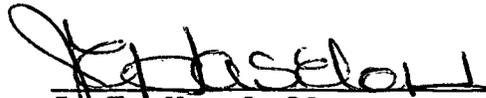
New Mexico Health and Environment Department
P. O. Box 968
Santa Fe, New Mexico 87504-0968

Re: Discharge Plan DP-321
LTR Dated October 24, 1988

Dear Mr. Lambert:

As per our telephone conversation November 29, 1988, an irrevocable letter of credit will be forthcoming to your agency by December 31, 1988. The letter will be issued by Liberty National Bank, Lovington, NM, and will be in the amount of \$5,000.00. A copy of the irrevocable plugging bond will accompany the letter of credit, making a total of \$10,000.00 for de-commissioning.

Yours very truly,


J. E. Haseloff
President

JEH/jch

R E C E I V E D
NOV 30 1988
GROUND WATER BUREAU



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

GARREY CARRUTHERS
Governor

LARRY GORDON
Secretary

CARLA L. MUTH
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

October 24, 1988

J.E. Haseloff, President
Wasserhund, Inc.
P.O. Box 249
Lovington, NM 88260

RE: Discharge Plan DP-321

Dear Mr. Haseloff:

The Environmental Improvement Division (EID) ^{submitted} Ground Water Section has completed review of Wasserhund's September 29, 1988, responding to our letter of July 15, 1988, concerning your discharge plan renewal application DP-321.

Please address the following questions and comments so that review and evaluation of your renewal application may proceed.

1. The plugging and abandonment plan and surface facility decommissioning plan submitted appear to comply with all applicable regulatory requirements.
2. The total amount of the costs for plugging and abandonment is \$6,000.00 and decommissioning of the surface facility is \$4,000.00. Therefore, you should use the forms we provided you in our August 5, 1988 correspondence to obtain financial assurance(s) to cover a total amount of \$10,000.00. Please submit a copy of your financial assurance as soon as possible so we may complete our review of your discharge plan renewal application.

J.E. Haseloff
October 24, 1988
Page 2

Thank you for your cooperation. Should you have any questions, you may call me at 827-2902.

Sincerely,



Kevin Lambert
Ground Water Hydrologist
Ground Water Section - UIC Program

KL:dg

cc: Roelf Ruffner, EID Hobbs Field Office
Garrison McCaslin, EID District IV Manager, Roswell

10/7/88

To: File

From: Kevin Lambert

Subject: Wasserhund DP-321 9/29/88 letter

- Wasserhund letter addresses EID letter of 7/15/88
- Wasserhund letter satisfies EID questions
- Wasserhund must obtain financial assurance
~~for~~ - The amount of assurance for plugging well and decommissioning surface facility is \$10,000.⁰⁰
 - ~ \$6,000.⁰⁰ well plugging
 - ~ \$4,000 decommissioning surface
- Amount determined from estimates provided
- Will develop letter to Wasserhund informing them of appropriate amount for bonding
~~for~~

Kevin

10/20/88

Pete Haseloff return my call of 10/19/88
Informed him of amount needed for financial assurance \$10,000⁰⁰. Will send him letter. He stated he'll investigate is options for financial assurance. Tough right now w/ oil market down

Kevin

Wasserhund, Inc.
P. O. Box 249
Lovington, New Mexico 88260

R E C E I V E D
SEP 30 1988
GROUND WATER BUREAU

September 29, 1988

New Mexico Health and Environment Department
Post Office Box 968
Santa Fe, New Mexico 87504-0968

Re: Wasserhund Incorporated
DP-321
Reference Letter Dated
July 15, 1988

Dear Mr. Kevin Lambert:

In response to CERTIFIED LETTER dated July 15, 1988
Wasserhund Incorporated submits the following:

- 1.(A) Reference Exhibit #9. Bottom of 7" casing
is at 1895'. Refer to Exhibits #9 "A" and
#12, also. ✓
- (B) Documentation of the saturated thickness of
the Ogalla formation is provided by The United
States Geological Survey and The New Mexico
State Engineer. See Exhibit #9 "B". ✓
2. Completion report for oil well located
nearest to Wasserhund brine well is attached
as Exhibit #22. ✓
3. In regard to plugging procedure, submitted
herewith is Exhibit #23. ✓
4. Enclosed are 2 bids for De-Commissioning the
facility. Also, 2 bids for plugging the facility. ✓
5. I certify under penalty of law that I have
personally examined and am familiar with the
information submitted in this document and all
attachments and that, based on my inquiry of ✓

New Mexico Health and Environment Department
September 29, 1988
Page 2

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.

Wasserhund Incorporated



J. E. Haseloff
President

JEH/jch
Enclosers

EXHIBIT #9 "A"
SALT WELL CROSS SECTION

BRINE TO APPROVED
LINED OPEN PIT

WASSERHUND INC
Box 249
LOVINGTON, N.M. 88260

WELLHEAD

FRESH WATER TO
SALT FORMATION

GL
4047'

35.80" 13-3/8" SURFACE CASING

CEMENT CIRCULATED FROM BOTTOM TO SURFACE

7" CASING 1895.0' 72' OGALLALA FORMATION BASE

2-7/8" TUBING 2461.0'

2461.0'

1895.0'

9-7/8" HOLE

5 1/2" OPEN HOLE DRILLED

1690' TRIASSIC (RED BEDS)

40' RUSTLER FORMATION

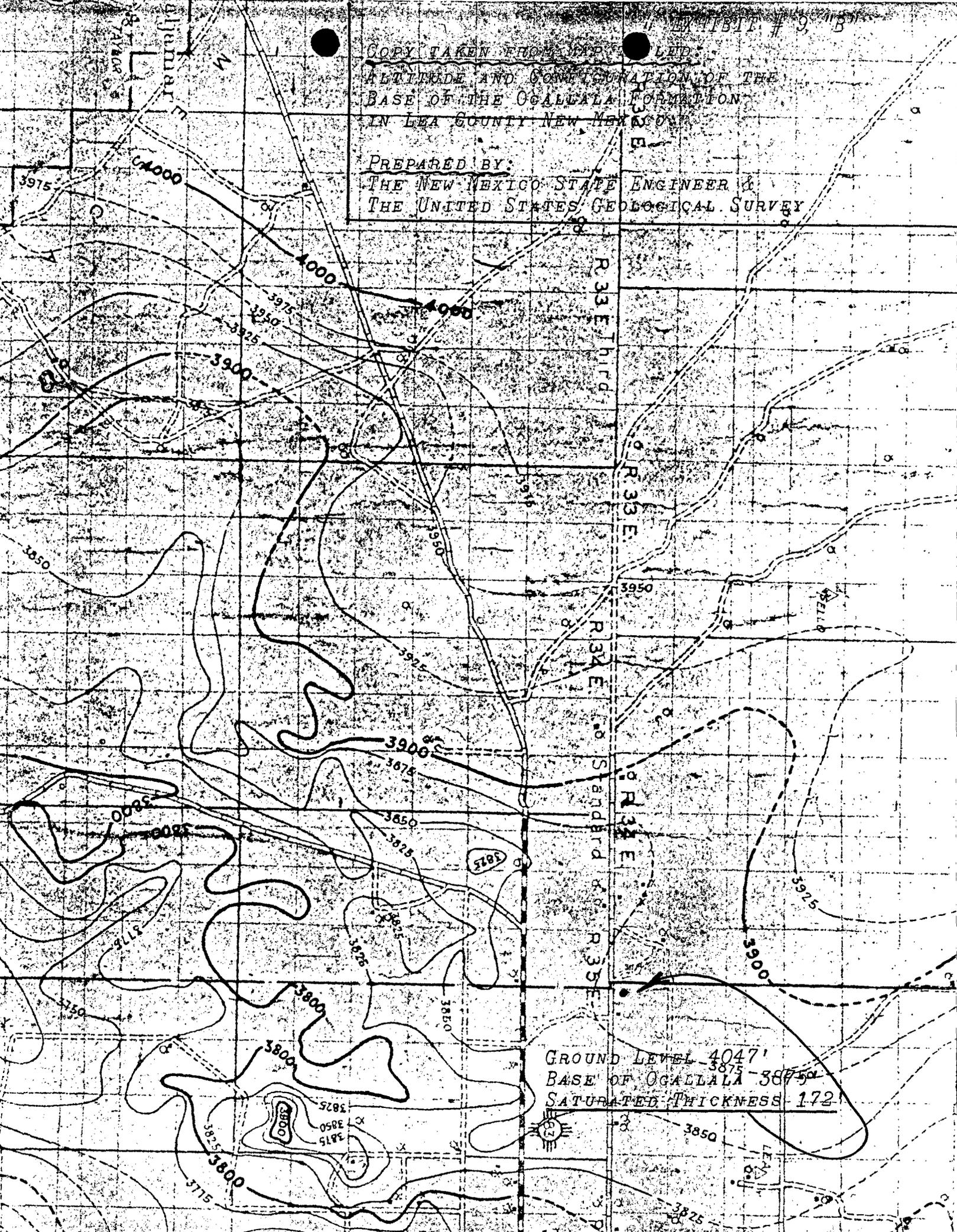
LOCATION:

UNIT LETTER M, 567.4 FEET FROM THE
SOUTH LINE AND 161.7 FEET FROM THE
WEST LINE, SECTION 31, TOWNSHIP 16S,
RANGE 35E, LEA COUNTY

1100' SALADO (SALT) FORMATION

COPY TAKEN FROM MAP LEAD
ALTITUDE AND CONFIGURATION OF THE
BASE OF THE OGALLALA FORMATION
IN LEA COUNTY NEW MEXICO

PREPARED BY:
THE NEW MEXICO STATE ENGINEER &
THE UNITED STATES GEOLOGICAL SURVEY



GROUND LEVEL - 4047'
BASE OF OGALLALA - 3875'
SATURATED THICKNESS - 172'

NO. COPIES RECEIVED	
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SANTA FE	
FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	

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

5a. Indicate Type of Lease
State Fee

5. State Oil & Gas Lease No.
L-3393-1

1. TYPE OF WELL
OIL WELL GAS WELL DRY OTHER _____

2. TYPE OF COMPLETION
NEW WELL WORK OVER DEEPEN PLUG BACK DIFF. RESVR. OTHER _____

7. Unit Agreement Name

8. Farm or Lease Name
Pennzoil "35" State

3. Name of Operator
K. K. AMINI

3. Address of Operator
P. O. Drawer #3068, Midland, Texas 79701

9. Well No.
1

10. Field and Pool, or Wildcat
North Vacuum ABO

4. Location of Well
UNIT LETTER P LOCATED 660 FEET FROM THE East LINE AND 460 FEET FROM THE South LINE OF SEC. 35 TWP. 16S RGE. 34E NMPM

12. County
Lea

15. Date Spudded 7/11/75 16. Date T.D. Reached 8/5/75 17. Date Compl. (Ready to Prod.) 8/31/75 18. Elevations (DF, RKB, RT, GR, etc.) 4047' GL 19. Elev. Casinghead

20. Total Depth 8903' 21. Plug Back T.D. _____ 22. If Multiple Compl., How Many _____ 23. Intervals Drilled By: Rotary Tools yes Cable Tools _____

24. Producing Interval(s), of this completion - Top, Bottom, Name
8775' - 8825' ABO

25. Was Directional Survey Made
No

26. Type Electric and Other Logs Run
Sidewall Neutron Porosity Log

27. Was Well Cored
No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8"	24#	1718'	11"	800 sks	-0-
4 1/2"	10.50 & 11.60#	8903'	7 7/8"	700 sks	-0-

29. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

30. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2 3/8"	8781'	

31. Perforation Record (Interval, size and number)
Select Fire w/ .45 Holes (22) 8775, 76, 77, 8801, 02, 03, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 8822, 23, 24, 25

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

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED

33. PRODUCTION

Date First Production 8/31/75 Production Method (*Flowing, gas lift, pumping - Size and type pump*) Pumping 2" x 1 1/4" x 18' RHBC Well Status (*Prod. or Shut-in*) Producing

Date of Test	Hours Tested	Choke Size	Prod'n. For Test Period	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
9/1/75	24			74	52	TSM	700-1

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API (Corr.)
	30		74	52	TSM	

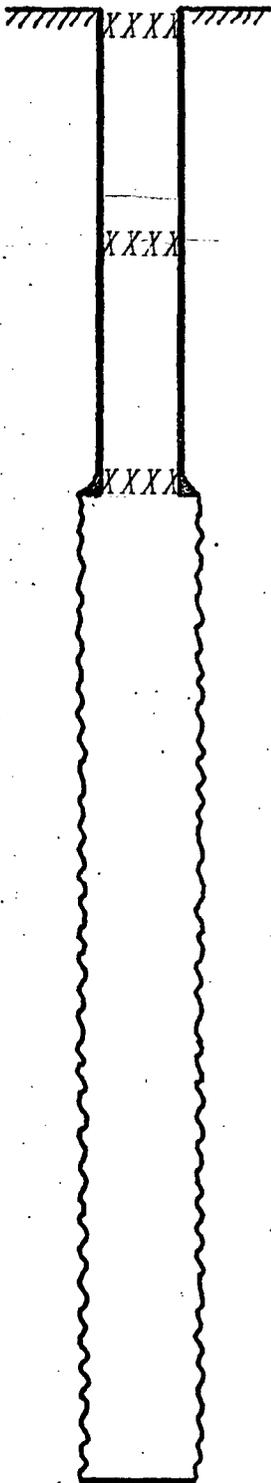
34. Disposition of Gas (*Sold, used for fuel, vented, etc.*) Vented Test Witnessed By Joel Lawhorn

35. List of Attachments
Sidewall Neutron Porosity Log

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

SIGNED [Signature] TITLE Controller DATE 9/2/75

OPERATOR WASSERHUND, INCORPORATED		DATE 26SEP88
LEASE EIDSON STATE	WELL No 1	LOCATION S31 T16S R35E



PLUGGING PROCEDURE:

1. SET CIBP AT BOTTOM OF 7" CASING-1895'
2. LOAD HOLE WITH 10# SALT GEL
3. SET 100' CEMENT PLUG - 1795' TO 1895' 20sk
4. SET 7" SHOE - SET 100' CEMENT PLUG FROM 150' TO 250' 20sk
5. SET CIBP AT 35' - CAP WITH 35' CEMENT PLUG 7sk

NOTE: SALT GEL PREVENTS DETERIORATION OF CASING AND PREVENTS ORGANISMS FROM GROWING. ALSO, A COPY OF GUIDLINES FOR PLUGGING PROGRAMS IS ATTACHED.

7" casing set at 1895' with ^{CEMENT CIRCULATED TO SURFACE} / _____ sx of _____ cement
 Hole size 9-7/8"

Open hole from 1895 ' to 2461 ' Hole size _____ "

Total depth 2461 '

Guidelines for Plugging Programs

The following is intended for use by Commission personnel only as a guide or check list in preparation of plugging programs. The guide is not all inclusive and care must be exercised in establishing special plugging programs in unique or unusual cases.

A. To be determined

1. Land type, State, private, or federal. The USGS normally formulates and/or approves plugging on federal or indian lands.
2. Depth and thickness of:
 - (a) pay zone (perforations or open-hole)
 - (b) porosity zones not covered by casing and cement, and
 - (c) artesian and fresh water zones (including zones of non-drinkable water having total dissolved solids concentrations of 10,000 mg/l or less).
3. Casing to be pulled and depth of casing shoes.
4. Formation tops.
5. Hole use and age (production, disposal, injection, drilling well, etc.).

B. Requirements for old holes

1. Minimum plug size.
 - (a) Not less than 100 feet or 25 sacks, whichever is greater; or,
 - (b) a cast iron bridge plug with 35 feet of cement.
2. Plugs to be tagged.
 - (a) Bottom plugs
 - (b) Plugs at casing shoe or cut-off point.
 - (c) Other isolation plugs if the hole does not stand full.
3. Mud to be used
 - (a) Salt gel mud consisting of 10 pound brine with 25 pounds of gel per barrel.
 - (1) Load hole from total depth to first casing cut-off point.
 - (2) Fill hole to make certain it will hold fluid.
4. Plugs to be set
 - (a) A bottom plug across or above pay.
 - (b) Above and below casing cut points (even if casing is not recovered).
 - (c) To isolate other oil, gas, or water zones exposed in the hole.
 - (d) Across casing shoes.
 - (e) Minimum surface plug of 10 sacks.
 - (f) Above and below artesian water zones.
 - (g) Across fresh water zones (inside and outside the casing)

C. Requirements for new holes

1. Minimum plug size.
 - (a) Same as for old holes
2. Plugs to be tagged.
 - (a) In unusual cases such as for a well having a water flow, isolation plugs will be tagged.
3. Mud to be used.
 - (a) Drilling mud or salt gel mud as for old wells.
 - (1) Hole should remain full at least 30 minutes after the last plug is set and all tubing is pulled.
4. Plugs to be set
 - (a) Same as for old well except bottom plug may not be required.

NOTE: Cased holes -- plugs every 3000' -- Open Hole -- plugs every 2000'.



P.O. Box 2322, Midland, Texas 79702 • (915) 697-1161 • Lovington, N.M. Yard: (505) 396-6381

Wasserhund, Inc.
P. O. Box 249
Lovington, NM 88260

September 26, 1988

B I D

2 - 7" CIBP by wireline-----	\$ 2,100.00
Cement and salt gel-----	574.00
Rig Time-----	1,200.00
Water-----	400.00
Welder-----	150.00
Dirt Work-----	<u>200.00</u>
	\$ 4,624.00
NM Gross Receipts Tax	<u>248.54</u>
	\$ <u><u>4,872.54</u></u>

BABER WELL SERVICING CO.

B I D S H E E T

ESTIMATED BID TO PLUG AND ABANDON WELL

Company Name: Wasserhund, Inc Lease: Wasserhund
P O Box 249, Lovington, NM

Legal Description: _____

Equipment, Labor & Materials	Size	Qty	Rate	Amount
Unit w/4 man crew & Pickup, per hr.		12h	90.00	1080.00
Operator/Supervisor, per day		1	225.00	225.00
Wireline Rig up service			350.00	350.00
Bridge Plug	7	2	625.00	1250.00
Pump Truck, per day		1	600.00	600.00
Depth Charge: Set bridge plug	7	2200	.10 pf	350.00
Cement		50	7.00	350.00
Water, Fresh				600.00
Welder				200.00
Dozer for pit dirt work				400.00
BOP				250.00
			Sub Total	5655.00
			Tax	303.96
			Total	5958.96

 Direct all questions concerning above bid to: Jay Baker
 Signed: Jay Baker
 BWS Representative

GANDY CORPORATION

OFFICE SERVICES

P. O. BOX 827

TATUM, NEW MEXICO 88267

(505) 398-4960

September 23, 1988

TO: Wasserhund Incorporated
Box 249
Lovington, N.M. 88260

Submitted herewith is an estimate to de-commission your facility near Buckeye, N.M. as follows:

1. Remove all fencing
2. Remove all frame structures
3. Remove or bury all concrete
4. Remove electrical poles and wire
5. Level open pit storage and surrounding area as near as possible to natural state.

For the sum of \$4100.00

Sincerely
Dale Gandy


Supervisor

COLLIER CONSTRUCTION

LICENSED CONTRACTOR

EXCAVATING — TRENCHING — FILL DIRT
WINCH TRUCKS — DUMP TRUCKS

Phone 505 396-3936

P. O. Box 274

LOVINGTON, NEW MEXICO 88260

CUSTOMER'S ORDER NO.

INVOICE NO.

IN ACCOUNT WITH Wasserhund, Inc......

DATE

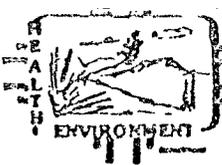
Box 249.....

Lovington, NM 88260.....

Charge	Hours	Rate	Amount
Submitted herewith is an estimate to De-Commission your facility near Buckeye, NM as follows:			
1. Remove all fencing.			
2. Remove all frame structures.			
3. Remove or bury all concrete.			
4. Remove electrical poles and wire.			
5. Level open pit storage and surrounding area as near as possible to natural state.			
FOR THE SUM OF			\$3,600.00

Received By

TOTAL



Telephone Personal Time 10:38 Date 9/20/88

Originating Party	Other Parties
<u>Kevin Lambert</u>	<u>Pete Haveloff</u>

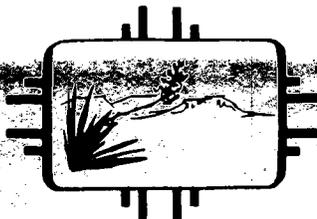
Subject D.P. Renewal for Brine Station looking to get response to July 15th 1988 letter from EID by end of month, working w/ attorney investigating

Discussion financial assurance alternatives. I informed him that getting response to P&A estimates ASAP will allow EID to determine appropriate amount to bond for, so let's get everything squared away. Then we can attack issue of financial assurance.

Conclusions or Agreements

Distribution

Signed



NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

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

GARREY CARRUTHERS
Governor

LARRY GORDON
Secretary

CARLA L. MUTH
Deputy Secretary

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

August 5, 1988

J.E. Haseloff, President
Wasserhund, Inc.
P.O. Box 249
Lovington, NM 88260

RE: Discharge Plan (DP-321)

Dear Ms. Brininstool:

The Water Quality Control Commission (WQCC) regulations (Section 5-210.B.17) require that all dischargers operating an in situ extraction facility must be able to undertake measures necessary to prevent contamination of ground water having 10,000 mg/l or less TDS after cessation of operations. This includes the proper closing (i.e. decommissioning of surface facilities), plugging and abandonment of well(s), ground water restoration if applicable, and any post-operational monitoring as may be required. Adequate financial assurances for these measures are required along with written documentation for the costs involved prior to approval of a discharge plan application for an in situ extraction operation.

Acceptable forms for the following types of financial assurances to cover the proper closing of surface facilities, and plugging and abandonment of well(s) are available from the EID:

1. Financial Guarantee Bond
2. Performance Bond
3. Trust Agreement
4. Irrevocable Standby Letter of Credit

(note: a trust agreement must also be submitted for options 1, 2, or 4.)

Pursuant to Section 5-210. B. 17. of the WQCC regulations, EID is requiring all applicants for a discharge plan to operate a brine station to have in place financial assurance for the purpose of conducting a hydrogeological investigation. A hydrogeological investigation may be required if there is cause to believe that ground water contamination has occurred resulting from the

operation of the brine station. Such cause may be determined to exist when the discharger fails to comply with the terms of the discharge plan, or the WQCC regulations. EID has developed a detailed cost estimate for such an investigation which totals \$35,000.00.

Financial assurances for a hydrogeological investigation may be in the form of any of the four types listed previously, or, in addition, self insurance may be acceptable for this purpose. If you wish to pursue this form of financial assurance, please provide a copy of your companies most recent financial statement. At a minimum, 10 percent of the applicant's tangible net worth should cover the sum of the costs of the required action(s); e.g., \$35,000.00.

Since the in situ mining of salt does not involve injection into a formation containing ground water of less than 10,000 mg/l TDS, as some in situ extraction operations do, EID is requiring financial assurance only for a hydrogeological investigations instead of for ground water restoration as referred to in WQCC Section 5-210.B.17.

For further information on these types of financial assurances, please contact your insurance agent or attorney. Once a decision has been made concerning your choice of financial assurances please notify EID Ground Water Section so that we may send you the acceptable forms. Timely action on your part is necessary to avoid a lapse in your discharge plan, which would be a violation of the New Mexico Water Quality Act.

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

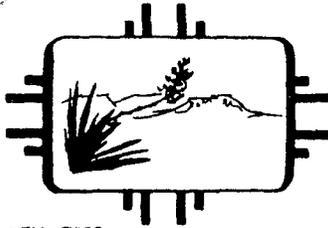
Sincerely,

Kevin A Lambert
Kevin Lambert
Ground Water Hydrologist
Ground Water Section-UIC

KL:kl

cc: Roelf Ruffner, EID Hobbs Field Office
Garrison McCaslin, EID District IV Manager, Roswell

enclosed



NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

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

GARREY CARRUTHERS
Governor

LARRY GORDON
Secretary

CARLA L. MUTH
Deputy Secretary

MEMORANDUM

TO: Richard Mitzelfelt, Deputy Director, Water Management Programs

THRU: Stuart Castle, Acting Bureau Chief, Ground Water Bureau
Ernest C. Rebuck, Program Manager, Ground Water Section *ECR*

FROM: Kevin Lambert, Ground Water Hydrologist, Ground Water-UIC *KAL*

SUBJ: Wasserhund, Inc. Discharge Plan (DP-321)

DATE: August 2, 1988

I understand that Michael Burkhart received a call concerning Wasserhund, Inc. This is the information that was requested, for the Director.

On December 18, 1982, the Oil Conservation Division (OCD) approved the discharge plan for Wasserhund, Inc.'s brine production facility in Lea County, New Mexico. The discharge plan met the requirements of Part 3 of the Water Quality Control Commission (WQCC) regulations regarding discharges to ground water. New Mexico adopted specific requirements effective September 20, 1982, for two types of injection wells; effluent disposal and in situ extraction wells (WQCC Part 5). The more specific technical requirements were necessary for the state to be granted primary enforcement authority from the EPA for the Underground Injection Control (UIC) Program. The new regulations represent the minimum federal requirements plus state requirements to protect scarce ground water through aquifer restoration after in situ mining operations.

In Section 5-101.B.2. of the WQCC regulations, any person who, before or within 90 days of the effective date (September 20, 1982) of Part 5 of these regulations, has a discharge plan approved pursuant to Part 3 for the injection of fluids into an in situ extraction well, may inject according to the approved discharge plan until the expiration of the current discharge plan approval. Therefore, Wasserhund's discharge plan did not address the specific technical requirements of Part 5 of the WQCC Regulations because they obtained an approved discharge plan on December 18, 1982. Wasserhund's discharge plan expired December 18, 1987, and is currently undergoing renewal in order to fulfill the requirements of Part 5. If Wasserhund had not obtained discharge plan approval prior to December 20, 1982 (90 day grace period after the effective date), the OCD would have been obligated to require Wasserhund to fulfill the WQCC Part 5 regulation at that time.

RICHARD MITZELFELT
AUGUST 4, 1988
PAGE 2.2

In September 1983, brine production facilities were transferred from OCD to EID administration and finalized by the "Delegation of Responsibilities to EID and OCD" from the WQCC dated January 15, 1986. Consequently, EID has the responsibility to gain compliance from brine production facilities pursuant to WQCC Part 3 and 5, and UIC staff are working diligently to bring all brine production facilities into compliance with the WQCC regulations as they come up for renewal.

KL:mc

E I D B U C K S L I P

CHECK ONE:

LETTER TO _____
for _____ signature

MEMO TO Richard Mitzelfelt

PRESS RELEASE

OTHER

SUBJECT: WASSERHUND, INC. DP-321

DRAFTED BY: Kevin A Lambert 8/4/88
(Date)

CONCURRENCES:

NAME:		INITIAL	DATE REC'D	DATE APPROVED
<u>Ernest C. Rebeck</u>	Sect. Mgr.	<u>ER</u>	<u>8/4</u>	<u>8/4</u>
<u>Stuart Castle</u>	Bur. Chief	<u>SC</u>	<u>8/5</u>	<u>8/5</u>
<u>Richard Mitzelfelt</u>	Dep. Dir.	_____	_____	_____
<u>Michael Burkhardt</u>	Director	_____	_____	_____

FINAL DECISION NEEDED BY _____ BECAUSE _____
(date)

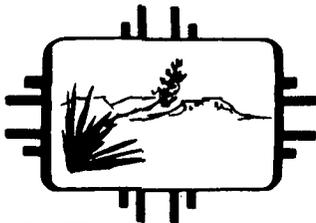
COMMENTS BY DRAFTER OR REVIEWER(S):

Memo contains information on Wasserhund, Inc
discharge plan requested by EID Director

Kevin—

I got a call fm. Cis this
am - asking for a copy of
this ltr for M. Burkhardt,
right away. Apparently
someone (Commissioner,
Senator, ~~Congress~~ Representative
or something like one of these)
was quite upset about it.
(just to let y/know)

deb



NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

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

GARREY CARRUTHERS
Governor

LARRY GORDON
Secretary

CARLA L. MUTH
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

July 15, 1988

J.E. Haseloff, President
Wasserhund, Inc.
P.O. Box 249
Lovington, NM 88260

RE: Discharge Plan DP-321

Dear Mr. Haseloff:

The Environmental Improvement Division (EID) Ground Water Section has completed review of Wasserhund's March 28, 1988, letter responding to our letter of December 11, 1987, concerning your discharge plan renewal application DP-321. The EID is presently developing a policy concerning adequate financial assurance for brine operations pursuant to Section 5-210.B.17. of the New Mexico Water Quality Control Commission (WQCC) regulations. Once complete, the EID will notify you by letter concerning the specific financial assurance information needed for plugging and abandonment, decommissioning of the surface facilities, and ground water investigation.

Please address the following questions and comments so that review and evaluation of your renewal application may proceed while awaiting our letter on financial assurance requirements.

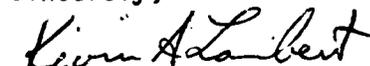
1. Exhibit #9 in the discharge plan renewal application dated April 30, 1987, does not contain sufficient detail regarding the saturated thickness of the Ogallala Formation. Also, a discrepancy is present regarding the depth at which the seven inch (7") casing is set (i.e. is depth to Rustler Formation 1935 feet or 1895 feet). Please submit documentation which details the saturated thickness of the Ogallala Formation and explains the difference observed in the depth at which the 7" casing is set.
2. Please submit the completion report for the one oil well within the ¼-mile radius of the brine well (i.e. Sage Energy Company, Exxon "A" State #1-P, 660E, 460S, 36-16-34). This information is necessary to insure that the well meets the corrective action requirements of Section 5-203 of the WQCC regulations.
3. The plugging procedure provided does not furnish sufficient detail regarding the isolation of fluid bearing formations or provide sufficient detail on methods and material used. A minimum of 100 feet of cement is required above the cast iron bridge plug and at any plugging interval. What is

J.E. Haseloff
July 15, 1988
Page 2.

the purpose of the 10 lbs salt gel? Please explain how the cement plugs will be set without the use of bridge plugs. In addition, EID needs written documentation for costs of plugging and abandoning the brine well and decommissioning of the surface facilities, and recommends three estimates be submitted. This documentation is required in order to determine the adequacy of any financial assurance to finance the plan.

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

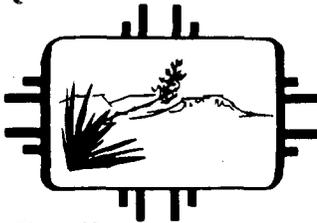
Sincerely,


Kevin Lambert
Hydrologist
Ground Water Section

KL:dg

Enclosure

cc: Roelf Ruffner, EID Hobbs Field Office
Garrison McCaslin, EID District IV Manager, Roswell



NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

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

GARREY CARRUTHERS
Governor

LARRY GORDON
Secretary

CARLA L. MUTH
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

July 15, 1988

J.E. Haseloff, President
Wasserhund, Inc.
P.O. Box 249
Lovington, NM 88260

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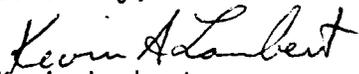
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J.E. Haseloff
July 15, 1988
Page 2.

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

Sincerely,

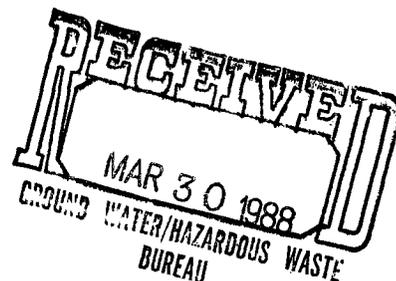

Kevin Lambert
Hydrologist
Ground Water Section

KL:dg

Enclosure

cc: Roelf Ruffner, EID Hobbs Field Office
Garrison McCaslin, EID District IV Manager, Roswell

Wasserhund, Inc.
P. O. Box 249
Lovington, New Mexico 88260



March 28, 1988

New Mexico Health and Environment Department
Post Office Box 968
Santa Fe, New Mexico 87504-0968

Re: Wasserhund Incorporated
DP-321
Reference Discharge Plan
Dated April 30, 198~~8~~7

Dear Mr. Kevin Lambert:

In response to CERTIFIED LETTER dated December 11, 1987
Wasserhund Incorporated submits the following:

1. Refer to Exhibits #2 & #7 in Discharge Plan dated April 30, 1987.
2. Refer to Exhibit #9 in Discharge Plan dated April 30, 1987.
3. Only one (1) oil well within 1/4 mile. Sage Energy Company, Exxon "A" State #1-P, 660E, 460S, 36-16-34. Logs on file OCD Office, Santa Fe and Hobbs, NM.
4. Annulus pressure chart is enclosed. Showing no deviation in pressure. Cement bond log will be performed, and EID will be notified prior, when well needs workover. This will likely occur within the five year renewal period.
5. Wasserhund Incorporated commits to notify EID of any workover on DP-321.
6. Find enclosed "Fracture Gradient Prediction and its Application in Oilfield Operations" and "Physical Properties and Mechanical Behavior of Evaporites".

7. Quarterly reports of injected fresh water and produced brine water will be commenced for first quarter of 1988. Reports should be in your EID office by April 15, 1988. Inspection of Seepage Detection System will also be reported quarterly.
8. Plugging procedure suggested by OCD, Hobbs Office is enclosed. Copy of One Well Plugging Bond as required by the State of New Mexico is enclosed. Decommissioning bids received were verbal, and they reflected that it would take a maximum of 32 working hours with bulldozer to decommission Wasserhund facility. Bulldozer rates at this time are \$65.00 per hour. Salage value of pumps and related equipment at Wasserhund is in excess of \$25,000.00. With the plugging bond and salage, it appears ample funds would be available should Wasserhund ever be decommissioned.
9. Any leaks, underground or other, will be repaired immediately upon detection. All lines that are under pressure are monitored by a high and low automatic cut-off switch, so if leaks occur in these lines, the system will shut down, and repairs will be made promptly. No produced water is on the Wasserhund location nor is produced water in the brine storage facility. At one time, the overflow from trucks loading water was pumped into the brine storage facility causing an oil film. This no longer occurs. Overflow water is pumped into a holding tank (See Exhibit #19) and is contract hauled to a disposal facility. The brine storage pond has a seepage detection system approved by NMOCDD, and will be monitored and reported to EID along with other quarterly reports.
10. Wasserhund Incorporated commits to notifying EID Ground Water Section within 48 hours in the event of a loss of mechanical integrity, or leak or spill of a significant amount of contaminated water.

New Mexico Health and Environment Department
March 28, 1988
Page 3

11. Reference May 1, 1987 submittal. "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of 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."

Wasserhund Incorporated


J. E. Haseloff
President

JEH/jch

Enclosers

STATE OF NEW MEXICO
ONE-WELL PLUGGING BOND

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

BOND NO. 01-0130-328-80
(For Use of Surety Company)

AMOUNT OF BOND \$5,000.00

COUNTY Lea

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

* Under certain conditions, a well being drilled under a \$5,000.00 or \$7,500.00 bond may be permitted to be drilled as much as 500 feet deeper than the normal maximum depth, i.e., a well being drilled under a \$5,000.00 bond may be permitted to go to 5,499 feet, and a well being drilled under a \$7,500.00 bond may be permitted to go to 10,500 feet. (See Rule 101)

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

KNOW ALL MEN BY THESE PRESENTS:

That Wasserhund, Inc., (An individual) (a partnership) (a corporation organized in the State of New Mexico, with its principal office in the city of Lovington, State of New Mexico, and authorized to do business in the State of New Mexico), as PRINCIPAL, and United States Fidelity and Guaranty Company, a corporation organized and existing under the laws of the State of New Mexico, 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 \$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 (CO₂) gas leases, or helium gas leases with the State of New Mexico; and

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

WHEREAS, The above principal, individually, or in association with one or more other parties, has commenced or may commence the drilling of one well not to exceed a depth of 3,500 feet, to prospect for and produce oil or gas, or carbon dioxide (CO₂) gas or helium gas, or does own or may acquire, own or operate such well, or such well started by others on land embraced in said State oil and gas leases, or carbon dioxide (CO₂) leases, or helium gas leases, and on land patented by the United States of America to private individuals, and on land otherwise owned by private individuals, the identification and location of said well being SW 40 acres in the SW1/4
(Here state exact legal subdivision by 40-acre tract or lot)
Section 31, Township 16 (~~NXX~~) (South), Range 35 (East) (~~WXX~~), 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.

Wasserhund, Inc.

PRINCIPAL

1613 S. Love St., Lovington, NM 88260

Address

By

Signature

President

Title

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

United States Fidelity and Guaranty Company

SURETY

Baltimore, Maryland

Address

By

Attorney-in-Fact

(Note: Corporate surety affix corporate seal here.)

ACKNOWLEDGEMENT FORM FOR NATURAL PERSONS

STATE OF _____)
COUNTY OF _____)

ss.

On this _____ day of _____, 19____, 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.

Notary Public

My Commission expires _____

ACKNOWLEDGEMENT FORM FOR CORPORATION

STATE OF New Mexico)
COUNTY OF Lea)

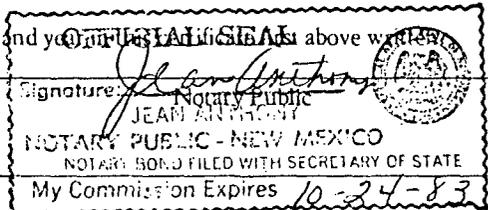
ss.

On this 27 day of May, 1980, before me personally appeared J. E. Haseloff, President, to me personally known who, being by me duly sworn, did say that he is _____ of Wasserhund, Inc. 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.

October 24, 1983

My Commission expires _____



ACKNOWLEDGEMENT FORM FOR CORPORATE SURETY

STATE OF New Mexico)
COUNTY OF Lea)

ss.

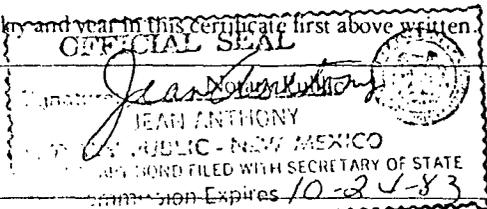
On this 27 day of May, 1980, before me appeared Michael B. Hartgraves, Attorney-in-fact, to me personally known, who, being by me duly sworn, did say that he is _____ of United States Fidelity and Guaranty Company and that the foregoing instrument was signed and sealed on behalf of said corporation by 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.

October 24, 1983

My Commission expires _____

(Note: Corporate surety attach power of attorney.)



APPROVED BY:

OIL CONSERVATION COMMISSION OF NEW MEXICO

By _____

Date: _____

RIDER TO: BOND #01-0130-328-80

Bond Type: \$5,000. One-Well Plugging Bond
 Principal: Wasserhund, Inc., Lovington, NM
 Obligee: Oil Conservation Commission, State of New Mexico

Bond is hereby amended to read as to location of said well -
 "567.4 feet from the south line, and 161.7 feet from the west
 line of Section 31, Township 16 South, Range 35 East, N.M.P.M.
 Lea County, New Mexico."

This endorsement, from its effective date, forms a part of the policy described below issued by the Company named therein.

End. No.	End. Effective Date	Co.	B.O.	Agency Code	Policy Number	Named Insured
1	5/27/80		01	7626	01-0130-328-80	Wasserhund, Inc.

(The spaces above are to be completed only if this endorsement is issued subsequent to the issuance of the policy.)

William F. Spliedt
 Secretary

UNITED STATES FIDELITY AND GUARANTY COMPANY
 FIDELITY AND GUARANTY INSURANCE UNDERWRITERS, INC.
 FIDELITY AND GUARANTY INSURANCE COMPANY

Misselen
 President

Countersigned by

Michael B. Hartgraves

Authorized Representative

ALSTON-HARTGRAVES INSURANCE AGENCY, INC.

**MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT**

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

All distances must be from the outer boundaries of the Section.

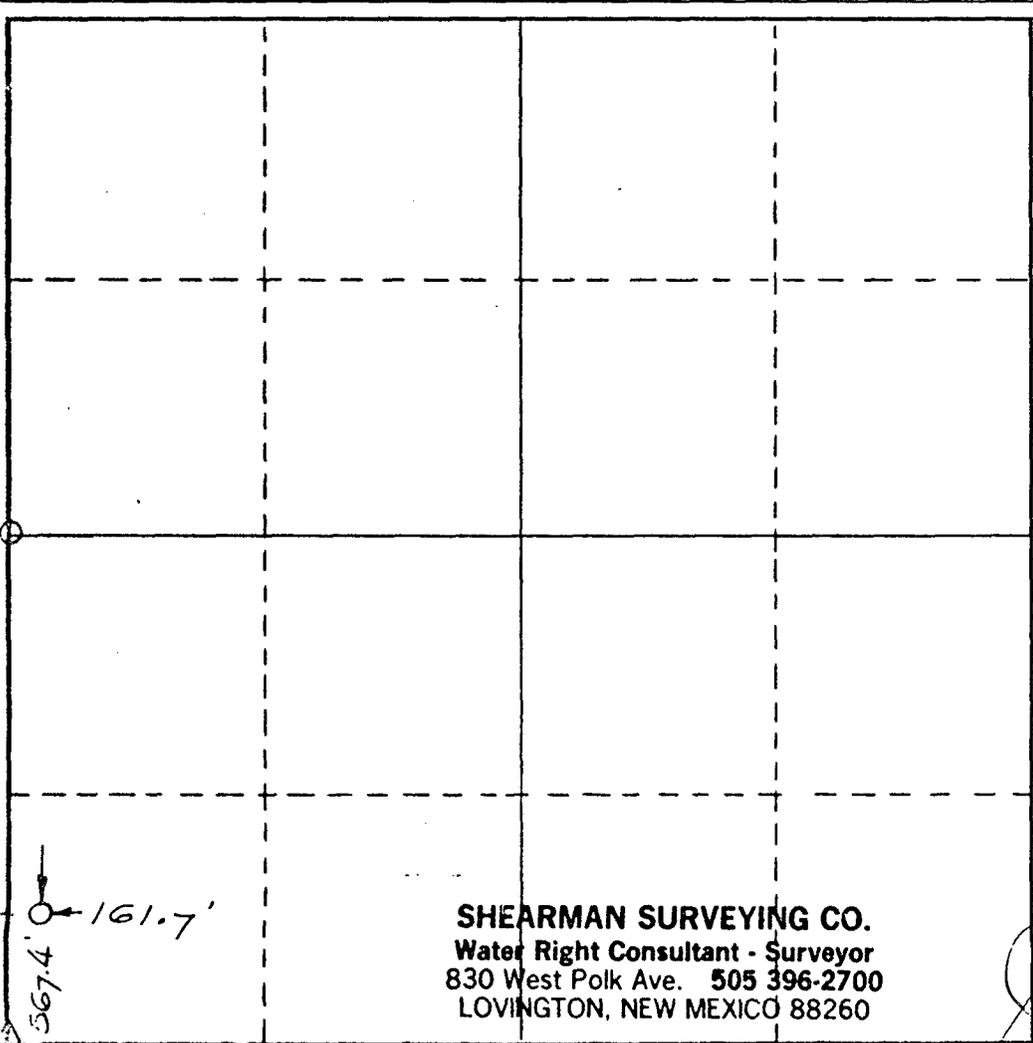
Operator WASSERHUND, Inc.		Lease State of New Mexico			Well No. 1
Unit Letter M	Section 31	Township 16 South	Range 35 East	County LEA	
Actual Footage Location of Well: 567.4 feet from the South line and 161.7 feet from the West line					
Ground Level Elev.	Producing Formation common salt		Pool	Dedicated Acreage: Acres	

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

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

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

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



CERTIFICATION

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

Name _____

Position _____

Company _____

Date _____

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

Date Surveyed

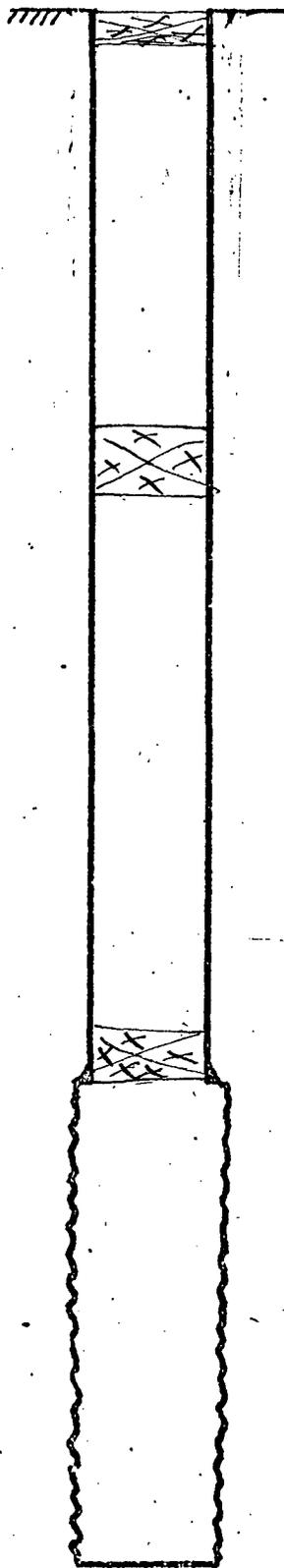
June 11, 1980

Registered Professional Engineer
and of Land Surveyor

[Handwritten Signature]

Certificate No.

3559



PLUGGING PROCEDURE

1. LOAD HOLE WITH 10# SALT GEL
2. 10 SKS CEMENT SURFACE PLUG
3. SET 25 SKS CEMENT PLUG FROM 200' TO 250' IN 7".
4. SET CIBP & CAP WITH 35' CEMENT AT 7" SHOE

CEMENT CIRCULATED TO SURFACE

7 " casing set at 1895 ' with / sx of cement

Hole size 9-7/8 "

Open hole from 1895 ' to 2461 ' Hole size "

Total Depth 2461 '



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

GARREY CARRUTHERS
Governor

LARRY GORDON
Secretary

CARLA L. MUTH
Deputy Secretary

March 16, 1988

J.E. Haseloff
Wasserhund, Inc.
P.O. Box 249
Lovington, NM 88260

Dear Mr. Haseloff:

Please find enclosed a recent copy of the Water Quality Control Commission (WQCC) Regulations and two copies of papers discussing the physical properties and mechanical behavior of salts. This information will be useful in completing the renewal for DP-321 for your brine extraction facility.

The Environmental Improvement Division (EID) thanks you for your continued cooperation and looks forward to receiving the additional information requested in our letter of December 11, 1987.

Should you have any questions you may call me at (505) 827-2902.

Sincerely,

Kevin Lambert
Hydrologist
UIC Program

KL:dg

Enclosures

cc: Garrison McCaslin, EID District IV Mgr, Roswell
Roelf Ruffner, EID Hobbs Field Office



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

J.E. Haseloff
Wasserhund, Inc.
P.O. Box 249
Lovington, NM 88260

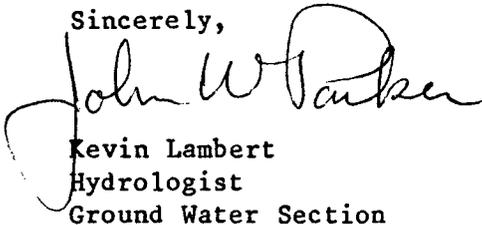
Dear Mr. Haseloff:

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 Wasserhund, Inc. brine facility. A copy of the inspection form is attached for your reference. Deficiencies noted during the inspection are as follows:

1. Brine storage pond contained oil and oily residues with the brine. Pond should be kept free of produced waters.
2. Less than one foot of freeboard present in brine storage pond. There should be a freeboard of two feet or more.
3. Spill collection system contains some produced waters. Collection system should be cleaned frequently.

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

Sincerely,



Kevin Lambert
Hydrologist
Ground Water Section

KL:JP:egr

Enclosure

BRINE STATION INSPECTION FORM

DATE 12/1 1987 EID INSPECTOR Lambert/Parker
FACILITY Wasserkund Inc LOCATION St Rd 8
FACILITY REP ON SITE None COUNTY LEA
Pete Haseloff Mgr. 396-3128

WELL OPERATION

1 well system
WELL IS INJECTING: THROUGH ANNULUS THROUGH TUBING
SOURCE OF FRESH WATER well water
TRACE INJECTION/PRODUCTION LINES Buried lines
WELL HEAD PRESSURE _____ PSIG PUMP PRESSURE _____ PSIG
LEAKS AROUND WELL OR PUMP None

STORAGE AREA

FOR PONDS:
GENERAL LINER APPEARANCE Good **Have evidence of produced water in pond sitting on liner*
AMOUNT OF FREEBOARD < 1 ft
ANY SIGN OF OVERFLOW OR LEAKS _____
LEAK DETECTION SYSTEM FLUIDS DRY
present - Have discharge sample
FOR TANKS:
GENERAL APPEARANCE _____
LABELED PLAINLY _____ YES _____ NO
BERMED TO PREVENT RUNOFF _____ YES _____ NO
CHECK CONTENTS TO ASSURE PROPER FLUID/LABLE MATCH _____

NUMBER OF TANKS FOR BRINE _____ FRESH WATER 1 *1 tank was leaking fresh water may be overflow/bleed off*

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
Spill collection system, contains some produced water i.e. oil

MONITORING WELLS

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

COMMENTS ** Notify Discharger of produced water - must be removed and prevented from entering system. Fresh water leak need to be fixed.*
Need to increase freeboard
facility inspected by discharger in morning & afternoon



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

GARREY CARRUTHERS
Governor
LARRY GORDON
Secretary
CARLA L. MUTH
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

December 11, 1987

J. E. Haseloff, President
Wasserhund, Inc.
P.O. Box 249
Lovington, NM 88260

Dear Mr. Haseloff:

The Environmental Improvement Division (EID) Ground Water Section has completed review of Wasserhund's discharge plan renewal application DP-321. Comments submitted herein are in response to the application and attachments submitted to EID on May 01, 1987. Regulatory reference to the Water Quality Control Commission (WQCC) Regulations follow in parenthesis.

1. What is the depth of the uppermost water bearing formation having a concentration of total dissolved solids of 10,000 mg/l or less? (3-106.C.3.).
2. Please submit a geologic cross-section for your site which at a minimum depicts all water bearing formations between the surface and injection zone, and the injection zone and confining layers. (3-106.C.7.;5-210.B.6.).
3. Please submit locations for all wells (oil, gas, or water), drill holes or other conduits within the area of review that penetrate the injection zone. (5-203.A.). Since the most likely wells to penetrate the injection zone are either oil or gas wells, the Hobbs Oil Conservation Division (OCD) office should be a good source of information.
- + 4. In order to demonstrate compliance with the Part V MIT requirements, Wasserhund needs to perform a pressure test (see attached procedure) and submit the results to this office prior to DP-321 renewal. In addition, Wasserhund needs to commit to performing a cement-bond log some time during the five year renewal period. (5-204.A.,B.).

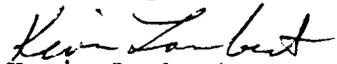
J. E. Haseloff
December 11, 1987
Page 2

5. Wasserhund needs to make a commitment to notify this office "prior to commencement of drilling, cementing and casing, well logging, mechanical integrity tests, and any other well workover....." (5-205.A.5.).
6. In order to demonstrate that under normal operating conditions there will be no initiation or propagation of fractures within the injection zone, please provide a comparison of fracture pressure for salt at the injection interval with the down-hole pressure resulting from your maximum operating pressure of 390 psi. (5-206.A.,C.).
- x7. Wasserhund needs to commit to providing EID with quarterly analysis of the injected fluids, and quarterly reports of volumes of injected fluids and produced brines. (5-207.C., 5-208.B.).
8. Wasserhund needs to submit a plugging and abandonment plan for our review. This plan should include well plugging and abandonment methods and materials as well as decommissioning of surface facilities. In addition, please submit a copy of your blanket plugging/surety bond and documentation demonstrating the adequacy of the sum of this bond to finance the plan. (5-209.A.,5-210.B.17.).
9. Wasserhund needs to submit a contingency plan in case of leaks or spills at your facility. The plan should detail how leaks in the underground lines, ponds, or tanks will be detected and what measures will be taken upon detection. The plan should also address detection and remediation in case of a loss of mechanical integrity. Wasserhund should commit to keeping the facility free of ponding of spilled brine or produced waters, and to keep produced waters out of the brine storage pond. (3-107.A.10.;5-210.B.15.).
10. Wasserhund needs to commit to notifying the EID Ground Water Section within 48 hours in the event of a loss of mechanical integrity, or leak or spill of a significant amount of contaminated water. (1-203.A.1.;5-208.B.1.).
11. The sign-off portion of your application lacks the required certification: "I certify under penalty of law that I have personally examined....." Please include this certification with your response and refer to the May 01, 1987 submittal. (5-101.H.2.).

J.E. Haseloff
December 11, 1987
Page 3

Thank you for your cooperation. Should you have any questions you may call me at (505)827-2902.

Sincerely,



Kevin Lambert
Water Resource Specialist

KL:jp:jp

Attachment

cc: Garrison McCaslin, EID District IV Manager, Roswell
Roelf Ruffner, EID Field Office, Hobbs



**UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE**

Ecological Services
Suite D, 3530 Pan American Highway NE
Albuquerque, New Mexico 87107

June 19, 1987



JUN 22 1987

Mr. Michael J. Burkhardt, Director
New Mexico Health and Environment Department
Environmental Improvement Division
P. O. Box 968-Crown Building
Santa Fe, New Mexico 87504-0968

GROUNDWATER/HAZARDOUS WASTE
BUREAU

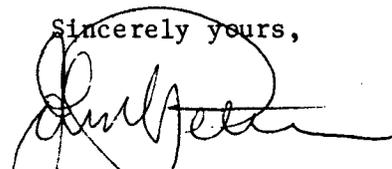
Dear Mr. Burkhardt:

This responds to your public notice dated May 6, 1987 in which several proposed groundwater discharge plans were described. We have reviewed all of the plans and have not identified any resource issues of concern to our agency in the following:

DP-212, Chevron, USA Inc., Bernalillo County, Albuquerque, NM.
DP-229, The Town of Clayton, Union County, Clayton, NM.
DP-319, P and S Brine Sales, Lea County, Eunice, NM.
DP-481, Parkview State Trout Hatchery, Rio Arriba County, NM.
DP-480, Porte Dairy, Chaves County, Roswell, NM.
DP-71, Quivira Mining Company, McKinley County, NM.
DP-477, Willie and Josephine Romero, San Miguel County, NM.
DP-482, Swiss Chalet Inn, Taos County, Taos, NM.
DP-476, Timberon T-15 Subdivision, Otero County, Ruidoso, NM.
DP-321, Wasserhund Inc., Lea County, Lovington, NM ✓
DP-479, Window Service Restaurant, Dona Ana County, Chamberino, NM.

These comments represent the views of the Fish and Wildlife Service. If you have any questions concerning our comments, please contact Tom O'Brien at FTS 474-7877 or (505) 883-7877.

Sincerely yours,



John C. Peterson
Field Supervisor

cc:

Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Regional Administrator, Environmental Protection Agency, Dallas, Texas
Regional Director, FWS, FWE, Albuquerque, New Mexico



NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

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

GARREY CARRUTHERS
Governor
LARRY GORDON
Secretary
CARLA L. MUTH
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

May 7, 1987

Wasserhund Incorporated
J.E. Haseloff, President
P.O. Box 249
Lovington, New Mexico 88260

Dear Mr. Haseloff:

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 address listed above or at phone number (505) 827-2900.

Sincerely,

Ernest C. Rebeck
Program Manager
Ground Water Section

ECR/mp

Enclosure



NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

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

GARREY CARRUTHERS
Governor

LARRY GORDON
Secretary

CARLA L. MUTH
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

May 6, 1987

The Honorable JoAnn Martin, Mayor
City of Hobbs
P.O. Box 1117
Hobbs, New Mexico 88240

Dear Mayor Martin:

Enclosed is a public notice which includes notice of a proposed discharge plan(s) for one or more operations in or near your city.

If you have any questions, please do not hesitate to contact me at the address given above or at 827-2900.

Sincerely,

Ernest C. Rebeck
Program Manager
Ground Water Section

ECR/mp

Enclosure



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

GARREY CARRUTHERS
Governor

LARRY GORDON
Secretary

CARLA L. MUTH
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

May 6, 1987

Board of County Commissioners
Lea County Courthouse
Hobbs, New Mexico 88240

Board of County Commissioners:

Enclosed is a public notice for one or more operations located in your county.

If you have any questions, please do not hesitate to contact me at the address listed above or at phone number (505) 827-2900.

Sincerely,

Ernest C. Rebeck
Program Manager
Ground Water Section

ECR/mp

Enclosure

MAY 6, 1987

TO BE PUBLISHED ON OR BEFORE MAY 18, 1987

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 plans have been submitted for approval to the Director of the New Mexico Environmental Improvement Division, P.O. Box 968, Santa Fe, New Mexico 87504-0968; telephone (505) 827-2900.

(DP-212) CHEVRON, USA INCORPORATED, P.O. Box 1776, Albuquerque, New Mexico 87103, John D. Douglas, Superintendent, has submitted a renewal request for the Chevron bulk fuel terminal located in Section 32, T10N, R3E, Bernalillo County. Approximately 1000 gallons per month of hydrocarbon fuel contaminated water is discharged from an oil-water separator to a lined evaporation pond. The groundwater most likely to be affected is at a depth of approximately 35 feet with a total dissolved solids content of approximately 500 mg/l.

(DP-229) CLAYTON, THE TOWN OF, Bill Freeman, Acting City Manager, 1 Chestnut Street, Clayton, New Mexico 88415, proposes to renew its approved discharge plan (DP-229) for the facultative lagoon for their sewage treatment plant located in T25N, R35E, Section 1, NW $\frac{1}{2}$ of SW $\frac{1}{2}$ of NE $\frac{1}{2}$, Union County, New Mexico. Discharge from the plant is expected to be 360,000 gallons per day. The ground water most likely to be affected is at a depth of approximately 110 feet and has a total dissolved solids content of approximately 450 mg/l.

(DP-319) P AND S BRINE SALES, Paul D. Prather, Partner, P.O. Box 1769, Eunice, New Mexico 88231, proposes to renew its approved discharge plan (DP-319) for their brine in situ extraction well and surface facility located in T21S, R37E, Section 34, SW $\frac{1}{2}$ of SE $\frac{1}{2}$, Lea County, New Mexico. Brine is manufactured by injecting water down their injection well to an underlying salt formation. The brine water solution has a total dissolved solids content of approximately 300,000 mg/l. Ground Water most likely to be affected is at a depth of approximately 45 feet and has a TDS content of about 1400 mg/l.

(DP-481) PARKVIEW STATE TROUT HATCHERY, New Mexico Department of Game and Fish, Villagra Building, Santa Fe, New Mexico 87503, proposes to discharge 3,450 gallons per day of domestic septage to a septic tank-leach field mound system. The location of the discharge site is T29N, R3E (projected), Tierra Amarilla Land Grant, Rio Arriba County, New Mexico. The site is approximately one mile southeast of the town of Parkview. The ground water most likely to be affected is at a depth of 20 ft. with a total dissolved solids concentration of 343 mg/l.

(DP-480) PORTE DAIRY, Tom Visser, Owner, Rt. 2, Box 108, Roswell, New Mexico 88201, located in Chaves County at T12S, R25E, Section 25, proposes to discharge 70,000 gallons per day of milking parlor washdown wastes from a 1200 cow dairy. The discharge will report to total retention evaporative lagoons. The discharge will have a concentration of approximately 150 mg/l of total kjeldahl nitrogen. Four ground water monitor wells will be installed to ascertain any impacts from the lagoons. The ground water most likely to be affected lies at approximately 80 feet below the surface of the ground and has a total dissolved solids concentration of 4500 mg/l.

(DP-71) QUIVIRA MINING COMPANY, c/o J.C. Stauter, Director of Nuclear Licensing and Registration, P.O. Box 25861, Oklahoma City, Oklahoma 73125, proposes to modify its existing discharge plan to allow the disposal of a wash solution to be produced in the processing of an alternate mill feed material. The current discharge plan allows evaporation of uranium mill tailings solutions in 11 lined evaporation ponds in Section 4, T13N, R9W, McKinley County. The proposed modification would allow the disposal of wash water used to remove excess nitrate from a solid uranium-containing residue generated in the yellowcake purification step at the Sequoyah Fuels Corporation's UF6 Conversion Plant at Gore, Oklahoma. Two of the evaporation ponds will be dedicated to this wash solution. This wash water will be lower in all constituents than the mill solutions currently permitted with the exception of nitrate. Nitrate concentrations of the wash solution are estimated to range from 2432 mg/l to 3040 mg/l and have a total dissolved solids concentration of 15,260 to 19,075 mg/l. Ground water in Section 4 occurs at a depth of approximately 40 to 60 feet and has a total dissolved solids concentration of 2000 to 5000 mg/l.

(DP-477) ROMERO, WILLIE AND JOSEPHINE, Rt. 1 Box 146, Santa Fe, New Mexico 87501, proposes to discharge up to 2000 gallons per day of domestic septage from a small trailer court into a septic leach field. The discharge is located in San Miguel County, T16N, R12E, Section 32, NW $\frac{1}{4}$, NW $\frac{1}{4}$, SE $\frac{1}{4}$. The ground water most likely to be affected is at a depth of about 60 feet and averages about 400 mg/l total dissolved solids.

(DP-482) SWISS CHALET INN, Paul Austing, Owner, Box 8, Taos Ski Valley, Taos, New Mexico 87571, proposes to discharge 3000 gallons per day of grey-water from a resort inn to a septic tank leachfield system. Black water will be discharged to holding tanks and then periodically removed by septic tank pumper trucks. The discharge will be located in the Amizette Subdivision, Lots 4 & 5, T27N, R14E, Section 7 (projected) in Taos County. The depth to ground water is approximately 50 feet with a total dissolved solids content of approximately 100 mg/l.

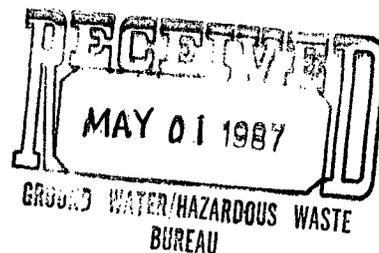
(DP-476) TIMBERON T-15 SUBDIVISION, Johnny Mobley, North American Land Development, Inc., P.O. Box 98, Ruidoso, New Mexico 88345, proposes to discharge a maximum of 6000 gallons per day of domestic sewage to a septic tank-leach field system. The system consists of 3 interconnected septic tanks each receiving a maximum of 2000 gallons per day. The discharge site is located at T19S, R12E, Section 23 in Otero County. Domestic sewage from 19 presently occupied homes in the Timberon Subdivision will enter the sewage system at 3 separate discharge points. The ground water most likely to be affected is at a depth of 80 feet with a total dissolved solids concentration of 490 mg/l.

(DP-321) WASSERHUND INCORPORATED, J.E. Haseloff, President, P.O. Box 249, Lovington, New Mexico 88260, proposes to renew its approved discharge plan for their brine in situ extraction well and surface facility located in T16S, R35E, Section 31, Lea County, New Mexico. The brine water solution has a total dissolved solids content of approximately 250,000 mg/l. Ground water most likely to be affected is at a depth of approximately 120 feet and has a TDS content of about 500 mg/l.

(DP-479) WINDOW SERVICE RESTAURANT, Patricio Tellez, 10125 Highway 28, Chamberino, New Mexico 88027, proposes to discharge 2,400 gallons per day of waste water from a restaurant to a septic tank-leach field. The restaurant is in T26S, R3E, Section 18 in Dona Ana County, New Mexico. The waste water has a nitrate concentration of approximately 60 mg/l. The ground water most likely to be affected is at a depth of about 15 feet and has a total dissolved solids content of 700 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 him and a public hearing may be requested by any interested person. Requests for 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.

Wasserhund, Inc.
P. O. Box 249
Lovington, New Mexico 88260



April 30, 1987

State of New Mexico
Health and Environment Department
P. O. Box 968
Santa Fe, New Mexico 87504-0968

check pgs Brine Salts

Attention: Mr. Kevin Lambert

Re: Renewal, Discharge Plan
DP-321

Dear Sir:

Submitted herewith is a detailed narrative for the above mentioned brine well.

Wasserhund, Incorporated, who owns the well, commenced production of brine water in October 1980. The average quality of the brine water is 10 pounds per gallon. The quantity of water produced in the years 1985 and 1986 has been 1,207,020 barrels with an average of 50,293 barrels per month.

The most current brine water analysis is Exhibit 1.

The most current fresh water analysis is Exhibit 2.

Fresh water is pumped from a well shown in Exhibits 3, 4, 5, 6, 7, and 11 to a 500 barrel storage tank shown in Exhibits 4, 5, and 15. From this tank fresh water is drawn through a 7 1/2 HP pump directly to an overhead truck loading system shown in Exhibits 4, 8, and 18. Fresh water is also drawn from this tank and is pumped under 390# pressure down to the salt section of the brine well as shown in Exhibits 4, 5, 9, 12, and 14. Brine water is returned through the tubing and deposited in an open lined reservoir holding 11,000 barrels as shown in Exhibits 4, 5, 10, 20, and 21. From this lined reservoir brine water is drawn through a 7 1/2 HP pump directly to an overhead truck loading system shown in Exhibits 4, 8, 13, and 20. Exhibits 4, 5, 8, and 18 show a concrete loading ramp complete with a concrete sump tank to catch any spills or overflows. In the event of a spill or overflow, an electrical automatic float switch

Health and Environment Department
April 30, 1987
Page 2

activates a sump pump and any spillage or overflow is pumped into the elevated 180 barrel tank shown in Exhibit 19. Water from this tank is manually gravity fed back into the brine open storage periodically as shown in Exhibits 4, and 19.

Wasserhund, Incorporated is automatically metered to the extent that water, brine and fresh, can be counted at any time. Low and high pressure switches are mounted on all lines, and in the event of a break, spill, or overflow that the sump pump cannot handle, the facility shuts down completely and automatically. Some of the automation is shown in Exhibits 15 and 16.

Fresh water is obtained from the Ogallala formation from a well shown in Exhibits 3, 4, 5, 6, 7, and 11, and the most current fresh water analysis is Exhibit 2. Other fresh water wells in a two mile radius are shown on Exhibit 6.

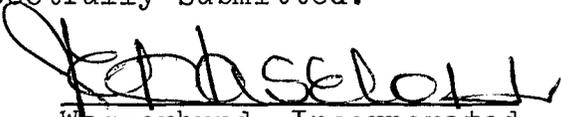
The brine storage facility of Wasserhund, Incorporated, is elevated by an earth dike to a point at least 4 feet above ground level. There are no arroyos, creeks, or rivers within 10 miles of the facility. See Exhibit 6.

Exhibit 9 shows the lithology beneath the brine facility. This information was obtained from the OCD office in Hobbs, New Mexico.

Quarterly reports for both fresh and brine water produced are sent to the proper authorities. Fresh water reporting goes to the State Engineer Office, Box 1717, Roswell, New Mexico. Brine water reporting goes to the Commissioner of Public Lands, Box 1148, Santa Fe, New Mexico.

Samples of fresh water can be taken as shown in Exhibits 13, 15, and 18. Brine water samples can be taken as shown in Exhibits 13 and 17.

This Discharge Plan respectfully submitted.


Wasserhund, Incorporated
J. E. Haseloff-President

UNICHEM INTERNATIONAL

707 NORTH LEECH

P.O. BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : WASSERHUND

DATE : 04-22-87

FIELD, LEASE & WELL : BRINE WATER

SAMPLING POINT :

DATE SAMPLED : 04-08-87

SPECIFIC GRAVITY = 1.163

TOTAL DISSOLVED SOLIDS = 241824

PH = 6.32

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	64	1282.
MAGNESIUM	(MG)+2	376	4570.
SODIUM	(NA), CALC.	3727.	85689.
ANIONS			
BICARBONATE	(HCO3)-1	3.8	231.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	63.5	3050
CHLORIDES	(CL)-1	4100	147000
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		2.1
BARIUM	(BA)+2	0	.03
MANGANESE	(MN)	NOT RUN	

IONIC STRENGTH (MOLAL) = 4.829

SCALING INDEX	TEMP
	30C
	86F
CARBONATE INDEX	.051
CALCIUM CARBONATE SCALING	LIKELY
CALCIUM SULFATE INDEX	-39.
CALCIUM SULFATE SCALING	UNLIKELY

IONIC STRENGTH IS TOO HIGH FOR CARBONATE METHOD

UNICHEM INTERNATIONAL

707 NORTH LEECH

P.O. BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : WASSERHUND
 DATE : 04-22-87
 FIELD, LEASE & WELL : FRESH WATER
 SAMPLING POINT:
 DATE SAMPLED : 04-08-87

SPECIFIC GRAVITY = 1
 TOTAL DISSOLVED SOLIDS = 513
 PH = 8.35

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	2	40.0
MAGNESIUM	(MG)+2	3.8	46.1
SODIUM	(NA), CALC.	1.9	45.7
ANIONS			
BICARBONATE	(HCO3)-1	3	183.
CARBONATE	(CO3)-2	.4	12
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	1.3	66.6
CHLORIDES	(CL)-1	3	120
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		.4
BARIUM	(BA)+2	0	.12
MANGANESE	(MN)	NOT RUN	

IONIC STRENGTH (MOLAL) = .012

SCALING INDEX TEMP

30C

86F

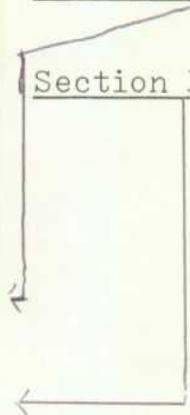
CARBONATE INDEX 2.60
 CALCIUM CARBONATE SCALING LIKELY

CALCIUM SULFATE INDEX -18.
 CALCIUM SULFATE SCALING UNLIKELY

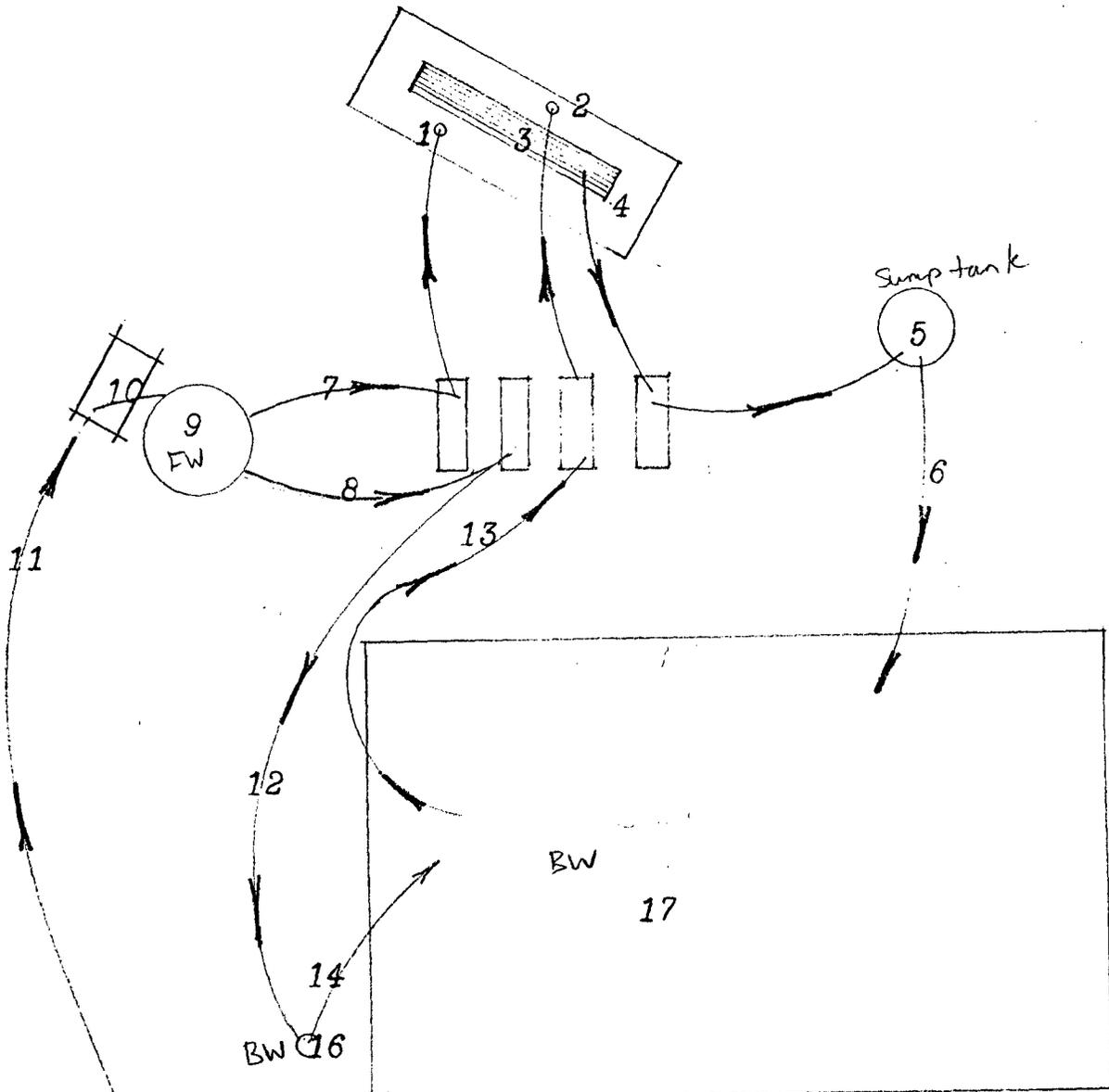


Fresh Water Well

Section Line Fence



PIPING AND WATER FLOW DETAIL



1. 4" OVERHEAD LOADING PIPE - FRESH WATER
2. 4" OVERHEAD LOADING PIPE - BRINE WATER
3. 85 BBL UNDERGROUND SUMP TANK
4. CONCRETE LOADING RAMP
5. ELEVATED 180 BBL TANK FROM SUMP
6. 2" GRAVITY FLOW TO BRINE STORAGE
7. 6" PIPE TO FRESH WATER LOADING PUMP
8. 4" PIPE TO TRIPLEX PUMP - FRESH WATER
9. 500 BBL FRESH WATER STORAGE TANK
10. FRESH WATER SAND TRAP
11. 4" PIPE FROM FRESH WATER WELL
12. 2" PIPE FROM TRIPLEX PUMP TO BRINE WELL
13. 6" PIPE FROM BRINE STORAGE TO LOADING PUMP
14. 2" PIPE PRODUCED BRINE TO STORAGE
15. FRESH WATER WELL
16. BRINE WELL
17. LINED OPEN BRINE STORAGE- 11000 BBLs



THE REPRODUCTION OF

THE

FOLLOWING

DOCUMENT (S)

CANNOT BE IMPROVED

DUE TO

THE CONDITION OF

THE ORIGINAL

NORTH

1" EQUALS 50'

450'

HIGHWAY #8

LOADING & SUMP

FRESH WATER SAND TRAP

FRESH WATER TANK

PUMPS & CONTROLS

SKIMMER TANK

GATE

25'

375'

BRINE STORAGE

SEEPAGE INSPECTION PIPE W/CAP

BRINE WELL

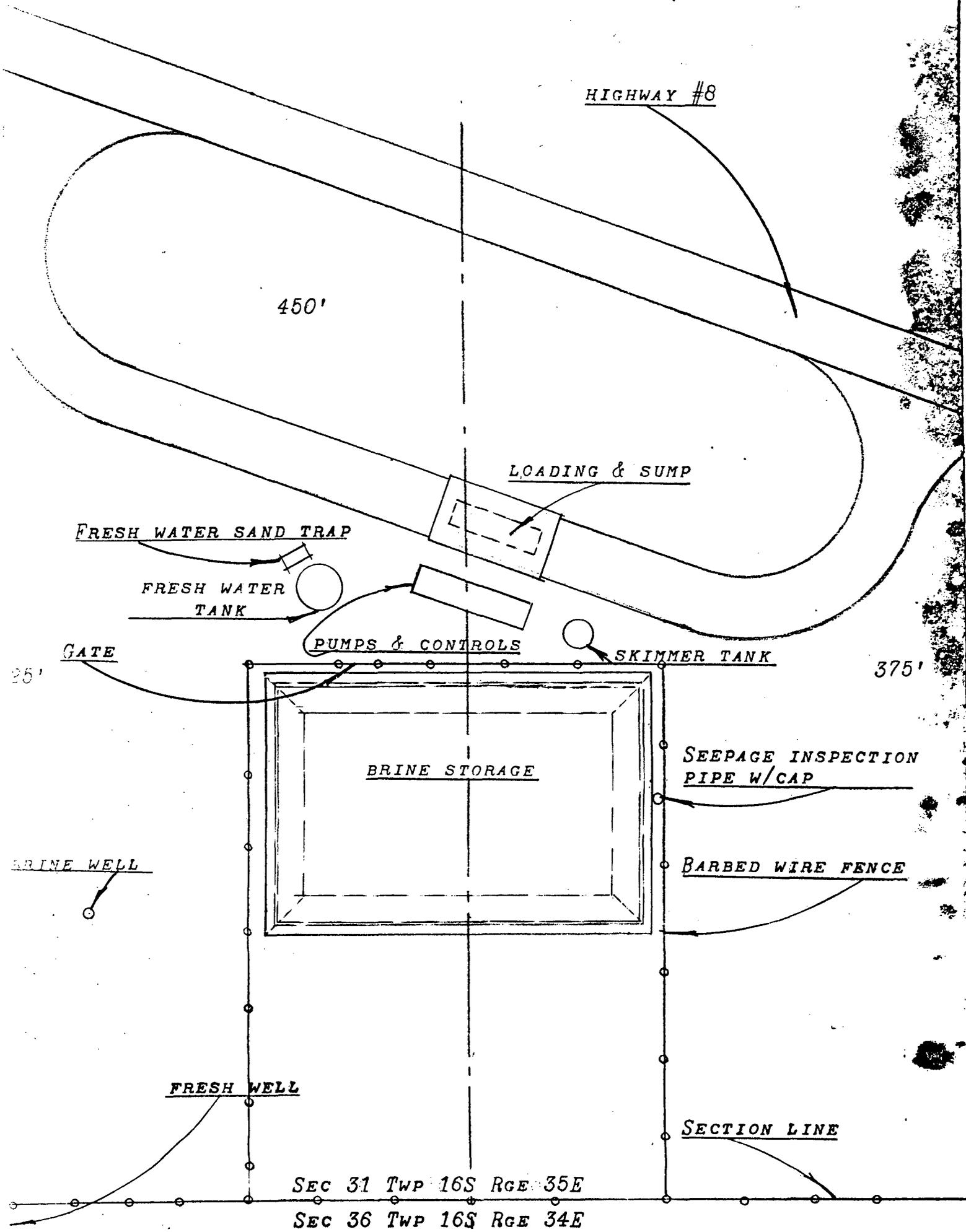
BARBED WIRE FENCE

FRESH WELL

SECTION LINE

SEC 31 TWP 16S RGE 35E

SEC 36 TWP 16S RGE 34E

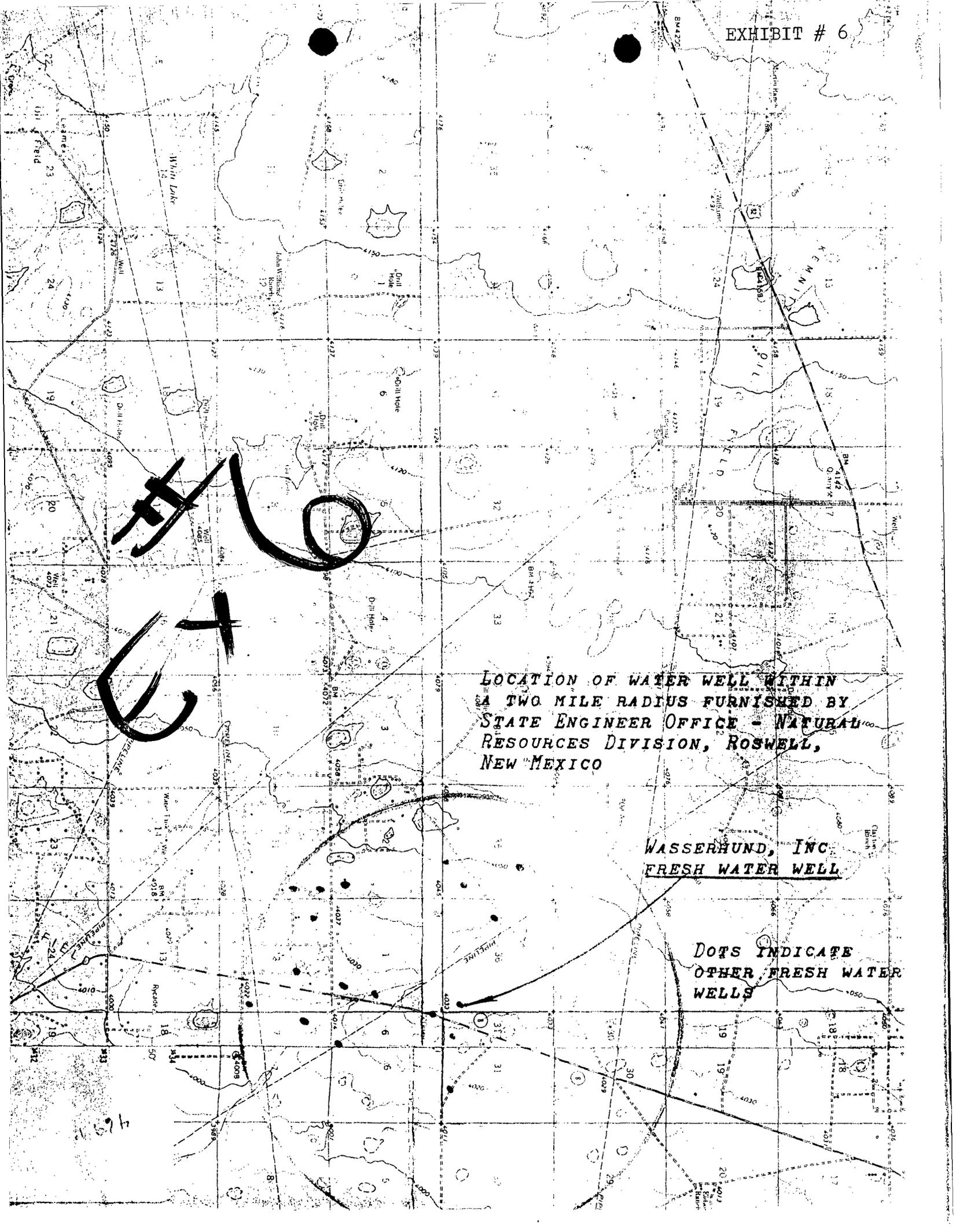


450

LOCATION OF WATER WELL WITHIN
A TWO MILE RADIUS FURNISHED BY
STATE ENGINEER OFFICE - NATURAL
RESOURCES DIVISION, ROSWELL,
NEW MEXICO

WASSERHUND, INC.
FRESH WATER WELL

DOTS INDICATE
OTHER FRESH WATER
WELLS



FRESH WATER WELL
EIDSON RANCH, INC - PERMITEE
c/o J. E. HASELOFF - AGENT
Box 249
LOVINGTON, NEW MEXICO 88260

LOCATION: NE $\frac{1}{4}$ SE $\frac{1}{4}$ SEC 36
TWP 16S RGE 34E
LEA COUNTY

MCCROMETER FLOW METER

8-5/8" CASING

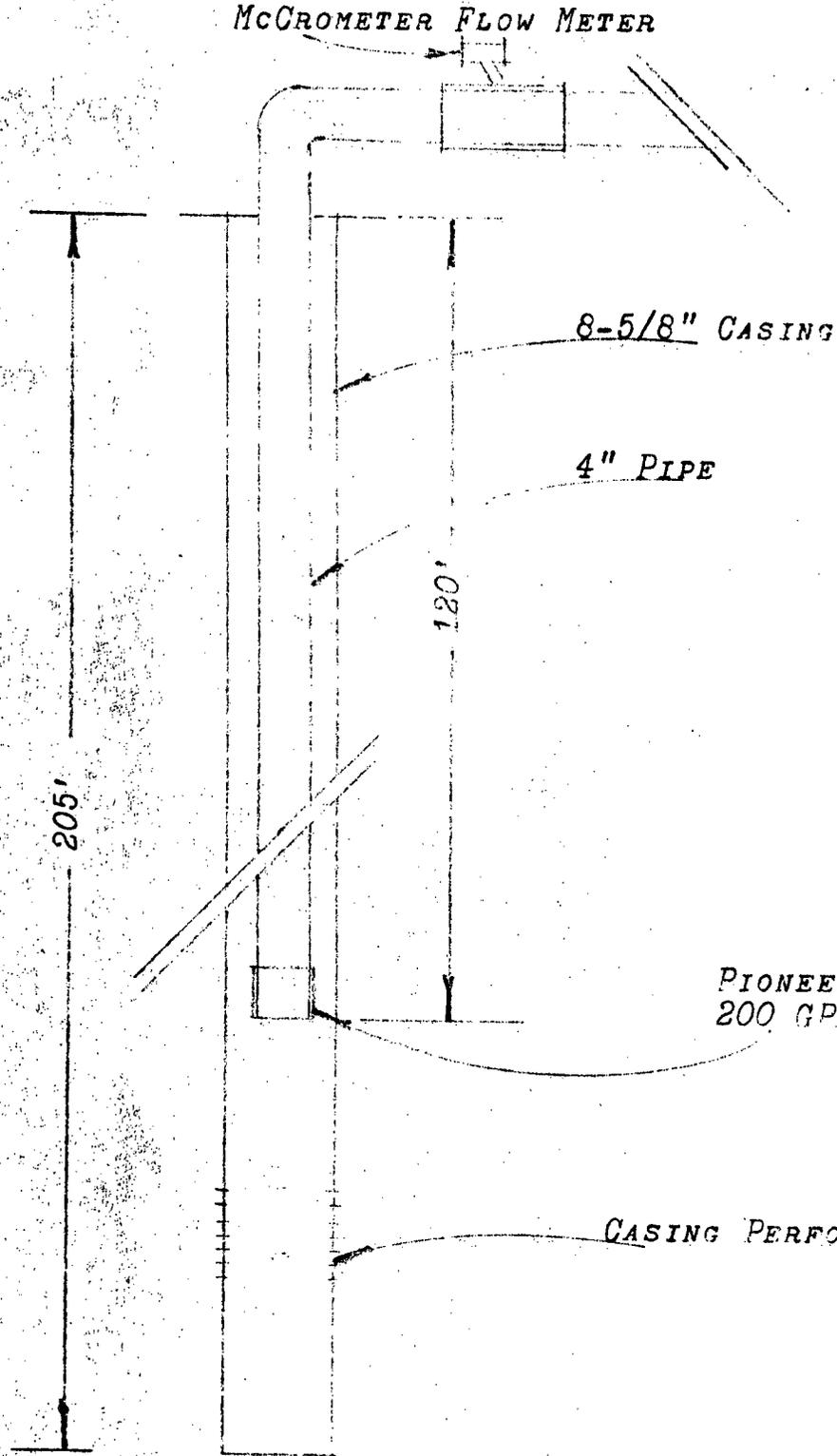
4" PIPE

120'

PIONEER SUBMERSIBLE PUMP
200 GPM CAPACITY

CASING PERFORATIONS

205'





Loading Shed

Fresh Water Loading Pipe

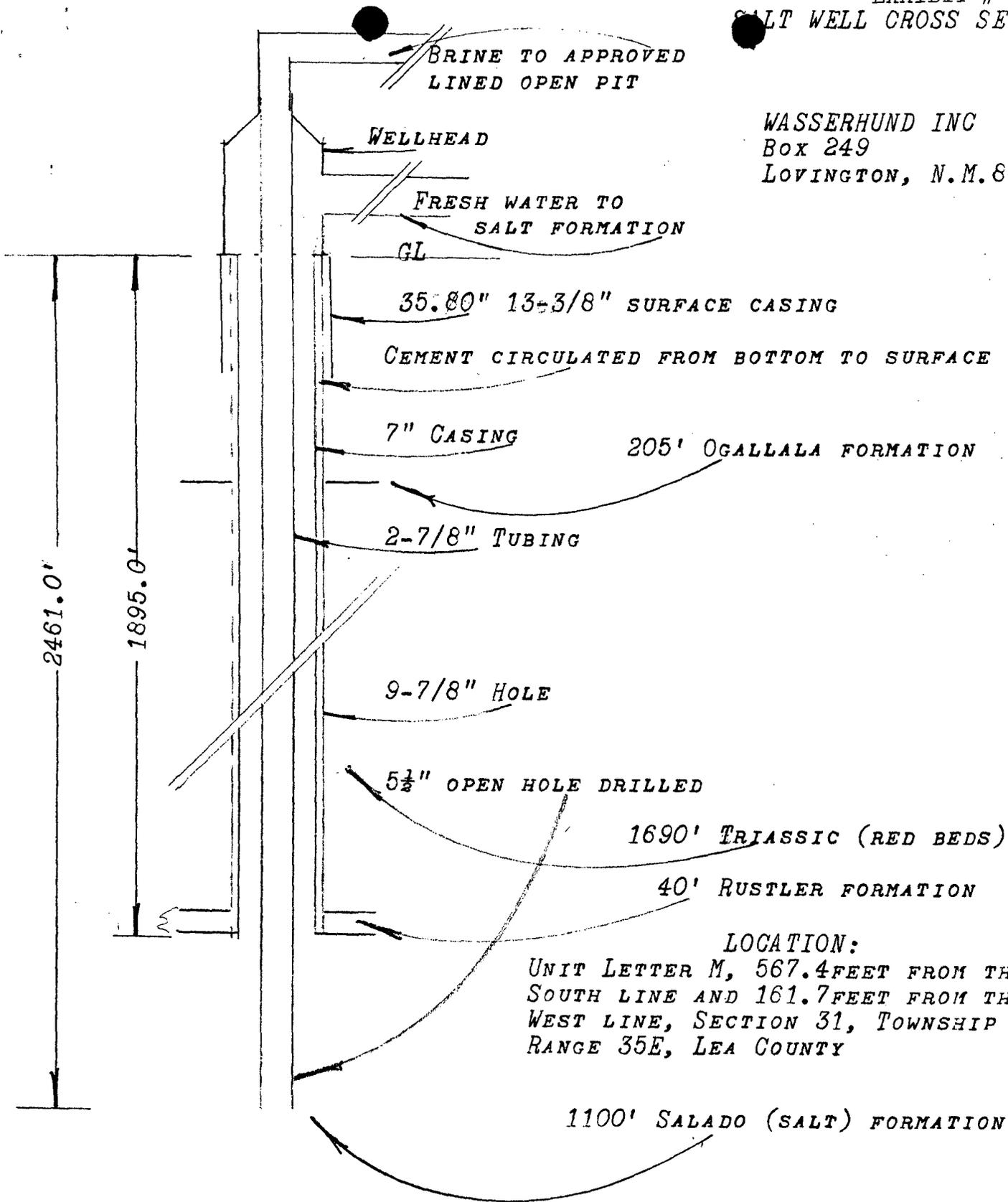
Brine Water Loading Pipe

Concrete Loading Ramp

Concrete Sump

EXHIBIT # 9
SALT WELL CROSS SECTION

WASSERHUND INC
Box 249
LOVINGTON, N.M. 88260



BRINE TO APPROVED
LINED OPEN PIT

WELLHEAD

FRESH WATER TO
SALT FORMATION

GL

35.80" 13-3/8" SURFACE CASING

CEMENT CIRCULATED FROM BOTTOM TO SURFACE

7" CASING

205' OGALLALA FORMATION

2-7/8" TUBING

9-7/8" HOLE

5 1/2" OPEN HOLE DRILLED

1690' TRIASSIC (RED BEDS)

40' RUSTLER FORMATION

LOCATION:

UNIT LETTER M, 567.4 FEET FROM THE
SOUTH LINE AND 161.7 FEET FROM THE
WEST LINE, SECTION 31, TOWNSHIP 16S,
RANGE 35E, LEA COUNTY

1100' SALADO (SALT) FORMATION

2461.0'

1895.0'

APPLICATION FOR PERMIT
TO UTILIZE A LINED EVAPORATION PIT

PERMIT NO. LP-H-107
EXHIBIT # 10

New Mexico Oil Conservation Commission

Name of Operator WASSERBOND, INCORPORATED

Address 1613 SOUTH LOPE STREET, LOVINOTON, NEW MEXICO 86800

Name of lease upon which evap-
oration pit will be located EDSON STATE #1

Location of evaporation pit: Unit Letter X Section 31 Township 16S Range 36E

Lease(s) which will be producing into pit EDSON STATE #1

Pool(s) which will be producing into pit N/A

Analysis of disposal water: Chlorides N/A ppm. Total dissolved solids N/A ppm.
(If more than one pool will be producing into pit, give water analysis for each pool.)

Quantity of water to be disposed of into this pit N/A barrels per day.

Water production from these same wells six months ago N/A bpd. Three months ago N/A bpd.
(If more than one pool will be producing into pit, give water production data for each)

Method of hydrocarbon entrapment to be employed: Settling tank N/A Header pit N/A

If settling tank is to be used, give size and number of barrels N/A

If header pit is to be used, give dimensions and depth N/A

Header pit lining material N/A Thickness N/A

Dimensions of Evaporation Pit ("A" and "B" on diagram) PLANS SUBMITTED

Number of square feet contained in above 9750

Depth (Top of lease to floor of pit--"D" on diagram) PLANS SUBMITTED

Material to be used as liner DURONT IR5 Thickness 30M

Does manufacturer recommend protection of material from direct sunlight? Yes No

If yes, what means will be provided to so protect the material? _____

Is material resistant to hydrocarbons? Yes No

Is material resistant to acids and alkalis? Yes No

Is material resistant to salts? Yes No

Is material resistant to fungus? Yes No

Is material rot-resistant? Yes No

Will joints in material be fabricated in the field? Yes No

If yes, describe method to be used in lining material _____

Attach manufacturer's brochure describing the qualities of the lining material.

Describe the leakage detection system to be used PLANS SUBMITTED

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and further, that the subject evaporation pit and appurtenances, when installed, will be kept in good repair, and that all due diligence will be exercised in keeping the surface of the water free of oil and other debris.

Name J. H. Kasebach Title PRESIDENT Date 18 JUN 80

Approved by Jerry Coxson Title Dist. L. Supv. Date JUN 20 1980

PROOF OF COMPLETION OF WELL

Permit No. L-8222

1. Name of Water Right Owner EIDSON RANCH, INC.
Mailing address C/O J. E. HASELOFF - 1613 SOUTH LOVE STREET
City and State LOVINGTON, NEW MEXICO 88260

2. Permit is for _____ from _____ ground water.
(supplemental well, change location of well) (artesian or shallow)

3. Description of well:
Located in the NE 1/4 SE 1/4 SE 1/4 of Sec. 36 Twp. 16S Rge. 34E N.M.P.M., or Tract No. _____
of Map No. _____ of the _____ District; total depth 205 feet; is well cased yes;
outside diameter of top casing (or hole, if uncased) 8 5/8 inches; if artesian, is well equipped with gate
valve _____; date drilled 6-20 to 7-9 1980; Name of driller Glenn's Water Well Service

4. Record of Pumping Test, if made (to be supplied by person or firm making test); Name and address of
person making test, W-H-B, INC. - LOVINGTON, NEW MEXICO;
date of test 7-23 & 7-24 1980; depth to water before test, 85 1/2 feet BELOW land surface,
(above, below)
and pumping level during test, 120 feet; length of test, 24 hours; average discharge, 200 G.P.M.;
specific capacity of well, 6.25 gals./min. per foot of drawdown.

5. Permanent Pump Equipment:
(a) Description of pump: Make PIONEER; Type SUBMERSIBLE;
size of discharge 4 inches; if turbine type, give size of column, _____ inches; diameter of
bowls _____ inches; number of bowls _____; length of suction pipe _____ feet; total length of
column, bowls and suction pipe _____ feet; if centrifugal type, give size of pump _____ inches;
if other type, describe _____
rated capacity of pump (if known), 200 G.P.M., at 3450 rev. per min., from a depth of 120 feet.

(b) Description of power plant: Make ELECTRIC MOTOR; Type SUBMERSIBLE;
rated horsepower (if available) 15; type of drive connection to pump DIRECT
(direct, gearhead, or belt)

(c) Actual discharge of pump, 200 G.P.M., at 3450 rev. per min., from a depth of 120 feet;
Date of test 7-23 & 7-24 1980.

6. If reservoir is used, give approximate size: length _____ feet; width _____; depth _____.

7. If above well replaced an old well to be plugged or abandoned, fill out the following: the well abandoned
is located in the _____ 1/4 _____ 1/4 _____ 1/4 of Sec. _____, Twp. _____, Rge. _____.

Describe plugging method _____
Name of plugging contractor _____

8. Well Record filed with State Engineer's Office SEE DRILLERS REPORT Yes
(Yes or No)

STATE ENGINEER OFFICE
ROSWELL, N.M.
SEP 18 AM 8:05

J.E. HASELOFF, affirm that the foregoing statements are true to the best of my knowledge
and belief and that I am the AGENT FOR owner and holder of said water right.
(sole, partial, agent for, etc.,)

EIDSON RANCH, INC., Permittee
By: J. E. Haseloff

STATEMENT OF STATE ENGINEER'S REPRESENTATIVE

I hereby certify that I have inspected the above well and find it constructed in accordance with the conditions
of the permit. Note any exceptions _____

Well was producing _____ gpm against a _____ head of _____ feet at _____ rpm.
(measured) (estimated)

Old well has been N/A
(plugged) (capped) (retained for other rights)

By: Lee County Earth Supervisor
Title: _____
Date: October 9, 1980

CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-103
Revised 10-1-77

NO. OF COPIES RECEIVED		
DISTRIBUTION		
SANTA FE		
FILE		
U.S.G.S.		
LAND OFFICE		
OPERATOR		

5a. Indicate Type of Lease	
State <input checked="" type="checkbox"/>	Fed <input type="checkbox"/>
5. State Oil & Gas Lease No.	

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER - BRINE	7. Unit Agreement Name
2. Name of Operator WASSERHUND, INC	8. Farm or Lease Name EIDSON STATE
3. Address of Operator 1613 SOUTH LOVE STREET, LOVINGTON, N.M. 88260	9. Well No. 1
4. Location of Well UNIT LETTER M 567.4 FEET FROM THE SOUTH LINE AND 161.7 FEET FROM THE WEST LINE, SECTION 31 TOWNSHIP 16 S RANGE 35 E NMPM.	10. Field and Pool, or Wildcat
15. Elevation (Show whether DF, RT, GR, etc.)	12. County LEA

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>

SUBSEQUENT REPORT OF:

REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
COMMENCE DRILLING OPNS. <input checked="" type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
CASING TEST AND CEMENT JOB <input checked="" type="checkbox"/>	OTHER DRILLED FOR SALT <input checked="" type="checkbox"/>

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.

9-7/8" HOLE

COMMENCED ROTARY DRILLING 21AUG80 - COMPLETED ROTARY DRILLING 23AUG80
 SET 35.80' 13-3/8" SURFACE CASING - RAN 50 JTS 7" 32# & 35# USED
 TESTED CASING SET AT 1895.0' - CEMENTED WITH 265 SKS CLASS "C"
 CEMENT, 570 SKS HALLIBURTON LIGHT CEMENT CONTAINING 4560# SALT MIXED
 8# W/570, 142# FLOCELE MIXED 1/4# W/570, AND 5SKS CACL MIXED 2% W/265 -
 PLUGGED DOWN AT 5:30 PM 23AUG80 - CIRCULATED ABOVE CEMENT FROM TOTAL
 DEPTH TO SURFACE - LET CEMENT SET 48 HRS - REQUIRED REVERSE UNIT TO
 DRILL OPEN HOLE INTO SALT FORMATION TO A TD OF 2555' - RAN 84 JTS
 2-7/8" 7.9# C-75 DSSHT TESTED USED TUBING TO 2461.0' - COMMENCED
 PUMPING FRESH WATER DOWN 7" CASING AND RETURNING 9.8# PER GALLON
 BRINE THROUGH 2-7/8" TUBING - BRINE BEING PUMPED INTO APPROVED
 LINED OPEN PIT

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

WASSERHUND, INCSIGNED *[Signature]*TITLE **PRESIDENT**DATE **17SEP80**

APPROVED BY _____

TITLE _____

DATE _____

CONDITIONS OF APPROVAL, IF ANY:



Loading Shed

Sump Pump Door

Brine Loading Pump Door

Injection Pump Door

Fresh Loading Pump Door

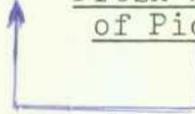
Automation and Electrical
Door



Brine Water Storage
11,000 bbls

Brine Well

Fresh Well Just Out
of Picture





Brine Well

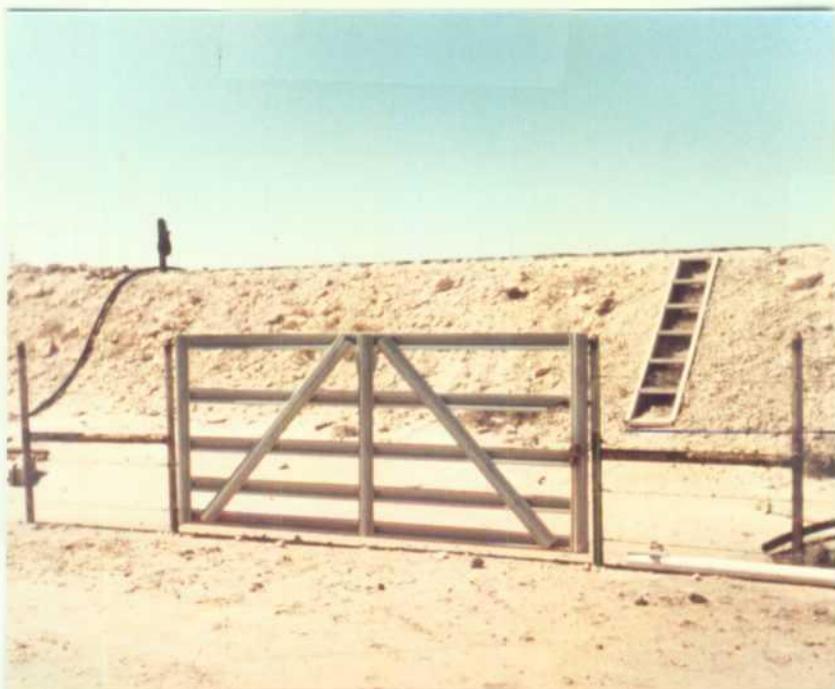
Fresh Water Storage Stank

Fresh Water Sand Trap
Inside This Building

Freeze Boxes Contain
Automation and Low-High
Switches

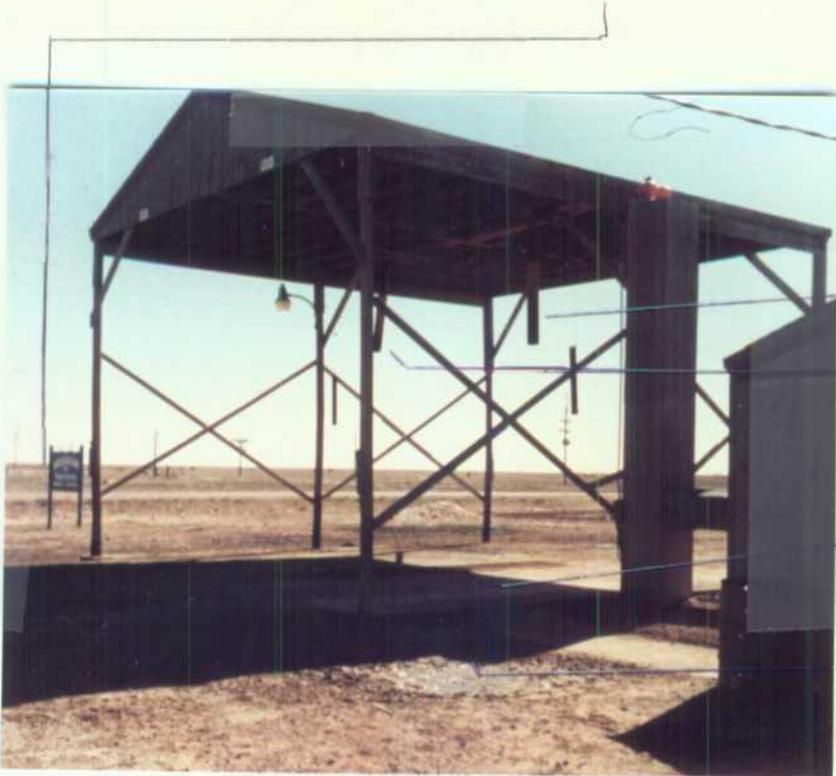


Key System W/Automatic
Counters for Both Brine
and Fresh Water



Brine Water Samples May
Be Obtained Through This
Gate and Up Those Steps

New Mexico State Highway # 8



Fresh Loading Pipe

Brine Loading Pipe

Concrete Loading Ramp

Concrete Sump



Elevated 180 Barrel Holding
Tank From Sump Tank That
Water is Gravity Fed Back
To Brine Storage



Brine Storage Liner

Produced Brine Water From
Salt Section

Brine Loading Pump Suction



Brine Storage

Earth Dike

Barbed Wire Fence

Seepage Inspection Pipe



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

GABRIEL GARCIA
Governor
LARRY GORDON
Secretary
CARLA L. MUTH
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

February 25, 1987

J.E. Haseloff, President
Wasserhund, Inc.
P.O. Box 249
Lovington, NM 88260

RE: Discharge Plan DP-321

Dear Mr. Haseloff:

In the summer of 1983, the Water Quality Control Commission (WQCC) transferred its delegation of authority from the Oil Conservation Division (OCD) to the Environmental Improvement Division (EID) to administer discharge plans for brine extraction facilities. On December 18, 1982, the discharge plan DP-321 for the Wasserhund, Inc., brine station on NM State Road 8 located in Lea County was approved by the Director of the OCD. This discharge plan was required and submitted pursuant to WQCC Regulations and it was approved for a period of up to five years. The approval will expire on December 18, 1987.

If you are still discharging at this facility and wish to continue discharging, please submit your application for renewal of plan approval, including a complete Part 5 discharge plan amendment/renewal, as quickly as possible. The necessary forms for making those submissions are enclosed. Submitting your application in a timely fashion will aid the EID in processing your discharge plan prior to the expiration date. Also, please indicate whether you have made or intend to make any changes in your discharge.

Section 5-101.G. of the WQCC regulations assures that those who are in compliance with their approved discharge plan on the date of its expiration, and who submit a complete application for a discharge plan renewal at least 180 days before the expiration date, which in this case would be June 15, 1987, will remain in compliance until the application for discharge plan renewal has been approved or disapproved. Applications for renewals submitted after June 15, 1987 may result in a discharge not in compliance, if EID is not provided sufficient time to process the application. Therefore, the EID recommends you submit an application for discharge plan renewal which include and adequately address all of the information necessary for evaluation of a new discharge plan well in advance of June 15, 1987.

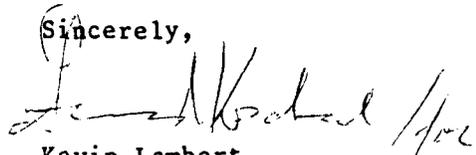
EQUAL OPPORTUNITY EMPLOYER

J.E. Haseloff
February 25, 1987
Page 2

If you are no longer discharging and discharge plan renewal is not needed,
please notify this office.

If you have any questions, please do not hesitate to contact me at the address
listed on the letterhead or telephone number 827-2902.

Sincerely,



Kevin Lambert
Hydrologist
Ground Water Section/Underground
Injection Control

KL:egr

Enclosures

cc: Garrison McCaslin, EID District IV Manager, Roswell

BRINE STATION INSPECTION FORM

DATE 12/9 1986 EID INSPECTOR Lambert, Koschel Baker
FACILITY WASSERHUND LOCATION NM State Rd 8
FACILITY REP ON SITE None Available COUNTY LEA

DP-321

WELL OPERATION

WELL IS INJECTING: THROUGH ANNULUS THROUGH TUBING
SOURCE OF FRESH WATER Waterwell
TRACE INJECTION/PRODUCTION LINES ON lines buried

WELL HEAD PRESSURE _____ PSIG PUMP PRESSURE _____ PSIG
LEAKS AROUND WELL OR PUMP None

STORAGE AREA

FOR PONDS:

GENERAL LINER APPEARANCE Hypalon Liner good shape

AMOUNT OF FREEBOARD ~ 1 ft Need more freeboard

ANY SIGN OF OVERFLOW OR LEAKS Yes on backside sidewalls have eroded

LEAK DETECTION SYSTEM FLUIDS DRY

maybe
Result of
RAIN

FOR TANKS:

GENERAL APPEARANCE Look to be in good shape

LABELLED PLAINLY YES X NO

BERMED TO PREVENT RUNOFF X YES NO

CHECK CONTENTS TO ASSURE PROPER FLUID/LABEL MATCH _____

NUMBER OF TANKS FOR 2 BRINE 1 FRESH WATER 1

LOADING AREA

PROPERLY GRADED AND BERMED TO CONTAIN SPILLAGE X YES NO

ANY EVIDENCE OF RECENT SPILLAGE NO YES X NO

DOES FACILITY HAVE A SPILL COLLECTION SYSTEM X YES NO

ANY EVIDENCE OF OIL SPILLING/DUMPING X YES NO

Has small ^{oil} wash water pit

slight
with
major

MONITORING WELLS

~~the~~ Have some oil spilled onsite small quantity

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

COMMENTS Has overhead rack w/ concrete pad and collection sump



STATE OF NEW MEXICO

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

Steven Asher, Director

TONY ANAYA
GOVERNOR

ROBERT McNEILL
SECRETARY

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

JOSEPH F. JOHNSON
DEPUTY SECRETARY

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

February 9, 1984

Mr. J.E. Haseloff, President
Wasserhund, Inc.
P.O. Box 249
Lovington, NM 88260

Dear Mr. Haseloff:

For your information, the responsibility for regulating brine extraction wells in the state of New Mexico was transferred in September, 1983 from the Oil Conservation Division (OCD) of the Energy and Minerals Department, to the Environmental Improvement Division (EID) of the Health and Environment Department.

The transfer will probably have no effect on your operation until 1986, when, if you plan to continue producing brine at your facility, you will need to start the process of applying for renewed approval of your discharge plan. Your present approval expires December 18, 1987, five years after the date the plan was approved.

At that time, you will need to prepare a discharge plan which includes the elements required under Section 5 as well as Section 3 of the Water Quality Control Commission (WQCC) Regulations (copy enclosed). Prior to December 20, 1982, a discharge plan consisted of only those elements listed in Section 3. Section 5 was added to the regulations in order to comply with federal Environmental Protection Agency (EPA) regulations to protect drinking water from pollution that might occur due to injection of fluids underground. The preparation of a Part 5 UIC application will require you to provide considerably more technical information than was needed for Part 3 discharge plan approval. It is for this reason that we recommend you begin to prepare your discharge plan renewal about eighteen months before the date that your current permit lapses. This should allow ample time for preparation, review, correction and final submittal of your new plan.

In the meantime, you are required to operate your facility in compliance with the standards of Section 3 of the WQCC Regulations. As time permits, we will

Mr. Haseloff
February 9, 1984
Page 2

undertake a review of your present discharge plan and your field operation, to assure that it meets those standards.

If you have any questions or require further information, please contact me at the above address and telephone number (ext. 285).

Sincerely,



Paige Grant
Hydrologist
Ground Water Section

PG:egr

Enclosure

cc: John Guinn, EID District IV, Manager
EID Field Office, Hobbs
Joe Ramey, Director, OCD

MSZ

EDSON ST. #1
- 8 - 67

INVENTORY OF SOLUTION MINING WELLS OIL CONSERVATION DIVISION, 1981

*. = please attach pertinent documents

I. OPERATOR / LOCATION INFORMATION

EDSON ST. #1

Operator WASSERHAND, INC
Address 1613 SOUTH LOUVE BOX 249
LOUINGTON, NM 88260 Phone _____

Well unit # M Location 567.4 / S 161.7 / W
T. 16 R. 35 Sec. 31 SW 1/4 SW 1/4 SW 1/4
County LEA

333

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

II. DRILLING / SITING INFORMATION

Contractor MARC DRILLING INCORPORATED

Date drilling started 8-21-80 Date drilling completed 8-28-80

Drilling method POTASH

Elevation of ground surface _____ How measured _____

Date measured _____ Order of survey _____

Name of surveyor _____

Total depth of hole _____

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

Type of drilling fluid FRESH WATER

Type of drilling mud if used (brand if known) INCO GEL

List any additives to the drilling mud, or any other chemicals put down well:
NONE

Describe casing tests performed UNKNOWN

Other tests _____

* = please attach pertinent documents

II. DRILLING / SITING (continued)

Casing, tubing, and cementing record (please attach copy)*

Note: if a copy is not available detail casing record on back of this sheet using the following format. Include brand or type of cement if known.

From	To	Size of Hole	Size of Casing	Weight per Foot	Sacks of Cement	Estimated Top of cmt.
------	----	--------------	----------------	-----------------	-----------------	-----------------------

Was mudcake on bore wall removed before cementing production casing? NA

Was salt saturated cementing material used opposite salt formation? YES

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

→ FRESH WATER WELL 150' WEST + 800' SOUTH

Site preparation (concrete pad, graded dirt, pit, etc) _____

GRADED CALICHE

Type of surface seal or well-head (locking security cap, welded, etc.) _____

7" WELL HEAD w/ CAP

Comments (include problems encountered while drilling, loss of circulation, deviation of hole from vertical, centralizers used, tools lost or stuck, fracturing techniques used, etc.) CENTRALIZERS ON CASING

_____ (use back of sheet if more space is required)

* = please attach pertinent documents

III. FORMATION INFORMATION

			Formation Record
From	To	Thickness	Formation (name, description)

1895-2555 660 SALADO

Logs (specify type) N/A

Identify where logs are on file N/A

* = please attach pertinent documents

IV. AQUIFER INFORMATION

Aquifers encountered during drilling

From	To	Aquifer Description	Amount of Water entering hole	Quality of Water
------	----	---------------------	-------------------------------	------------------

~~NOT AVAILABLE~~

#160 ± 270 DGALALLA

Note: if water quality analyses are available please attach.*

Source of aquifer description _____

Depth at which water was first encountered _____

Depth to which water rose _____

Source of water level data _____

Comments (include information regarding determination of piezometric level and method of sealing off water zone) _____

* = please attach pertinent documents

V. PRODUCTION / BRINE STORAGE INFORMATION

Method of production (describe fully) PUMP FRESH WATER
DOWN CASING BRINE RETURNED UP TUBING

Was well used previously for some purpose other than brine supply, potash dissolution, or LPG storage. If so use note to explain. NO

Use of brine DRILLING OIL WELLS ETC.

Source of injection water (be specific) FRESH WATER WELL 150'
FROM BRINE WELL

Attach detailed production history (include dates of production, amount of water injected, injection rates, amount of brine produced, production rates, method of gaging injection/production rates)*

Note: If the cavity was used for LPG storage include volumes of product injected and withdrawn as well as a summary of the maximum and minimum pressures during injection, storage and withdrawal.

Chemical analyses of injection water (attach)*

Note : Chemical analyses should include sampling point and method, pH, temperature, method of analysis, name and location of laboratory, etc.

Chemical analyses of water produced (attach)*

PROD. 1 OCT 1980 -
AVERAGE 20000 DBLS/MO PRODUCED BRINE WATER
INJECTED 100 bbls/hr
PRODUCE 100 bbls/hr

* = please attach pertinent documents

V. PRODUCTION / BRINE STORAGE (continued)

Brine storage facilities (describe) 11 000 bbls OPEN PIT STORAGE

Current condition/status of brine storage pit _____

Is brine storage pit currently being monitored for leakage? YES

Specify company or agency which is monitoring leakage OCN HOBBS

If pit leakage has been monitored in past use note to explain. _____

Comments on production history (note if production rates or brine concentrations have changed through time) NO CHANGE

* = please attach pertinent documents

VI. ABANDONMENT / PLUGGING RECORD

Date well abandoned/plugged _____ *N/A*

Reason for well abandonment or plugging _____ *N/A*

Method of Plugging (describe fully, include amounts of cement, est. top, plug type, depth, etc.) _____

VII. Further comments (subsidence noted, subsidence monitoring, leakage noted, natural subsidence features noted nearby, LPG storage data, etc.)

_____ *N/A* _____

Recorded by _____

Date _____

UNICHEM INTERNATIONAL

601 NORTH LEECH

P.O. BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : WASSERHUND INC.
 DATE : 5-12-81
 FIELD LEASE & WELL :
 SAMPLING POINT: SALT WATER
 DATE SAMPLED : 5-8-81

SPECIFIC GRAVITY = 1.217
 TOTAL DISSOLVED SOLIDS = 320106
 PH = 7.32

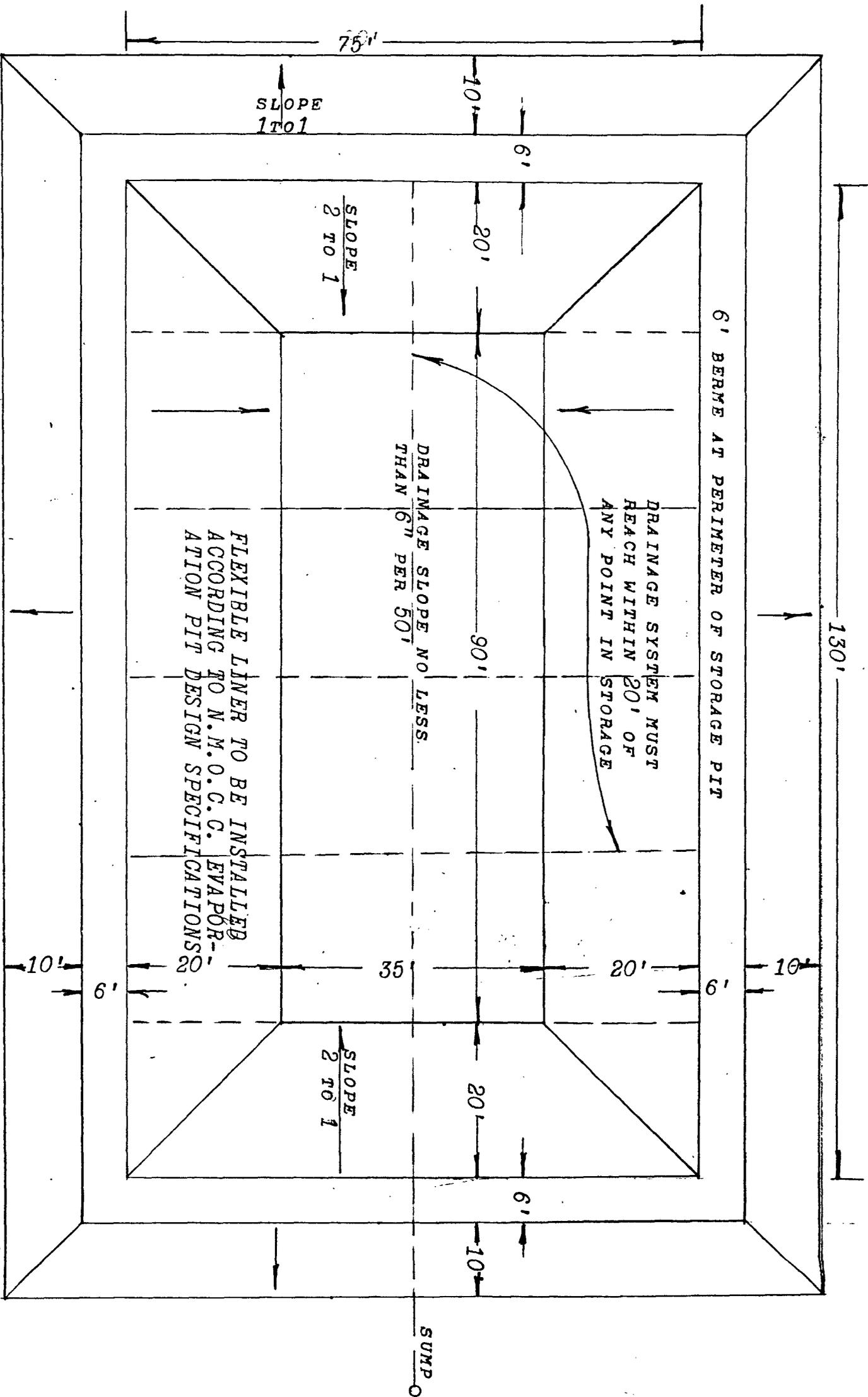
		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	41	821.
MAGNESIUM	(MG)+2	237	2880.
SODIUM	(NA).CALC.	5225.	120134.
ANIONS			
BICARBONATE	(HCO3)-1	2.4	-146.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	86.7	4166.
CHLORIDES	(CL)-1	5414.	191956.
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		1
BARIUM	(BA)+2	NOT RUN	
STRONTIUM	(SR)+2	NOT RUN	

SCALING INDEX

TEMP

CARBONATE INDEX	30C
CALCIUM CARBONATE SCALING	86F
	-3.8
	UNLIKELY
SULFATE INDEX	-.69
CALCIUM SULFATE SCALING	UNLIKELY

SAMPLED AT WELL HEAD



TOP ELEVATION - OPEN PIT BRINE STORAGE
 SCALE - 1/16" EQUALS 1'0"

WASSERHUND, INC

DRAINAGE SLOPE NO
LESS THAN 6" PER 50'

BOTTOM OF BRINE STORAGE
PIT WILL BE 4' BELOW GRADE

SUMP TO BE CORROSION
PROOF MATERIAL W/CAP

EXISTING GRADE

FLEXIBLE LINER TO BE INSTALLED
ACCORDING TO N.M.O.C.C. EVAPOR-
ATION PIT DESIGN SPECIFICATIONS

EXISTING GRADE

6' BERME

6' BERME

130'

142'

90'

20'

20'

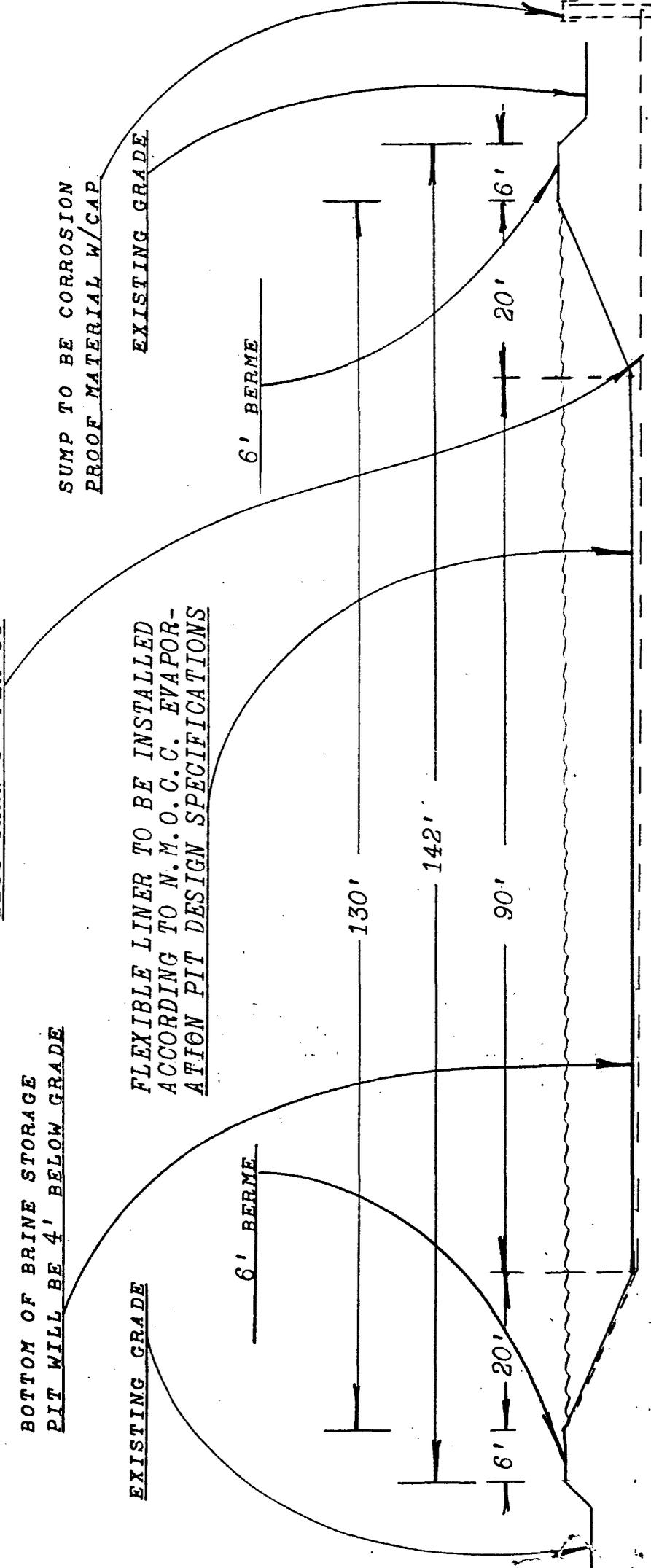
6'

6'

20'

CROSS SECTION - OPEN PIT BRINE STORAGE
SCALE - 1/16" EQUALS 1'0"

WASSERHUND, INC





STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

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

December 18, 1982

Wasserhund Incorporated
P. O. Box 249
Lovington, New Mexico 88260

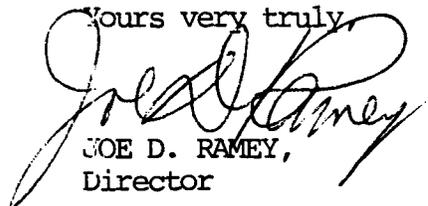
Re: GWB-1 Discharge Plan

Gentlemen:

The discharge plan submitted for the brine production facility and in site extraction well located in Section 31, Township 16 South, Range 35 East, NMPM, Lea County, New Mexico, is hereby approved.

The discharge plan was submitted pursuant to section 3-106 of the Water Quality Control Commission regulations. It is approved pursuant to section 109. Please note subsections 3-109.E and 3-109.F which provide for possible future amendment of the plan. Please also be advised that the approval of this plan does not relieve you of liability should your operations result in actual pollution of surface or ground waters which may be actionable under other laws and/or regulations.

Yours very truly,


JOE D. RAMEY,
Director

JDR/jc

ST APP 12-18-82

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
SANTA FE, NEW MEXICO

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following proposed discharge plan has been submitted for approval to the Director of the Oil Conservation Division, P. O. Box 2088, State Land Office Building, Santa Fe, New Mexico 87501, telephone (505) 827-3260.

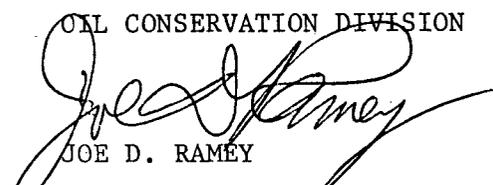
WASSERHUND, INC. P. O. Box 249, Lovington, New Mexico 88260, telephone (505) 396-3128, requests approval of their discharge plan for their brine in situ extraction well and facility located in Section 31, Township 16 South, Range 35 East, NMPM, Lea County, New Mexico. Wasserhund, Inc. injects water down their injection well to an underlying salt formation thereby dissolving the salt, forming a brine water solution with a total dissolved solids content of approximately 300,000 mg/L. Wasserhund, Inc. extracts and sells the brine water solution to various companies for use in oil and gas production.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the Director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN Under the Seal of the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 12th day of November, 1982.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


JOE D. RAMEY
Director



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

October 22, 1982

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

Wasserhund, Inc.
P.O. Box 249
Lovington, NM 88260

ATTENTION: J. E. Haseloff

RE: Discharge Plan for Brine
Facility Located in Section
31, T-16-S, R-35-E, NMPM
Lea County, New Mexico

Dear Sir:

The Oil Conservation Division (OCD) received your discharge plan for your brine facility located in Section 31, Township 16 South, Range 35 East, NMPM, Lea County, New Mexico. I have reviewed your plan and found that the following information is needed:

1) In Part 3 - WATER QUALITY CONTROL - Section 3-106

Application for discharge plan approval, page 25 is a procedural list (1 through 8) or outline of what is to be incorporated in a discharge plan. Please follow this outline by supplying a descriptive and detailed narrative for each of these items.

2) Under Section No. 1 of Section 3-106, Page 25

- a) State average quality of brine produced on a monthly basis for this year and yearly total produced for past years production.
- b) Your analysis of brine water is adequate.
- c) Flow characteristics of the discharge - submit a detailed flow diagram which illustrates how your facility operates or functions. Show how supply water is brought in, injected to make brine, stored, loaded, and reclaimed if spills occur. Submit a detailed narrative description of this process and how each stage is accomplished and controlled to prevent spillage and leakage. Submit photographs of each stage or mechanism, to further illustrate your narrative and flow

diagram. What metering system do you have to record brine produced and/or sold?

3) Under Item 2 of Section 3-106, Page 25

Submit a statement about Item No. 2 stating whether these conditions exist; relate this to the photocopies of the USGS topographic map you submitted. State what well(s) you have or will propose to use to monitor ground water beneath your brine facility.

4) Under Item 3 of Section 3-106, Page 25

Describe the ground water beneath your facility. Use those water wells nearest to your facility to obtain depth of ground water and total dissolved solids concentration (TDS) of the ground water. Show the locations of these wells on your topographic map.

5) Under Item 4 of Section 3-106, Page 25

Make a statement as to whether there is any flooding potential to your brine facility. Relate this to the topographic map. In other words, are there any large arroyos or drainage systems near your facility likely to cause flooding? Explain and relate your comments to the USGS topographic map.

6) Under Item No. 5 of Section 3-106, Page 25

Describe where such activities in Item No. 5 (where the OCD will be able to collect water samples at different points in your facility) can be performed. Show on schematic flow diagram - Example: Sample point for supply water and brine water from injection well or storage pit, etc.

7) Under Item No. 6 of Section 3-106, Page 25

Submit information describing the formations underlying your brine facility. Submit depths, thickness and lithology (rock type and/or makeup) especially the top of the salt section. Lithology can be obtained from driller's logs from your brine well, water well and other nearby oil and gas wells. Information on formation tops and thickness might be obtained from the OCD Hobbs District Office; contact Paul Kautz for help and assistance. Show this information on your brine well schematic and water well.

- 8) On your brine storage tank diagram the location or configuration of a leak detection system is not evident; please resubmit a schematic which illustrates and describes this.
- 9) Show the location of all water wells within a two mile radius of your facility on the topographic map.
- 10) Show the depth and size of open hole below casing in the salt section.
- 11) Is there an accounting system used to keep track of supply waters used versus brine water produced - Explain other procedures if applicable.

If you have any questions on this matter, please contact me at (505) 827-3260.

Sincerely,



Oscar Simpson, III
Water Resource Specialist

OS/dp

WASSERHUND, INCORPORATED

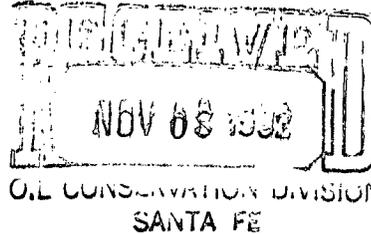
PO. BOX 249

LOVINGTON, NEW MEXICO 88260

J. E. "PETE" HASELOFF
President
J. E. HASELOFF, JR.
Vice - President
RUSSELL E. HASELOFF
Secretary - Treasurer

NOVEMBER 1, 1982

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION



ATTENTION: MR. OSCAR SIMPSON III

RE: DISCHARGE PLAN FOR BRINE
FACILITY LOCATED IN SECTION
31, T-16-S, R-35-E, NMPM
LEA COUNTY, NEW MEXICO

DEAR SIR:

SUBMITTED HERewith IS A DETAILED NARRATIVE FOR THE ABOVE
MENTIONED BRINE WELL.

WASSERHUND, INCORPORATED, WHO OWNS THE WELL, COMMENCED
PRODUCING BRINE WATER IN OCTOBER OF 1980. THE AVERAGE
QUALITY OF THE BRINE WATER IS 10 POUNDS PER GALLON. QUANTITY
OF WATER PRODUCED IN 24 CALENDER MONTHS OF OPERATION HAS
BEEN 631,271 BARRELS WITH AN AVERAGE OF 26,303 BARRELS PER
MONTH.

THE MOST CURRENT BRINE WATER ANALYSIS IS EXHIBIT 1.

THE MOST CURRENT FRESH WATER ANALYSIS IS EXHIBIT 2.

FRESH WATER IS PUMPED FROM A WELL SHOWN IN EXHIBITS 3, 4,
5, 6, 7, & 11 TO A 500 BARREL STORAGE TANK SHOWN IN
EXHIBITS 4, 5, & 15. FROM THIS TANK FRESH WATER IS DRAWN
THROUGH A 7 1/2 HP. PUMP DIRECTLY TO AN OVERHEAD TRUCK
LOADING SYSTEM SHOWN IN EXHIBITS 4, 8, & 18. FRESH WATER
IS ALSO DRAWN FROM THIS TANK AND IS PUMPED UNDER 390#
PRESSURE DOWN TO THE SALT SECTION OF THE BRINE WELL AS
SHOWN IN EXHIBITS 4, 5, 9, 12, & 14. BRINE WATER IS RETURNED
THROUGH THE TUBING AND DEPOSITED IN AN OPEN LINED RESERVOIR
HOLDING 11,000 BARRELS AS SHOWN IN EXHIBITS 4, 5, 10, 20, &
21. FROM THIS LINED RESERVOIR BRINE WATER IS DRAWN THROUGH
A 7 1/2 HP. PUMP DIRECTLY TO AN OVERHEAD TRUCK LOADING
SYSTEM SHOWN IN EXHIBITS 4, 8, 13, & 20. EXHIBITS 4, 5, 8,
& 18 SHOW A CONCRETE LOADING RAMP COMPLETE WITH A CONCRETE
SUMP TANK TO CATCH ANY SPILLS OR OVERFLOWS. IN THE EVENT OF
A SPILL OR OVERFLOW, AN ELECTRICAL AUTOMATIC FLOAT SWITCH
ACTIVATES A SUMP PUMP AND ANY SPILLAGE OR OVERFLOW IS PUMPED
INTO THE ELEVATED 180 BARREL TANK SHOWN IN EXHIBIT 19.

WATER FROM THIS TANK IS MANUALLY GRAVITY FED BACK INTO THE BRINE OPEN STORAGE PERIODICALLY AS SHOWN IN EXHIBITS 4, 19.

WASSERHUND INCORPORATED, IS AUTOMATICALLY METERED TO THE EXTENT THAT WATER, BRINE AND FRESH, CAN BE COUNTED AT ANY TIME. LOW AND HIGH PRESSURE SWITCHES ARE MOUNTED ON ALL LINES, AND IN THE EVENT OF A BREAK, SPILL, OR OVERFLOW, THAT THE SUMP PUMP CANNOT HANDLE, THE FACILITY SHUTS DOWN COMPLETELY AND AUTOMATICALLY. SOME OF THE AUTOMATION IS SHOWN IN EXHIBITS 15 & 16.

FRESH WATER IS OBTAINED FROM THE OGALLALA FORMATION FROM A WELL SHOWN IN EXHIBITS 3, 4, 5, 6, 7, & 11, AND THE MOST CURRENT FRESH WATER ANALYSIS IS EXHIBIT 2. OTHER FRESH WATER WELLS IN A TWO MILE RADIUS ARE SHOWN ON EXHIBIT 6.

THE BRINE STORAGE FACILITY OF WASSERHUND, INCORPORATED, IS ELEVATED BY AN EARTH DIKE TO A POINT AT LEAST 4 FEET ABOVE GROUND LEVEL. THERE ARE NO ARROYOS, CREEKS, OR RIVERS WITHIN 10 MILES OF THE FACILITY. SEE EXHIBIT 6.

EXHIBIT 9 SHOWS THE LITHOLOGY BENEATH THE BRINE FACILITY. THIS INFORMATION WAS OBTAINED FROM THE OCD OFFICE IN HOBBS, NEW MEXICO.

QUARTERLY REPORTS FOR BOTH FRESH WATER AND BRINE WATER PRODUCED ARE SENT TO THE PROPER AUTHORITIES. FRESH WATER REPORTING GOES TO THE WATER RESOURCES DIVISION, BOX 1717, ROSWELL, NEW MEXICO. BRINE WATER REPORTING GOES TO THE COMMISSIONER OF PUBLIC LANDS, SANTA FE, NEW MEXICO.

SAMPLES OF FRESH WATER CAN BE TAKEN AS SHOWN IN EXHIBITS 15, 13, & 18. BRINE WATER SAMPLES CAN BE TAKEN AS SHOWN IN EXHIBITS 13 & 17.

THIS DISCHARGE PLAN RESPECTFULLY SUBMITTED,


WASSERHUND, INCORPORATED
J.E. HASELOFF-PRESIDENT

UNICHEM INTERNATIONAL

601 NORTH LEECH

P.O. BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : WASSERHUND INC.
 DATE : 10-8-82
 FIELD, LEASE & WELL : WATER STATION
 SAMPLING POINT: BRINE WATER
 DATE SAMPLED : 10-8-82

SPECIFIC GRAVITY = 1.23
 TOTAL DISSOLVED SOLIDS = 340166
 PH = 6.87

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	30.6	614.
MAGNESIUM	(MG)+2	269.	3274.
SODIUM	(NA), CALC.	5490.	126229.
ANIONS			
BICARBONATE	(HCO3)-1	1.5	91.5
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	374.	18000
CHLORIDES	(CL)-1	5414.	191956.
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		1.1
BARIUM	(BA)+2	NOT RUN	
MANGANESE	(MN)	NOT RUN	

SCALING INDEX

TEMP

CARBONATE INDEX
 CALCIUM CARBONATE SCALING

30C
 86F
 -5.5
 UNLIKELY

SULFATE INDEX
 CALCIUM SULFATE SCALING

.373
 LIKELY

EXHIBIT # 1

UNICHEM INTERNATIONAL

601 NORTH LEECH

P.O. BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : WASSERHUND INC.
 DATE : 10-12-82
 FIELD LEASE & WELL : WATER STATION
 SAMPLING POINT : FRESH WATER
 DATE SAMPLED : 10-8-82

SPECIFIC GRAVITY = 1
 TOTAL DISSOLVED SOLIDS = 479
 PH = 7.97

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	2.2	44.0
MAGNESIUM	(MG)+2	4.5	54.9
SODIUM	(NA).CALC.	.58	13.5
ANIONS			
BICARBONATE	(HCO3)-1	3.4	213
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	1.5	74
CHLORIDES	(CL)-1	2.2	79.9
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		.3
BARIUM	(BA)+2		.2
MANGANESE	(MN)	NOT RUN	

SCALING INDEX

TEMP

CARBONATE INDEX
 CALCIUM CARBONATE SCALING

30C
 86F
 3.76
 LIKELY

SULFATE INDEX
 CALCIUM SULFATE SCALING

-11
 UNLIKELY

EXHIBIT # 2



FRESH WATER WELL

SECTION LINE FENCE

EXHIBIT # 3



THE REPRODUCTION OF

THE

FOLLOWING

DOCUMENT (S)

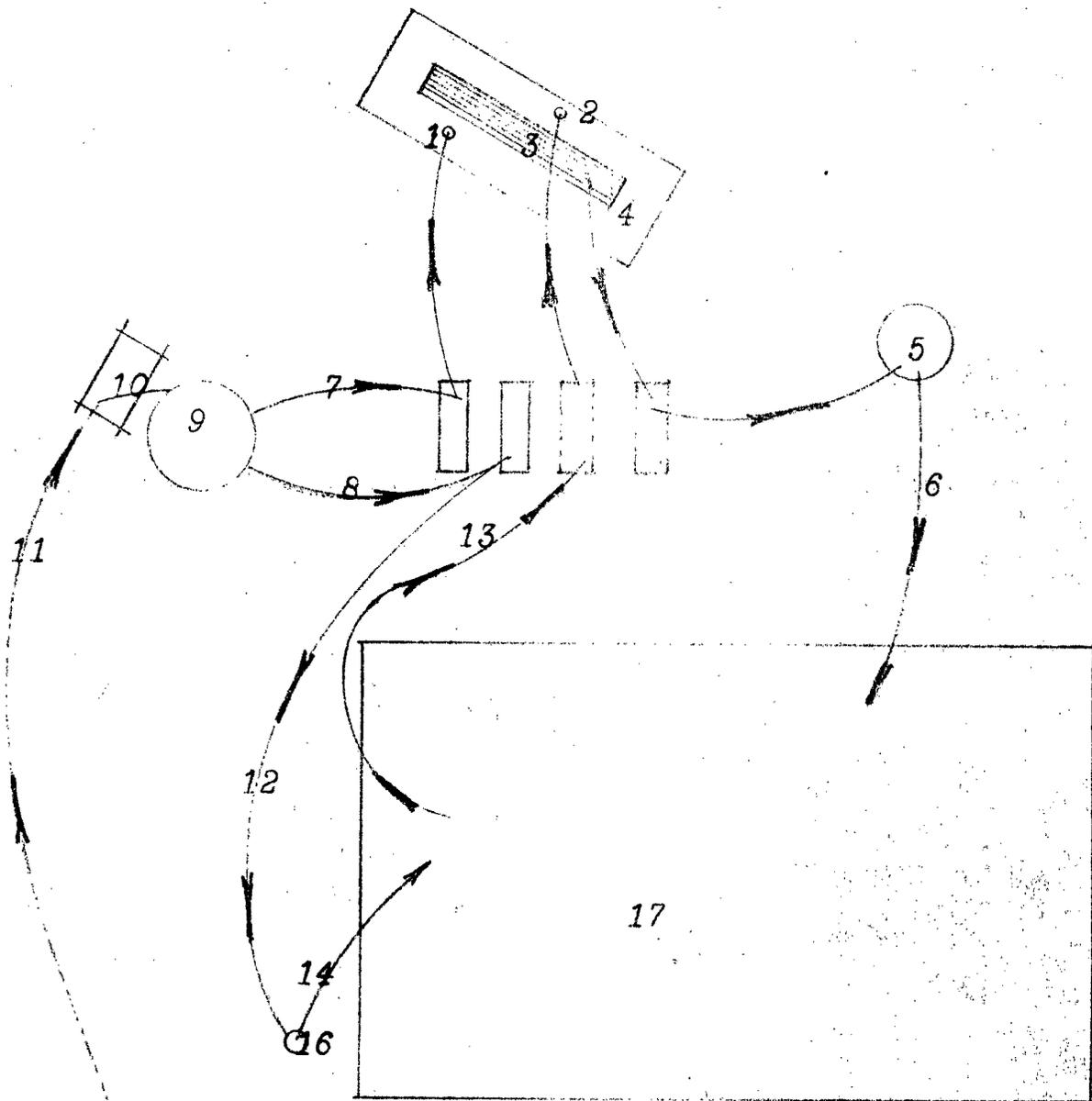
CANNOT BE IMPROVED

DUE TO

THE CONDITION OF

THE ORIGINAL

PIPING AND WATER FLOW DETAIL



1. 4" OVERHEAD LOADING PIPE - FRESH WATER
2. 4" OVERHEAD LOADING PIPE - BRINE WATER
3. 85 BBL UNDERGROUND SUMP TANK
4. CONCRETE LOADING RAMP
5. ELEVATED 180 BBL TANK FROM SUMP
6. 2" GRAVITY FLOW TO BRINE STORAGE
7. 6" PIPE TO FRESH WATER LOADING PUMP
8. 4" PIPE TO TRIPLEX PUMP - FRESH WATER
9. 500 BBL FRESH WATER STORAGE TANK
10. FRESH WATER SAND TRAP
11. 4" PIPE FROM FRESH WATER WELL
12. 2" PIPE FROM TRIPLEX PUMP TO BRINE WELL
13. 6" PIPE FROM BRINE STORAGE TO LOADING PUMP
14. 2" PIPE PRODUCED BRINE TO STORAGE
15. FRESH WATER WELL
16. BRINE WELL
17. LINED OPEN BRINE STORAGE- 11000 BBLs

EXHIBIT #4

NORTH

1" EQUALS 50'

HIGHWAY #8

450'

LOADING & SUMP

FRESH WATER SAND TRAP

FRESH WATER TANK

GATE

PUMPS & CONTROLS

SKIMMER TANK

525'

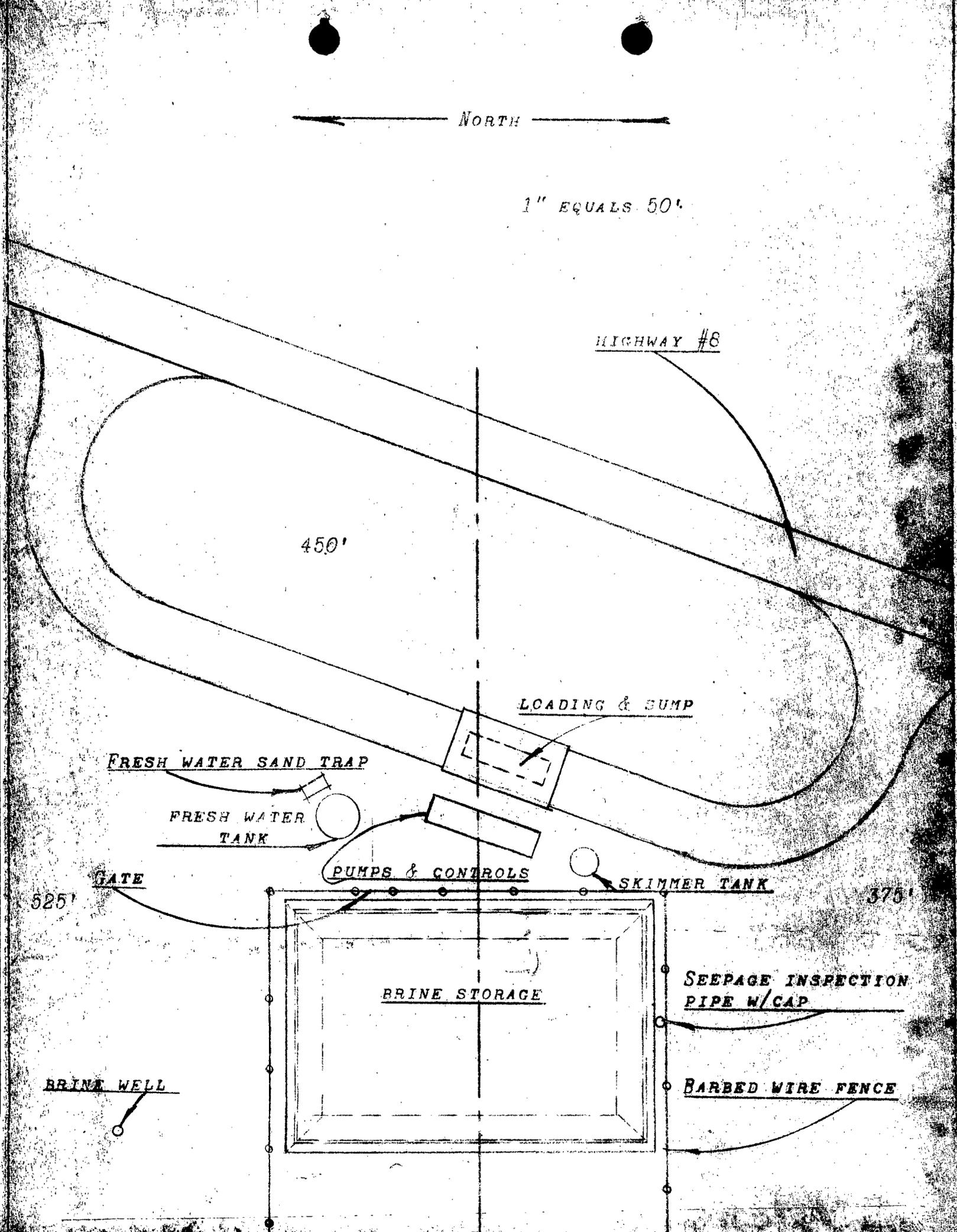
375'

BRINE STORAGE

SEEPAGE INSPECTION PIPE W/CAP

BRINE WELL

BARBED WIRE FENCE



LOCATION OF WATER WELL WITHIN
A TWO MILE RADIUS FURNISHED BY
STATE ENGINEER OFFICE - NATURAL
RESOURCES DIVISION, ROSWELL,
NEW MEXICO

WASSERHUND, INC.
FRESH WATER WELL

DOTS INDICATE
OTHER FRESH WATER
WELLS

16711

19K

EXHIBIT #6

FRESH WATER WELL
EIDSON RANCH, INC - PERMITEE
c/o J. E. HASELOFF - AGENT
Box 249
LOVINGTON, NEW MEXICO 88260

LOCATION: NE $\frac{1}{4}$ SE $\frac{1}{4}$ SEC36
TWP 16S RGE 34E
LEA COUNTY

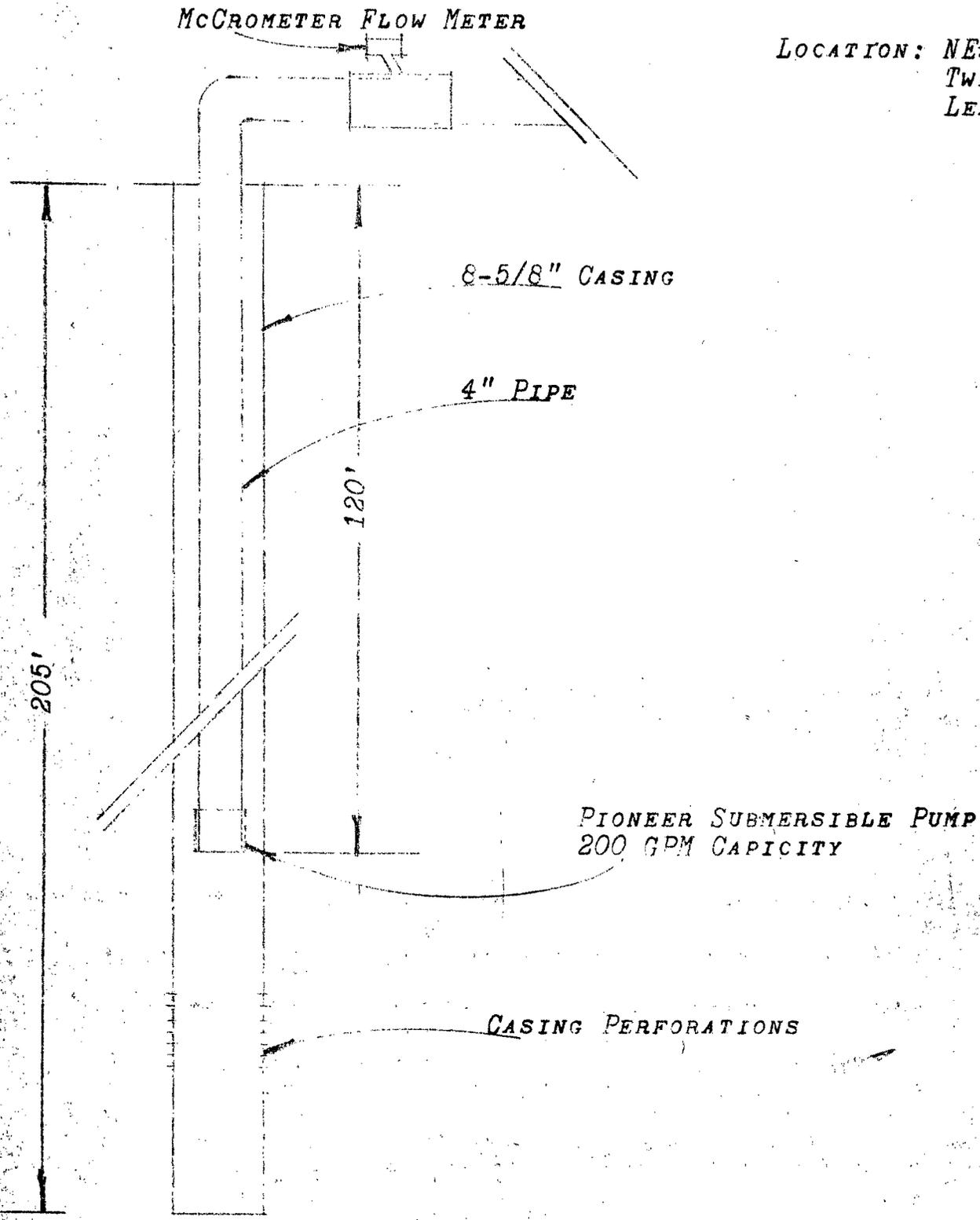
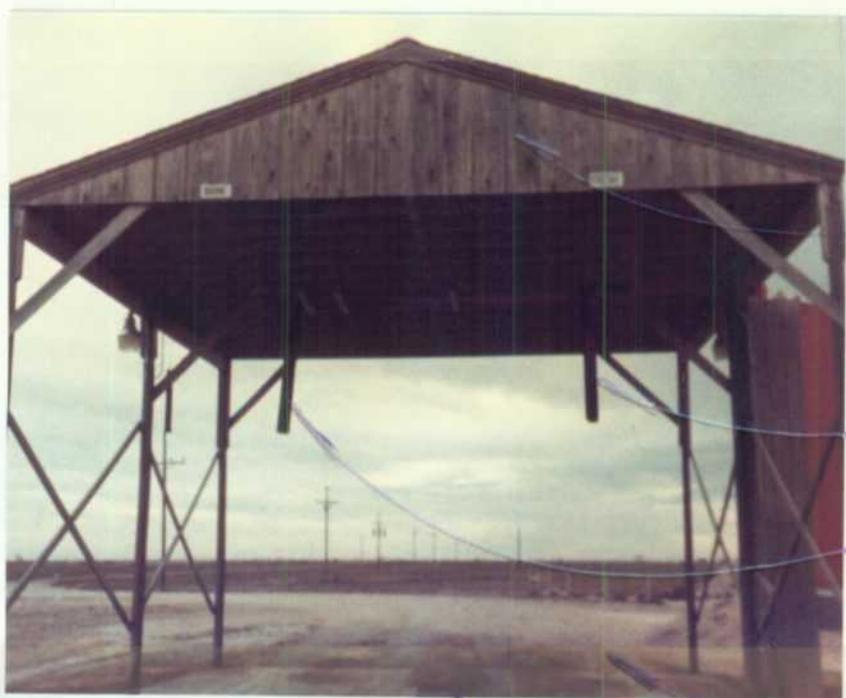


EXHIBIT #7



LOADING SHED

FRESH WATER LOADING PIPE

BRINE WATER LOADING PIPE

CONCRETE LOADING RAMP

CONCRETE SUMP

EXHIBIT # 8

LT WELL CROSS SECTION

BRINE TO APPROVED
LINED OPEN PIT

WASSERHUND INC
Box 249
LOVINGTON, N.M. 88260

WELLHEAD

FRESH WATER TO
SALT FORMATION
GL

35.80" 13-3/8" SURFACE CASING

CEMENT CIRCULATED FROM BOTTOM TO SURFACE

7" CASING

205' OGALLALA FORMATION

2-7/8" TUBING

9-7/8" HOLE

5 1/2" OPEN HOLE DRILLED

1690' TRIASSIC (RED BEDS)

40' RUSTLER FORMATION

LOCATION:

UNIT LETTER M, 567.4 FEET FROM THE
SOUTH LINE AND 161.7 FEET FROM THE
WEST LINE, SECTION 31, TOWNSHIP 16S,
RANGE 35E, LEA COUNTY

1100' SALADO (SALT) FORMATION

2461.0'

1895.0'

EXHIBIT # 9

TO UTILIZE A LINED EVAPORATION PIT

New Mexico Oil Conservation Commission

Name of Operator WASSERHUND, INCORPORATEDAddress 1613 SOUTH LOPE STREET, LOVINGTON, NEW MEXICO 88260Name of lease upon which evaporation pit will be located EDISON STATE #1Location of evaporation pit: Unit Letter M Section 31 Township 16S Range 36ELease(s) which will be producing into pit EDISON STATE #1Pool(s) which will be producing into pit N/AAnalysis of disposal water: Chlorides N/A ppm. Total dissolved solids N/A ppm.
(If more than one pool will be producing into pit, give water analysis for each pool.)Quantity of water to be disposed of into this pit N/A barrels per day.Water production from these same wells six months ago N/A bpd. Three months ago N/A bpd.
(If more than one pool will be producing into pit, give water production data for each)Method of hydrocarbon entrapment to be employed: Settling tank N/A Header pit N/AIf settling tank is to be used, give size and number of barrels N/AIf header pit is to be used, give dimensions and depth N/AHeader pit lining material N/A Thickness N/ADimensions of Evaporation Pit ("A" and "B" on diagram) PLANS SUBMITTEDArea of square feet contained in above 9750Depth (Top of levee to floor of pit--"D" on diagram) PLANS SUBMITTEDMaterial to be used as liner DURONT XR5 Thickness 30NDoes manufacturer recommend protection of material from direct sunlight? Yes No

If yes, what means will be provided to so protect the material? _____

Is material resistant to hydrocarbons? Yes X No _____Is material resistant to acids and alkalis? Yes X No _____Is material resistant to salts? Yes X No _____Is material resistant to fungus? Yes X No _____Is material rot-resistant? Yes X No _____Will joints in material be fabricated in the field? Yes _____ No X

If yes, describe method to be used in lining material _____

Attach manufacturer's brochure describing the qualities of the lining material. _____

Describe the leakage detection system to be used PLANS SUBMITTED

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and further, that the subject evaporation pit and appurtenances, when installed, will be kept in good repair, and that all due diligence will be exercised in keeping the surface of the water free of oil and other debris.

Name J. K. S. S. S. Title PRESIDENT Date 18 JUN 80Approved by _____ Title _____ Date JUN 20 1980

Orig. Signed J
 Jerry S. S.
 Dist. 1, Supv.

EXHIBIT 10

130'

6' BERME AT PERIMETER OF STORAGE PIT

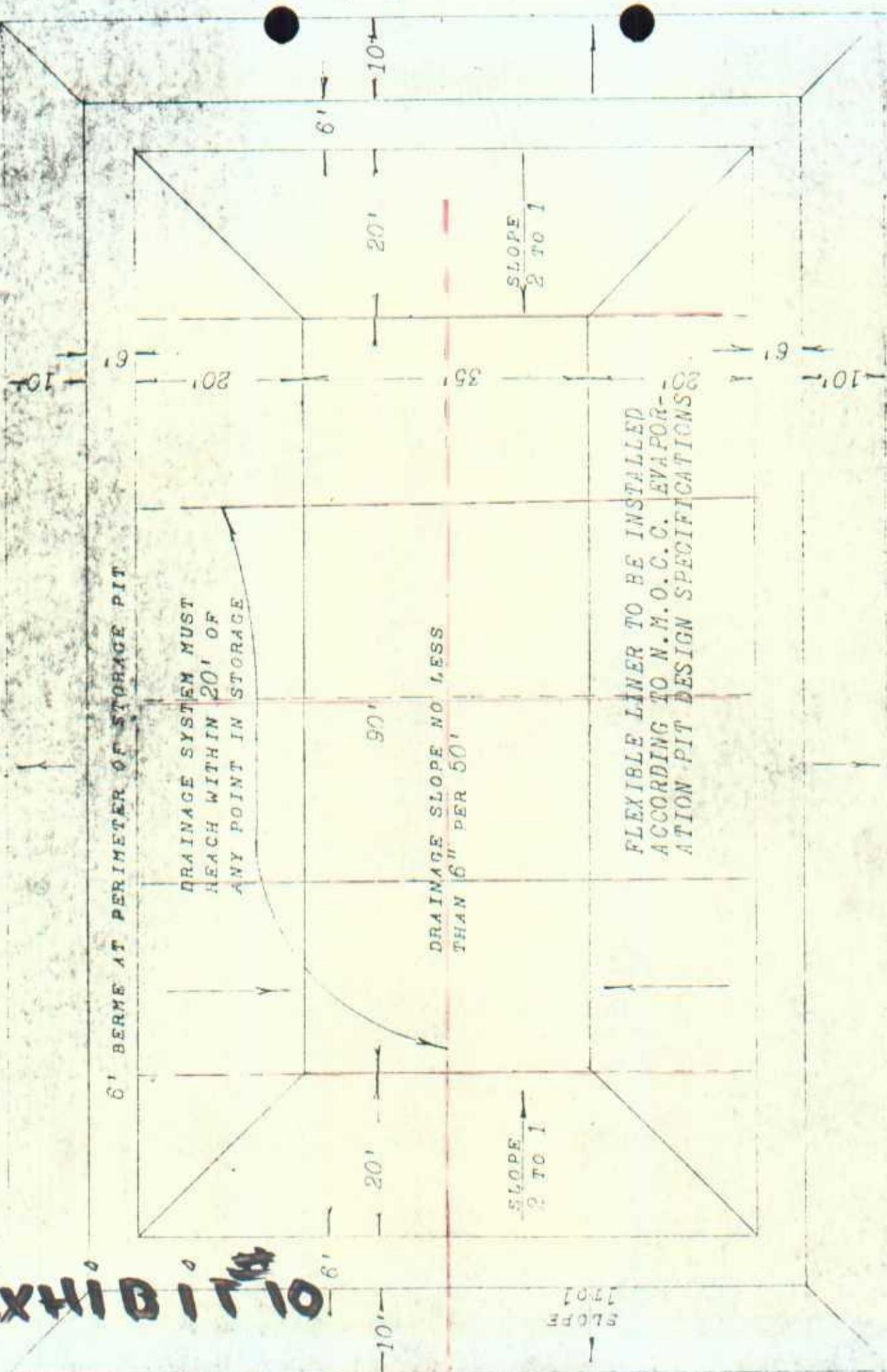
DRAINAGE SYSTEM MUST REACH WITHIN 20' OF ANY POINT IN STORAGE

DRAINAGE SLOPE NO LESS THAN 6" PER 50'

FLEXIBLE LINER TO BE INSTALLED ACCORDING TO N.M.O.C.C. EVAPORATION PIT DESIGN SPECIFICATIONS

SLOPE 2 TO 1

SLOPE 2 TO 1



TOP ELEVATION - OPEN PIT BRINE STORAGE
SCALE - 1/16" EQUALS 1'0"

WASSERHUND, INC

EXHIBIT # 10

DRAINAGE SLOPE NO
LESS THAN 6" PER 50'

BOTTOM OF BRINE STORAGE
PIT WILL BE 4' BELOW GRADE

SUMP TO BE CORROSION
PROOF MATERIAL W/CAP

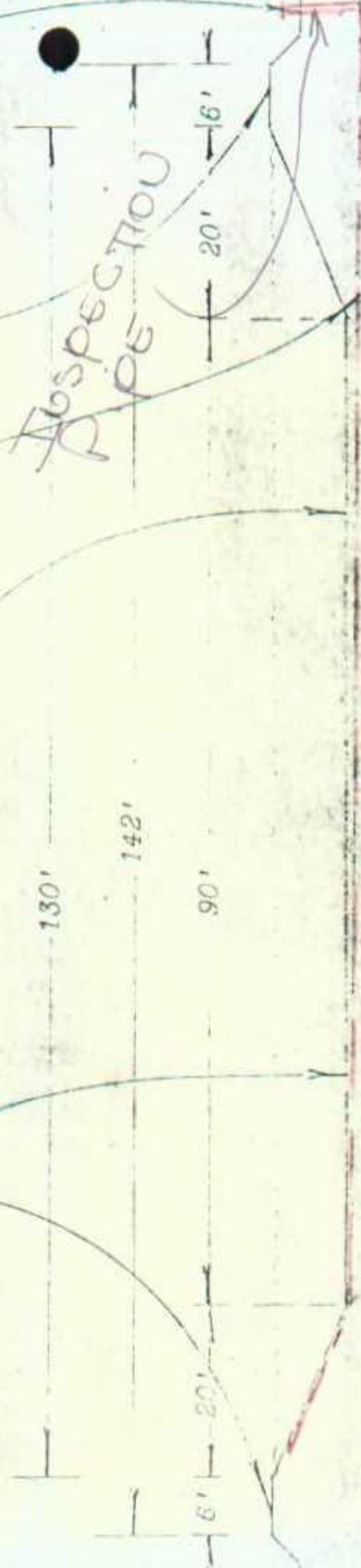
EXISTING GRADE

FLEXIBLE LINER TO BE INSTALLED
ACCORDING TO N.M.O.C.C. EVAPOR-
ATION PIT DESIGN SPECIFICATIONS

EXISTING GRADE

6' BERME

6' BERME



CROSS SECTION - OPEN PIT BRINE STORAGE
SCALE - 1/16" EQUALS 1' 0"

PROOF OF COMPLETION OF WELL

Permit No. L-8222

1. Name of Water Right Owner EIDSON PANCH, INC.
Mailing address C/O J. E. HASELOFF - 1613 SOUTH LOVE STREET
City and State LOVINGTON, NEW MEXICO 88260

2. Permit is for _____ from _____ ground water.
(supplemental well, change location of well) (artesian or shallow)

3. Description of well:
Located in the NE 1/4 SE 1/4 SE 1/4 of Sec. 36 Twp. 16S Rge. 34E N.M.P.M., or Tract No. _____
of Map No. _____ of the _____ District; total depth 205 feet; is well cased yes;
outside diameter of top casing (or hole, if uncased) 5 5/8 inches; if artesian, is well equipped with gate
valve _____; date drilled 6-20 to 7-9 1980; Name of driller Glenn's Water Well Service

4. Record of Pumping Test, if made (to be supplied by person or firm making test); Name and address of
person making test, W-H-B, INC. - LOVINGTON, NEW MEXICO
date of test 7-23 & 7-24 1980; depth to water before test, 85 feet BELOW land surface
(above, below)
and pumping level during test, 120 feet; length of test, 24 hours; average discharge, 200 G.P.M.
specific capacity of well, 6.25 gals./min. per foot of drawdown.

5. Permanent Pump Equipment:
(a) Description of pump: Make PIONEER; Type SUBMERSIBLE
size of discharge 4 inches; if turbine type, give size of column, _____ inches; diameter of
bowls _____ inches; number of bowls _____; length of suction pipe _____ feet; total length of
column, bowls and suction pipe _____ feet; if centrifugal type, give size of pump _____ inches;
if other type, describe _____
rated capacity of pump (if known), 200 G.P.M., at 3450 rev. per min., from a depth of 120 feet.

(b) Description of power plant: Make ELECTRIC MOTOR; Type SUBMERSIBLE
rated horsepower (if available) 15; type of drive connection to pump DIRECT
(direct, gearhead, or belt)

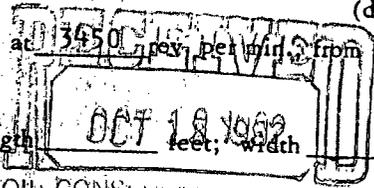
(c) Actual discharge of pump, 200 G.P.M., at 3450 rev. per min., from a depth of 120 feet;
Date of test 7-23 & 7-24 1980.

6. If reservoir is used, give approximate size: length _____ feet; width _____; depth _____

7. If above well replaced an old well to be plugged or abandoned, fill out the following: the well abandoned
is located in the _____ 1/4 _____ 1/4 _____ 1/4 of Sec. SANTA FE, Rge. _____

Describe plugging method _____
Name of plugging contractor _____

8. Well Record filed with State Engineer's Office SEE DRILLERS REPORT Yes
(Yes or No)



STATE ENGINEER'S OFFICE
ROSWELL, N.M.
SEP 18 AM 6:00

J.E. HASELOFF, affirm that the foregoing statements are true to the best of my knowledge
and belief and that I am the AGENT FOR owner and holder of said water right
(sole, partial, agent for, etc.,)

EIDSON PANCH, INC., Permittee
J.E. HASELOFF

STATEMENT OF STATE ENGINEER'S REPRESENTATIVE

I hereby certify that I have inspected the above well and find it constructed in accordance with the conditions
of the permit. Note any exceptions None

Well was producing _____ gpm against a _____ head of _____ feet at _____ rpm.
(measured) (estimated) N/A

Old well has been _____
(plugged) (capped) (retained for other rights)

By: Rob Bess
Title: Los County Santa Supervisor
Date: October 9, 1980

NO. OF COPIES RECEIVED	
DISTRIBUTION	
SANTA FE	
FILE	
U.S.G.E.	
LAND OFFICE	
OPERATOR	

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. OIL WELL GAS WELL OTHER BRINE

2. Name of Operator
WASSERHUND, INC

3. Address of Operator
1613 SOUTH LOVE STREET, LOVINGTON, N. MEXICO 88260

4. Location of Well
UNIT LETTER M 567.4 FEET FROM THE SOUTH LINE AND 161.7 FEET FROM THE WEST LINE, SECTION 31 TOWNSHIP 16 S RANGE 35 E N.M.P.M.

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

7. Unit Agreement Name

8. Farm or Lease Name
EIDSON STATE

9. Well No.
1

10. Field and Pool, or Wildcat

12. County
LEA

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

NOTICE OF INTENTION TO DRILL

SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK

TEMPORARILY ABANDON

PULL OR ALTER CASING

OTHER

PLUG AND ABANDON

CHANGE PLANS

OIL CONSERVATION DIVISION
SANTA FE

REMEDIAL WORK

COMMENCE DRILLING OPNS.

CASING TEST AND CEMENT JOB

OTHER DRILLED FOR SALT

ALTERING CASING

PLUG AND ABANDONMENT

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1703.

9-7/8" HOLE
COMMENCED ROTARY DRILLING 21AUG80 - COMPLETED ROTARY DRILLING 23AUG80
SET 35.80' 13-3/8" SURFACE CASING - RAN 50 JTS 7" 32# & 35# USED
TESTED CASING SET AT 1895.0' - CEMENTED WITH 265 SKS CLASS "0"
CEMENT, 570 SKS HALLIBURTON LIGHT CEMENT CONTAINING 4560# SALT MIXED
8# W/570, 142# FLOCELE MIXED 1/4# W/570, AND 5SKS CACL MIXED 2# W/265 -
PLUGGED DOWN AT 5:30 PM 23AUG80 - CIRCULATED ABOVE CEMENT FROM TOTAL
DEPTH TO SURFACE - LET CEMENT SET 48 HRS - REQUIRED REVERSE UNIT TO
DRILL OPEN HOLE INTO SALT FORMATION TO A TD OF 2555' - RAN 84 JTS
2-7/8" 7.9# C-75 DSSHT TESTED USED TUBING TO 2461.0' - COMMENCED
PUMPING FRESH WATER DOWN 7" CASING AND RETURNING 9.8# PER GALLON
BRINE THROUGH 2-7/8" TUBING - BRINE BEING PUMPED INTO APPROVED
LINED OPEN PIT

EXHIBIT # 12

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

SIGNED WASSERHUND, INC TITLE PRESIDENT DATE 17SEP80

APPROVED BY Jerry Sexton TITLE DATE SEP 18 1980

CONDITIONS OF APPROVAL None

LOADING SHED



SUMP PUMP DOOR

BRINE LOADING PUMP DOOR

INJECTION PUMP DOOR

FRESH LOADING PUMP DOOR

AUTOMATION AND ELECTRICAL
DOOR

EXHIBIT # 13

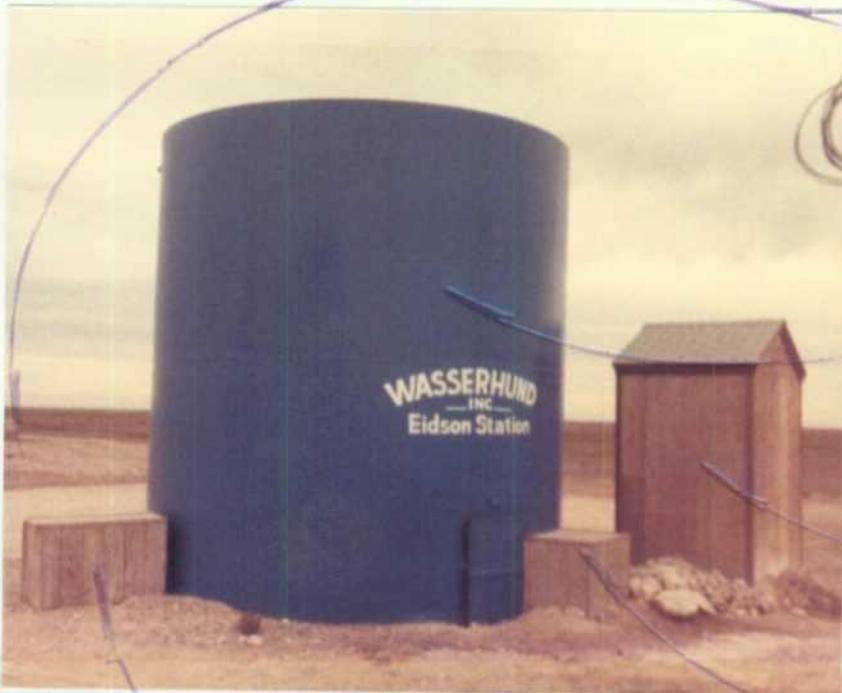


BRINE WATER STORAGE
11,000 BBLs

BRINE WELL

FRESH WELL JUST OUT
OF PICTURE

EXHIBIT # 14



BRINE WELL

FRESH WATER STORAGE TANK

FRESH WATER SAND TRAP
INSIDE THIS BUILDING

FREEZE BOXES CONTAIN
AUTOMATION AND LOW-HIGH
SWITCHES

EXHIBIT # 15



KEY SYSTEM W/AUTOMATIC
COUNTERS FOR BOTH BRINE
AND FRESH WATER

EXHIBIT # 16



BRINE WATER SAMPLES MAY
BE OBTAINED THROUGH THIS
GATE AND UP THOSE STEPS

EXHIBIT # 17

NEW MEXICO STATE HIGHWAY #8



BRINE LOADING PIPE

FRESH LOADING PIPE

CONCRETE LOADING RAMP

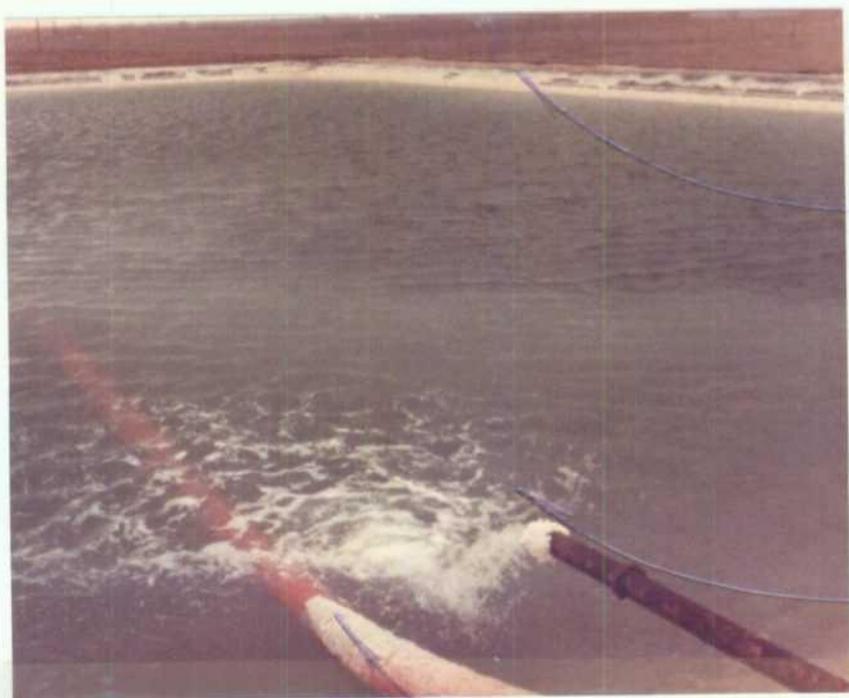
CONCRETE SUMP

EXHIBIT #18



ELEVATED
180 BARREL HOLDING TANK
FROM SUMP TANK THAT WATER IS
GRAVITY FED BACK TO BRINE
STORAGE

EXHIBIT # 19



BRINE STORAGE LINER

PRODUCED BRINE WATER FROM
SALT SECTION

BRINE LOADING PUMP SUCTION

EXHIBIT # 20



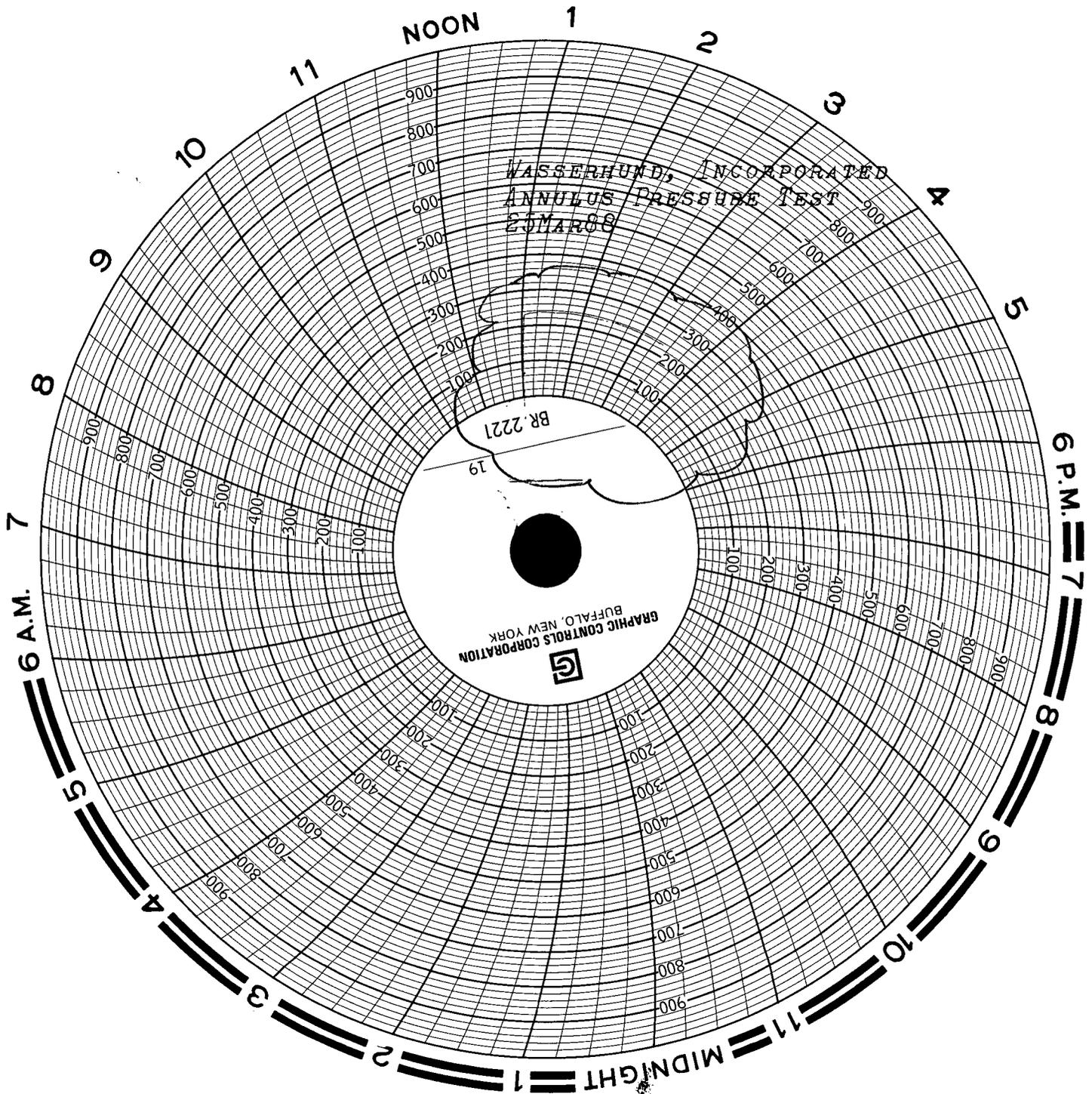
BRINE STORAGE

EARTH DIKE

BARBED WIRE FENCE

SEEPAGE INSPECTION PIPE

EXHIBIT #21





12/7/88

~~Matthew~~ Wasserhund Inc DP-321

Loading Area Looking North



12/1/88
Wasserhand Inc

Brine Storage Lagoon

Looking North

Note: Salt buildup above
freeboard & on ground
surface from wind
washover



12/7/88

Wasserhund, Inc DP-321

Brine Storage Lagoon

Looking N.E.

Note: Salt Buildup Above freeboard



Wasserhund W. of Buckeye
(Brine station)

5/16/84 AJS



12/7/88

Wasserhund Inc DP-321

Brine Storage Lagoon
Looking EAST

Note: Brine/SALT buildup on ground
from wind washover from
Lagoon



188
Wasserkund Inc
Brine Storage Lagoon
Looking South



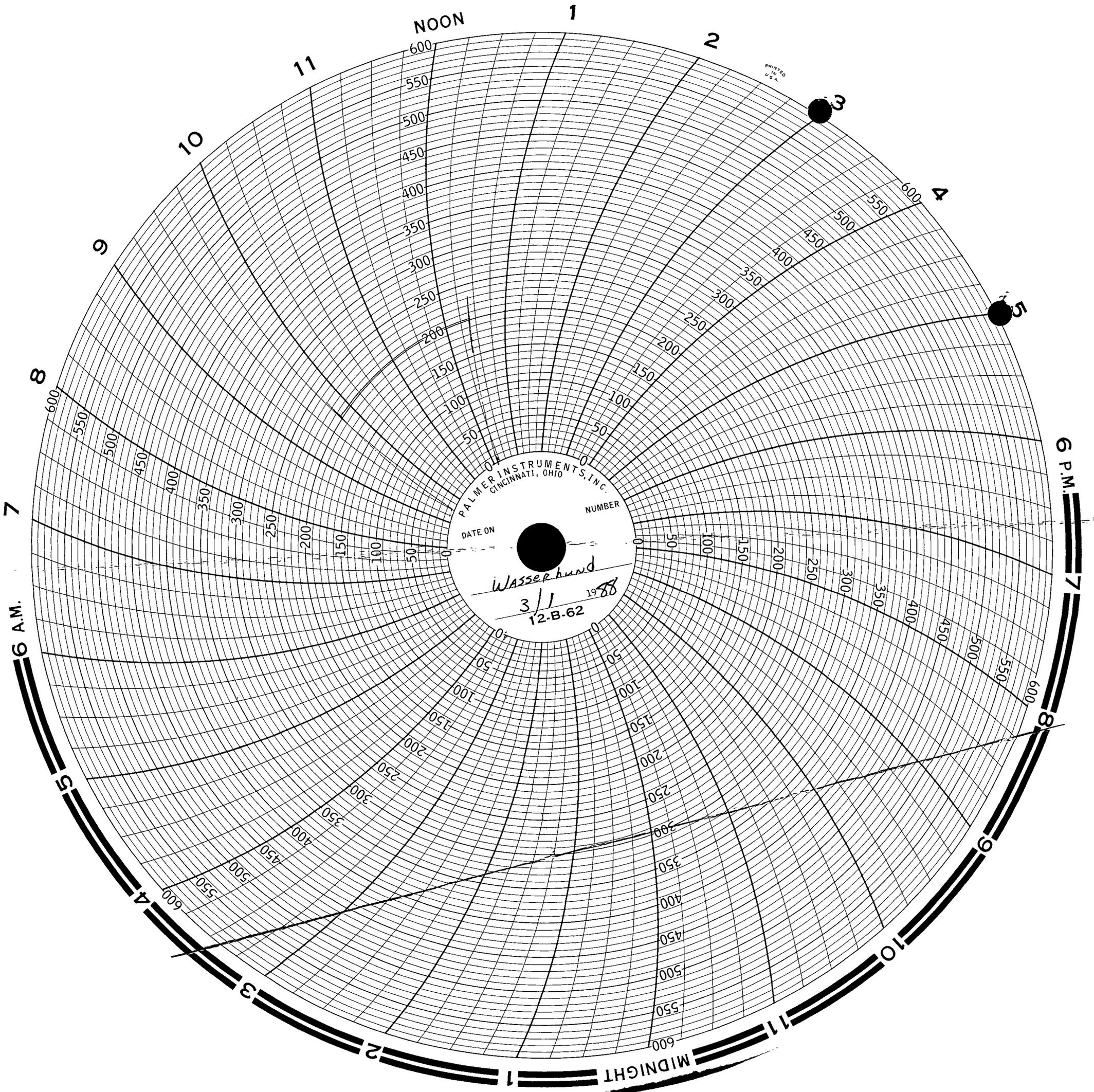
12/1/88

Wasserhund Inc DP-321

Loading Area looking North



Oil collection pit.
Wasserhump Brome Station
(N of Buckeye)
5/16/84



PALMER INSTRUMENTS, INC.
CINCINNATI, OHIO

DATE ON _____ NUMBER _____

Wasserhund
3/1 19*88*
12-B-62

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